This Preliminary Official Statement and any information contained herein are subject to completion and amendment. Under no circumstances may this Preliminary Official Statement constitute an offer to sell or the solicitation of an offer to buy, nor shall there be any sale of the Bonds in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of such jurisdiction.

PRELIMINARY OFFICIAL STATEMENT DATED MAY 1, 2009

NEW ISSUE – BOOK-ENTRY ONLY **RATINGS: See "RATINGS" herein.**

In the opinion of Co-Bond Counsel, interest on the Bonds is excludable from gross income for purposes of federal income tax, assuming continuing compliance with the requirements of the federal tax laws. Interest on the Bonds is exempt from individual and corporate federal alternative minimum tax ("AMT") and is not includable in adjusted current earnings for purposes of corporate AMT. The Bonds are exempt from personal property taxes in Pennsylvania and interest on the Bonds is exempt from Pennsylvania personal income tax and Pennsylvania corporate net income tax, under the laws of the Commonwealth of Pennsylvania as enacted and construed on the date of initial delivery of the Bonds. See "TAX EXEMPTION" herein.

$142,000,000*
City of Philadelphia, Pennsylvania
Water and Wastewater Revenue Bonds, Series 2009A

Dated: Date of Delivery **Due: As shown on the inside front cover**

The City of Philadelphia, Pennsylvania, a corporation and body politic existing under the laws of the Commonwealth of Pennsylvania (the "City") is issuing its Water and Wastewater Revenue Bonds, Series 2009A (the "Bonds") pursuant to the City's Restated General Water and Wastewater Revenue Bond Ordinance of 1989 (as may be amended or supplemented from time to time, the "General Ordinance") for the purpose of providing funds which, together with other available funds of the Water Department (defined herein), will be applied (i) to fund capital improvements to the City's Water and Wastewater Systems (defined herein), (ii) to fund the Debt Reserve Account of the Sinking Fund (as defined herein) and (iii) to pay costs of issuance relating to the Bonds.

The Bonds are special obligations of the City, secured equally and ratably with (i) the City's Water and Wastewater Revenue Bonds currently outstanding in the aggregate principal amount of $1,619,142,680 issued under the General Ordinance (consisting of all or portions of the City's Water and Wastewater Revenue Bonds, Series 1993, Series 1995, Series 1997B, Series 1998, Series 2001A, Series 2001B, Series 2003, Series 2005A, Series 2005B, Series 2007A and Series 2007B, and the 1999 Pennvest Bonds, defined herein), and (ii) all Water and Wastewater Revenue Bonds hereafter issued, by a pledge of and security interest in all Project Revenues (defined herein) derived from the City's Water and Wastewater Systems and by moneys deposited in the funds and accounts (other than the Rebate Fund) established by the City under the General Ordinance (the "Water and Wastewater Funds").

The Bonds are payable solely from Project Revenues and moneys deposited in the Water and Wastewater Funds. The Bonds are special obligations of the City and do not pledge the full faith, credit or taxing power of the City, or create any debt or charge against the tax or general revenues of the City, or create any lien or charge against any property of the City, other than against the Project Revenues and amounts, if any, at any time on deposit in the Water and Wastewater Funds.

The Bonds will be issued only as fully registered bonds and, when issued, will be registered in the name of Cede & Co., as nominee of The Depository Trust Company, New York, New York ("DTC"), which will act as securities depository for the Bonds. Purchasers will not receive certificates representing their ownership interest in the Bonds purchased. U.S. Bank National Association, Philadelphia, Pennsylvania, is the Fiscal Agent for the Bonds. The principal or redemption price of and interest on the Bonds are payable to DTC for redistribution to its participants and in turn to the beneficial owners of the Bonds. See "THE BONDS – Book-Entry Only System" herein.

The Bonds will be issued in denominations of $5,000 or any integral multiple thereof. The Bonds will be dated and will bear interest from the date of delivery thereof. Interest on the Bonds will be payable semiannually on January 1 and July 1 of each year, beginning January 1, 2010. The Bonds are subject to optional and mandatory sinking fund redemption prior to their respective stated maturities as described herein.

This cover page contains information for quick reference only. It is not a summary of this issue. Investors must read the entire Official Statement, including the Appendices, which are an integral part hereof, to obtain information essential to making an informed investment decision regarding the Bonds.

The Bonds are offered when, as and if issued and delivered to and received by the Underwriters, and subject to the legal opinion of Ballard Spahr Andrews & Ingersoll, LLP and the Law Offices of Denise Joy Smyler, Co-Bond Counsel, both of Philadelphia, Pennsylvania. Certain legal matters will be passed upon for the Underwriters by Greenberg Traurig, LLP, Philadelphia, Pennsylvania. Certain legal matters will be passed upon for the City by the City Solicitor. It is expected that the Bonds will be available for delivery to DTC in New York, New York on or about May 21, 2009.

Banc of America Securities LLC **Merrill Lynch & Co.**

Cabrera Capital Markets, LLC **Janney Montgomery Scott LLC** **RBC Capital Markets**

Siebert Brandford Shank & Co., LLC **Wachovia Bank, National Association**

May ___, 2009

*Preliminary, subject to change.

$142,000,000*
City of Philadelphia, Pennsylvania
Water and Wastewater Revenue Bonds, Series 2009A

Maturity January 1	Principal	Interest Rate	Yield	CUSIP	Maturity January 1	Principal	Interest Rate	Yield	CUSIP

$_____ _____ % Term Bonds due January 1, 20__, Priced at _____% to Yield ___% - CUSIP: _____
$_____ _____ % Term Bonds due January 1, 20__, Priced at _____% to Yield ___% - CUSIP: _____
$_____ _____ % Term Bonds due January 1, 20__, Priced at _____% to Yield ___% - CUSIP: _____

The above CUSIP (Committee on Uniform Securities Identification Procedures) numbers have been assigned by an organization not affiliated with the City or the Underwriters, and such parties are not responsible for the selection or use of the CUSIP numbers. The CUSIP numbers are included solely for the convenience of bondholders and no representation is made as to the correctness of such CUSIP numbers. CUSIP numbers assigned to securities may be changed during the term of such securities based on a number of factors including, but not limited to, the refunding or defeasance of such issue or the use of secondary market financial products. Neither the City nor the Underwriters has agreed to, and there is no duty or obligation to, update this Official Statement to reflect any change or correction in the CUSIP numbers set forth above.

* Preliminary, subject to change.

CITY OF PHILADELPHIA, PENNSYLVANIA

MAYOR
HONORABLE MICHAEL A. NUTTER

MAYOR'S CHIEF OF STAFF
Clarence D. Armbrister

MAYOR'S CABINET

Camille Cates Barnett, Ph.D. ..... Managing Director
Rob Dubow ..... Director of Finance
Shelley R. Smith ..... City Solicitor
Everett A. Gillison ..... Deputy Mayor for Public Safety
Donald F. Schwarz, M.D. ..... Deputy Mayor for Health and Opportunity and Health Commissioner
Andrew Altman ..... Deputy Mayor for Planning and Economic Development and Commerce Director
Joan L. Markman ..... Chief Integrity Officer
Amy L. Kurland ..... Inspector General
Lori A. Shorr, Ph.D. ..... Chief Education Advisor to the Mayor
Pauline Abernathy ..... Senior Advisor to Mayor
Teresa A. Gillen ..... Senior Advisor to the Mayor for Economic Development
Melanie Johnson ..... City Representative
Rina Cutler ..... Deputy Mayor of Transportation and Utilities

---

CITY TREASURER
Rebecca Rhynhart

City Controller
Alan L. Butkovitz

PHILADELPHIA WATER DEPARTMENT
ARAMARK Tower at One Reading Center
Philadelphia, Pennsylvania 19107

Bernard Brunwasser, Water Commissioner
Joseph S. Clare, III, Deputy Water Commissioner
Debra A. McCarty, Deputy Water Commissioner
David A. Katz, Deputy Water Commissioner
Gerald D. Leatherman, General Counsel to the Water Department
Francis X. Meiers, General Manager, Human Resources
Joanne Dahme, General Manager, Public Affairs
Stephen J. Furtek, General Manager, Planning and Engineering
Michelle L. Bethel, Deputy Revenue Commissioner

Consulting Engineer
Black & Veatch Corporation, Kansas City, Missouri

Financial Advisors
Public Financial Management, Inc.
and
Phoenix Capital Partners, LLP

No dealer, broker, salesperson or other person has been authorized by the City of Philadelphia, Pennsylvania (the "City") to give any information or to make any representations with respect to the Bonds other than those contained in this Official Statement, and, if given or made, such other information or representations must not be relied upon. This Official Statement does not constitute an offer to sell or the solicitation of an offer to buy, nor shall there be any sale of the Bonds by any person in any jurisdiction in which it is unlawful for such person to make such offer, solicitation or sale.

This Official Statement is not to be construed as a contract with the purchasers of the Bonds. The information set forth herein has been obtained from the City and other sources believed to be reliable but is not guaranteed as to accuracy or completeness by the Underwriters. Statements contained in this Official Statement which involve estimates, forecasts or other matters of opinion, whether or not expressly so described herein, are intended solely as such and are not to be construed as representations of fact. This information and expressions of opinions herein are subject to change without notice, and neither delivery of this Official Statement nor any sale made hereunder shall, under any circumstances, create any implication that there has been no change in the affairs of the City or the Water Department since the date hereof. This Official Statement, including any supplement or amendment hereto, is intended to be deposited with one or more nationally recognized municipal securities information repositories.

If and when included in this Official Statement, the words "expects," "forecasts," "projects," "intends," "anticipates," "estimates," "assumes" and analogous expressions are intended to identify forward-looking statements and any such statements inherently are subject to a variety of risks and uncertainties that could cause actual results to differ materially from those that have been projected. Such risks and uncertainties which could affect the amount of revenue collected by the City or the Water Department include, among others, changes in economic conditions and various other events, conditions and circumstances, many of which are beyond the control of the City and the Water Department. Such forward-looking statements speak only as of the date of this Official Statement. The City disclaims any obligation or undertaking to release publicly any updates or revisions to any forward-looking statement contained herein to reflect any changes in the City's expectations with regard thereto or any change in events, conditions or circumstances on which any such statement is based.

Upon issuance, the Bonds will not be registered under the Securities Act of 1933, as amended, will not be listed on any stock or other securities exchange and neither the Securities and Exchange Commission nor any other federal, state, municipal or other governmental entity, other than the City (subject to the limitations set forth herein), will have passed upon the accuracy or adequacy of this Official Statement.

This Official Statement is submitted in connection with the sale of the securities referred to herein and may not be reproduced or used, in whole or in part, for any other purpose.

The order and placement of materials in this Official Statement, including the Appendices hereto, are not to be deemed to be a determination of relevance, materiality or importance, and this Official Statement, including the Appendices, must be considered in its entirety.

IN MAKING AN INVESTMENT DECISION, INVESTORS MUST RELY ON THEIR OWN EXAMINATION OF THE CITY, THE WATER DEPARTMENT AND THE TERMS OF THE OFFERING, INCLUDING THE MERITS AND RISKS INVOLVED. THESE SECURITIES HAVE NOT BEEN RECOMMENDED BY ANY FEDERAL OR STATE SECURITIES COMMISSION OR REGULATORY AUTHORITY. FURTHERMORE, THE FOREGOING AUTHORITIES HAVE NOT CONFIRMED THE ACCURACY OR DETERMINED THE ADEQUACY OF THIS DOCUMENT. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

IN CONNECTION WITH THE OFFERING OF THE BONDS, THE UNDERWRITERS MAY OVER-ALLOT OR EFFECT TRANSACTIONS WHICH STABILIZE OR MAINTAIN THE MARKET PRICE OF THE BONDS AT A LEVEL ABOVE THAT WHICH MIGHT OTHERWISE PREVAIL IN THE OPEN MARKET. SUCH STABILIZING, IF COMMENCED, MAY BE DISCONTINUED AT ANY TIME WITHOUT PRIOR NOTICE.

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OFFICIAL STATEMENT
relating to

$142,000,000*
City of Philadelphia, Pennsylvania
Water and Wastewater Revenue Bonds, Series 2009A

INTRODUCTORY STATEMENT

General

This Official Statement, including the cover page and appendices attached hereto, sets forth certain information in connection with the issuance by the City of Philadelphia, Pennsylvania, a corporation and body politic existing under the laws of the Commonwealth of Pennsylvania (the "City") of its Water and Wastewater Revenue Bonds, Series 2009A (the "Bonds" or the "Series 2009A Bonds"). Unless otherwise indicated, capitalized terms used in this Official Statement are defined in APPENDIX III – "SUMMARIES OF CERTAIN AUTHORIZATIONS FOR THE BONDS."

The Bonds are being issued for the purpose of providing funds which, together with other available funds of the Water Department (defined herein), will be applied (i) to fund capital improvements to the City's Water and Wastewater Systems (defined herein), (ii) to fund the Debt Reserve Account of the Sinking Fund (defined herein) and (iii) to pay costs of issuance relating to the Bonds. See "PLAN OF FINANCE" herein.

The Bonds are payable solely from Project Revenues (as hereinafter defined) and moneys deposited in the Water and Wastewater Funds, other than the Rebate Fund (the "Water and Wastewater Funds"), described herein. The Bonds are special obligations of the City and do not pledge the full faith, credit or taxing power of the City, nor create any debt or charge against the tax or general revenues of the City, nor create any lien or charge against any property of the City, other than against the Project Revenues and amounts, if any, at any time on deposit in the Water and Wastewater Funds.

The Water Department

Pursuant to the Philadelphia Home Rule Charter adopted pursuant to authorization of The First Class City Home Rule Act, approved April 21, 1949, P.L. 665 §1 et seq. (53 P.S. §13101 et seq.) (the "Charter"), the City's Water Department (the "Water Department," "PWD" or the "Department") has the power and duty to operate, maintain, repair and improve the City's water system (the "Water System") and the City's wastewater system (the "Wastewater System" and together with the Water System, the "Water and Wastewater Systems"). Under the General Ordinance (defined herein), the Water and Wastewater Systems are combined as one continuing project for the purpose of revenue bond financing. This has the effect, among other things, of making all revenues of the two systems available for debt service for all Water and Wastewater Revenue Bonds (defined herein). See "THE WATER DEPARTMENT" herein.

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 1,728,900 as of

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* Preliminary, subject to change.

the 2000 census, of which 1,518,000 were in the City, 154,000 were in Bucks County and approximately 56,900 in Montgomery and Delaware Counties. The population served by the Wastewater System was approximately 2,218,000 as of the 2000 census, of which 1,518,000 were in the City and 700,000 were in the suburbs.

In connection with the authorization and offering of the Bonds, Black & Veatch Corporation performed engineering evaluations of the existing current condition and financial operations of the Water and Wastewater Systems. Such engineering evaluations, which are mandated by the General Ordinance as a condition to the issuance of the Bonds, have resulted in findings that Project Revenues will be sufficient to meet payment or deposit requirements of the operation, maintenance, repair and replacement of the Water and Wastewater Systems, reserve funds, debt service or redemption price; that Net Revenues are currently sufficient to comply with the Rate Covenant in the General Ordinance and are projected to be sufficient to comply with the Rate Covenant for each of the two Fiscal Years following the Fiscal Year the Bonds are issued; and that the Water and Wastewater Systems operated by the Water Department are in good operating condition or that adequate steps are being taken to return them to good operating condition. Such engineering evaluations performed by Black & Veatch Corporation provide the basis of such findings in an engineering report dated April 30, 2009 (the "Engineering Report"). See APPENDIX II – "ENGINEERING REPORT."

Rates and Rate Covenant

Under the Charter, the Water Department is empowered and required to establish (i) 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 (ii) debt service requirements on all obligations issued for the Water Department, as well as other specific covenants of the General Ordinance. See "RATES" herein.

Authorization for the Bonds

The Bonds are being issued under The First Class City Revenue Bond Act, P.L. 955, Act No. 234 of the General Assembly of the Commonwealth of Pennsylvania, approved October 18, 1972 (the "Act") and the City's Restated General Water and Wastewater Revenue Bond Ordinance of 1989, approved June 24, 1993 (the "Restated General Ordinance"), as supplemented by (i) the First Supplemental Ordinance approved June 24, 1993 (the "First Supplemental Ordinance"), authorizing the issuance of Water and Wastewater Revenue Bonds, Series 1993 (the "Series 1993 Bonds"), (ii) the Second Supplemental Ordinance approved May 9, 1994 (the "Second Supplemental Ordinance"), authorizing the issuance of Water and Wastewater Revenue Bonds, Series 1995 (the "Series 1995 Bonds"), (iii) the Third Supplemental Ordinance approved October 27, 1997 (the "Third Supplemental Ordinance"), authorizing the issuance of Water and Wastewater Revenue Bonds, Series 1997A (the "Series 1997A Bonds") and Water and Wastewater Revenue Bonds, Variable Rate Series 1997B (the "Series 1997B Bonds"), (iv) the Fourth Supplemental Ordinance approved December 11, 1998 (the "Fourth Supplemental Ordinance"), authorizing the issuance of Water and Wastewater Revenue Bonds, Series 1998 (the "Series 1998 Bonds"), (v) the Fifth Supplemental Ordinance approved December 11, 1998 (the "Fifth Supplemental Ordinance"), authorizing the issuance of Water and Wastewater Revenue Bonds, Series 1999, (vi) the Sixth Supplemental Ordinance approved December 11, 1998 (the "Sixth Supplemental Ordinance"), authorizing the issuance of Water and Wastewater Revenue Bonds, Series 1999A (the "1999 Pennvest Bond"), (vii) the Seventh Supplemental Ordinance approved May 10, 2001 (the "Seventh Supplemental Ordinance"), authorizing the issuance of Water and Wastewater Revenue Bonds, Series 2001A (the "Series 2001A Bonds") and Water and Wastewater Revenue Refunding Bonds, Series 2001B (the "Series 2001 Bonds"), (viii) the Eighth Supplemental Ordinance approved November 22, 2002 (the "Eighth Supplemental Ordinance"), authorizing the issuance of the Water and Wastewater Revenue Bonds, Series 2005A (the "Series 2005A Bonds"), (ix) the Ninth Supplemental Ordinance approved November 22, 2002 (the "Ninth Supplemental Ordinance"), authorizing the issuance of Water and Wastewater Revenue

Refunding Bonds, Variable Rate Series 2003 (the "Series 2003 Bonds") and Water and Wastewater Revenue Refunding Bonds, Variable Rate Series 2005B (the "Series 2005B Bonds"), (x) the Tenth Supplemental Ordinance approved November 16, 2006 (the "Tenth Supplemental Ordinance") authorizing the issuance of the Water and Wastewater Revenue Refunding Bonds, Series 2007A (the "Series 2007A Bonds") and Water and Wastewater Revenue Refunding Bonds, Series 2007B (the "Series 2007B Bonds") and (xi) the Eleventh Supplemental Ordinance approved November 16, 2006 (the "Eleventh Supplemental Ordinance") authorizing the issuance of the Bonds. The Restated General Ordinance, as supplemented and amended by any amendment thereto contained in the First Supplemental Ordinance, the Second Supplemental Ordinance, the Third Supplemental Ordinance, the Fourth Supplemental Ordinance, the Fifth Supplemental Ordinance, the Sixth Supplemental Ordinance, the Seventh Supplemental Ordinance, the Eighth Supplemental Ordinance, the Ninth Supplemental Ordinance, the Tenth Supplemental Ordinance and the Eleventh Supplemental Ordinance, and as amended by an Ordinance approved on January 23, 2007 (the "Debt Reserve Account Amendment") further described under "SECURITY FOR THE BONDS - Debt Reserve Account", is herein referred to as the "General Ordinance."

Pursuant to the Act, cities of the first class are authorized to issue revenue bonds to finance revenue producing projects and to refund certain outstanding bonds, including revenue bonds issued under the Act, but the bonds must be payable solely from Project Revenues as defined in the Act (the "Project Revenues").

Pursuant to the Act, prior to the delivery of the Bonds, the City must file with the Court of Common Pleas of the County of Philadelphia a transcript of the proceedings authorizing their issuance, including bond ordinances, a report of the chief fiscal officer describing the project and establishing that Project Revenues will be sufficient to support debt service on the Bonds, and an opinion of the City Solicitor to the effect that, under the General Ordinance, holders or registered owners of the Bonds will have no claim upon the taxing power or general revenues of the City nor any lien upon any property of the City other than Project Revenues. Beginning on the twenty-first day after such filing is made, the validity of the proceedings, the right of the City to issue the Bonds authorized thereby, the lawful nature of the purpose for which the Bonds are issued, and the validity and enforceability of the Bonds in accordance with their terms may not be challenged judicially, in equity, at law or by civil or criminal proceedings, or otherwise, either directly or collaterally, except where a constitutional question is involved; provided, that any person knowingly participating in the sale or issuance of the Bonds in violation of the Act shall not be entitled to enforce the obligations of the Bonds nor be relieved of civil or criminal liability for such participation or for willfully false or fraudulent statements made in the documents constituting the transcript of proceedings or in the Bonds. The City made its filing on January 16, 2007, and no challenge to the validity of the proceedings were filed by the deadline.

Outstanding and Additional Indebtedness

The City has previously issued and there are outstanding, as of April 28, 2009, $1,618,350,000 aggregate principal amount of Water and Wastewater Revenue Bonds (consisting of the Series 1993 Bonds, the Series 1995 Bonds, the Series 1997B Bonds, the Series 1998 Bonds, the Series 2001A Bonds, the Series 2001B Bonds, the Series 2003 Bonds, the Series 2005A Bonds, the Series 2005B Bonds, the Series 2007A Bonds and the Series 2007B Bonds) pursuant to the General Ordinance. The Series 1993 Bonds, the Series 1995 Bonds, the Series 1997B Bonds, the Series 1998 Bonds, the Series 2001A Bonds, the Series 2001B Bonds, the Series 2003 Bonds, the Series 2005A Bonds, the Series 2005B Bonds, the Series 2007A Bonds and the Series 2007B Bonds are herein referred to as the "Outstanding Bonds."

The Outstanding Bonds and the Bonds will be equally and ratably secured under the General Ordinance. In addition, in 1999 the City issued and privately placed the 1999 Pennvest Bond with the Pennsylvania Infrastructure Investment Authority ("Pennvest") pursuant to the Sixth Supplemental Ordinance to secure a loan from Pennvest. As of April 28, 2009, the 1999 Pennvest Bond was

outstanding in the amount of $792,680 and is equally and ratably secured with the Outstanding Bonds and the Bonds under the General Ordinance.

The Outstanding Bonds, the Bonds and the 1999 Pennvest Bond and bonds of all series hereafter issued under the General Ordinance, as amended or supplemented, are hereinafter referred to as the "Water and Wastewater Revenue Bonds." U.S. Bank National Association, Philadelphia, Pennsylvania, is acting as Fiscal Agent for the Water and Wastewater Revenue Bonds (the "Fiscal Agent").

As of April 28, 2009, the City had outstanding $3,624,793 aggregate principal amount of general obligation bonds issued to Pennvest (the "General Obligation Bonds") attributable to the Water and Wastewater Systems, which consisted of general obligation bonds issued in 1993 to secure a loan from Pennvest (the "1993 Pennvest Loan") to the City for Water Department purposes. The General Obligation Bonds are self-liquidating debt of the City payable out of the Water and Wastewater Funds after the payment of the Water and Wastewater Revenue Bonds. See "SECURITY FOR THE BONDS – Application of Project Revenues" herein.

Plan of Finance

The proceeds of the Bonds, together with other available funds of the Water Department, will be used (i) to fund capital improvements to the City's Water and Wastewater Systems, (ii) to fund the Debt Reserve Account of the Sinking Fund and (iii) to pay costs of issuance relating to the Bonds. See "PLAN OF FINANCE" herein.

Security for the Bonds

The Bonds are payable from and secured by a pledge of all Project Revenues and amounts on deposit in the Water and Wastewater Funds. See "SECURITY FOR THE BONDS" herein and APPENDIX III – "SUMMARIES OF CERTAIN AUTHORIZATIONS FOR THE BONDS".

Under the General Ordinance a Debt Reserve Account of the Sinking Fund has been established to secure the Water and Wastewater Revenue Bonds. On November 26, 2007, the City deposited a surety policy issued by Financial Security Assurance Inc. ("FSA") in the principal amount of $67 million dollars 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 April 1, 2009, in the amount of approximately $114,030,169 was funded with Water and Wastewater Bond proceeds and earnings on the investment thereof. On the date of issuance of the Bonds, the City will deposit a portion of the proceeds of the Bonds into the Debt Reserve Account which, together with the surety policy and cash then on deposit in such Debt Reserve Account, will be sufficient to meet the Debt Reserve Requirement for all Water and Wastewater Bonds outstanding after the issuance of the Bonds. See "SECURITY FOR THE BONDS – Water and Wastewater Funds" and "Debt Reserve Account" herein.

Miscellaneous

Brief descriptions of the Water Department, the Bonds and the security therefor, and certain information about the City are included herein. Such descriptions and information do not purport to be comprehensive or definitive. All references herein to the Act, the Charter, the General Ordinance and the Engineering Report are qualified in their entirety by reference to each such document. Copies of the foregoing documents and the financial statements of the City for the Fiscal Year ended June 30, 2008, are available from the Office of the Director of Finance, Suite 1330, Municipal Services Building, 1401 JFK Boulevard, Philadelphia, Pennsylvania 19102. A copy of the financial statements of the City for the Fiscal Year ended June 30, 2008 may be downloaded at http://www.phila.gov/investor.

Financial statements of the Water Fund for the Fiscal Years ended June 30, 2008 and 2007 are attached hereto as APPENDIX I. The Engineering Report of Black & Veatch Corporation is attached hereto as APPENDIX II. Summaries of certain provisions of the Act, the General Ordinance and the

Eleventh Supplemental Ordinance (including definitions of certain terms) are attached hereto as APPENDIX III. Certain information concerning the City is attached hereto as APPENDIX IV. The form of opinion of Co-Bond Counsel to be delivered in connection with the issuance and delivery of the Bonds is attached hereto as APPENDIX V. The form of Continuing Disclosure Agreement is attached hereto as APPENDIX VI.

The foregoing information is furnished solely to provide limited introductory information with respect to the Bonds and does not purport to be comprehensive. All such information is qualified in its entirety by reference to the more detailed descriptions appearing elsewhere in this Official Statement, inclusive of the Appendices, which should be read in its entirety, and to the complete documents referenced herein. The sale of the Bonds is made only by means of this entire Official Statement.

PLAN OF FINANCE

The proceeds of the Bonds, together with other available funds of the Water Department, will be applied (i) to fund capital improvements to the City's Water and Wastewater Systems, (ii) to fund the Debt Reserve Account of the Sinking Fund and (iii) to pay costs of issuance related to the Bonds.

ESTIMATED SOURCES AND USES OF FUNDS

The following table sets forth estimated sources and uses of funds.

Sources of Funds:	
Par Amount of the Bonds	$_____
Net Original Issue Premium/Discount	_____
Total Sources of Funds	$_____
Uses of Funds:	
Deposit to Construction Fund	$_____
Deposit to Debt Reserve Account	_____
Costs of Issuance*	_____
Total Uses of Funds	$_____

* Includes underwriters' discount, legal, printing, rating agency fees, Fiscal Agent fees, financial advisors fees and other expenses of the issuance and offering of the Bonds.

THE BONDS

General

The Bonds will be issued in the aggregate principal amount and will be dated and bear interest at the rates and mature (subject to prior redemption) as shown on the inside cover page of this Official Statement. The Bonds will be issued in fully-registered form, registered in the name of Cede & Co., as nominee of The Depository Trust Company ("DTC").

The Bonds will be dated and will bear interest from the date of delivery, will be issued in denominations of $5,000 or any integral multiple thereof and will mature in the years and in the amounts set forth on the inside front cover hereof. Interest on the Bonds will be payable semiannually on January 1 and July 1 each year, commencing January 1, 2010 (each, an "Interest Payment Date"). Interest will be payable by check or draft mailed on each Interest Payment Date (or the next business day if the Interest Payment Date is not a Business Day) by the Fiscal Agent to the registered owners of such Bonds as of the

applicable Record Date. The Record Date for the Bonds will be each June 15 and December 15, commencing on December 15, 2009. The Bonds will bear interest at the rates set forth on the inside front cover hereof and interest will be calculated on the basis of a 360-day year comprised of twelve 30-day months. The Bonds are subject to optional redemption and mandatory sinking fund redemption prior to their respective stated maturities as described under "THE BONDS – Redemption of the Bonds" below.

Redemption of the Bonds

Optional Redemption. The Bonds maturing on or prior to January 1, 20__, are not subject to optional redemption prior to maturity. The Bonds maturing after January 1, 20__, are subject to optional redemption prior to maturity on or after January 1, 20__, at the option of the City, as a whole or in part on any date in the maturities selected by the City and within a maturity by lot as determined by the Fiscal Agent at the redemption price of 100% of the principal amount of the Bonds to be redeemed, plus accrued interest to the redemption date.

Mandatory Sinking Fund Redemption. The Bonds maturing on January 1, 20__, January 1, 20__ and January 1, 20__, are subject to mandatory sinking fund redemption prior to maturity, as drawn by lot by the Fiscal Agent, on January 1 of the following years at a redemption price equal to 100% of the principal amounts set forth below.

Bonds Maturing January 1, 20__		**Bonds Maturing January 1, 20__**		**Bonds Maturing January 1, 20__**	
Year	Principal Amount of Mandatory Sinking Fund Redemption	Year	Principal Amount of Mandatory Sinking Fund Redemption	Year	Principal Amount of Mandatory Sinking Fund Redemption

*Maturity

The principal amount of the Bonds required to be redeemed on each mandatory sinking fund redemption date may be reduced by the principal amount of the Bonds theretofore redeemed (otherwise than by mandatory sinking fund redemption) or delivered to the Fiscal Agent for cancellation, and not theretofore applied as a credit against any mandatory sinking fund redemption obligation. Any such reduction shall be applied as a credit against the mandatory sinking fund obligation for the year or years selected by the City.

Notice of Redemption

Notice of redemption of the Bonds shall be mailed by first class mail by the Fiscal Agent, not less than thirty (30) days nor more than sixty (60) days prior to the date fixed for redemption, to DTC. From and after the date fixed for redemption, interest shall cease to accrue. Failure by the Fiscal Agent to give notice to DTC or any one or more Information Services or failure of DTC to receive notice or any defect in any notice shall not affect the validity of the proceedings for redemption.

If at the time of mailing notice of redemption the City shall not have deposited with the Fiscal Agent moneys sufficient to redeem the Bonds called for redemption, such notice may state that it is conditional in that it is subject to the deposit of the redemption moneys with the Fiscal Agent not later than the redemption date, and such notice shall be of no effect unless such moneys are so deposited.

Debt Service Requirements

Fiscal Year Ending June 30	2009 Bonds Principal	2009 Bonds Interest	Aggregate Debt Service on Outstanding Bonds other than 2009 Bonds[1,2,3]	Aggregate Debt Service on 1993 Pennvest Loan[4]	Aggregate Debt Service
2009			$171,337,590	$1,226,982	
2010			171,253,821	1,226,982	
2011			171,256,568	1,226,982	
2012			170,981,389	1,022,486	
2013			174,108,903		
2014			174,276,838		
2015			174,556,739		
2016			175,012,717		
2017			89,635,462		
2018			89,774,196		
2019			71,556,946		
2020			71,505,913		
2021			71,585,104		
2022			71,661,600		
2023			71,749,855		
2024			55,954,224		
2025			55,991,221		
2026			55,976,878		
2027			56,015,033		
2028			42,949,584		
2029			56,747,325		
2030			56,819,888		
2031			56,812,456		
2032			56,807,644		
2033			16,048,250		
2034			16,032,375		
2035			16,016,875		
2036			15,995,125		
2037					
2038					
2039					
2040					
Total	**$_____**	**$_____**	**$2,478,420,516**	**$4,703,432**	

1 Assumes an interest rate on the Series 1997B Bonds (which bear interest at a variable rate) of 3.49613% representing the average interest rate on the Series 1997B Bonds during the period of April 1, 2007 to April 1, 2009.

2 Interest calculated at fixed swap rate of 4.52% per annum for the Series 2003 Bonds and 4.53% per annum for the Series 2005B Bonds; actual results may vary.

3 Includes debt service for the 1999 Pennvest Bond.

4 Self-liquidating debt of the City payable out of the Water and Wastewater Funds, after the payment of debt service on the Outstanding Bonds.

Book-Entry Only System

DTC will act as securities depository for the Bonds. The Bonds will be initially issued as fully-registered securities registered in the name of Cede & Co. (DTC's partnership nominee) or such other name as may be requested by an authorized representative of DTC. One fully-registered Bond certificate will be issued for each maturity of the Bonds, each in the aggregate principal amount of such maturity, and will be deposited with DTC.

DTC, the world's largest securities depository, is a limited-purpose trust company organized under the New York Banking Law, a "banking organization" within the meaning of the New York Banking Law, a member of the Federal Reserve System, a "clearing corporation" within the meaning of the New York Uniform Commercial Code, and a "clearing agency" registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934. DTC holds and provides asset servicing for over 3.5 million issues of U.S. and non-U.S. equity issues, corporate and municipal debt issues, and money market instruments (from over 100 countries) that DTC's participants ("Direct Participants") deposit with DTC. DTC also facilitates the post-trade settlement among Direct Participants of sales and other securities transactions in deposited securities, through electronic computerized book-entry transfers and pledges between Direct Participants' accounts. This eliminates the need for physical movement of securities certificates. Direct Participants include both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, clearing corporations, and certain other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation ("DTCC"). DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to others such as both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, and clearing corporations that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly ("Indirect Participants"). DTC has Standard & Poor's highest rating: AAA. The DTC Rules applicable to its Participants are on file with the Securities and Exchange Commission. More information about DTC can be found at www.dtcc.com and www.dtc.org.

Purchases of the Bonds under the DTC system must be made by or through Direct Participants, which will receive a credit for the Bonds on DTC's records. The ownership interest of each actual purchaser of each Bond ("Beneficial Owner") is in turn to be recorded on the Direct and Indirect Participants' records. Beneficial Owners will not receive written confirmation from DTC of their purchase. Beneficial Owners are, however, expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through which the Beneficial Owner entered into the transaction. Transfers of ownership interests in the Bonds are to be accomplished by entries made on the books of Direct and Indirect Participants acting on behalf of Beneficial Owners. Beneficial Owners will not receive certificates representing their ownership interests in the Bonds, except in the event that use of the book-entry system for the Bonds is discontinued.

To facilitate subsequent transfers, all Bonds deposited by Direct Participants with DTC are registered in the name of DTC's partnership nominee, Cede & Co., or such other name as may be requested by an authorized representative of DTC. The deposit of Bonds with DTC and their registration in the name of Cede & Co. or such other DTC nominee do not effect any change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the Bonds; DTC's records reflect only the identity of the Direct Participants to whose accounts such Bonds are credited, which may or may not be the Beneficial Owners. The Direct and Indirect Participants will remain responsible for keeping account of their holdings on behalf of their customers.

Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Direct Participants and Indirect Participants to Beneficial

Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time.

Redemption notices shall be sent to DTC. If less than all of the Bonds within an issue are being redeemed, DTC's practice is to determine by lot the amount of the interest of each Direct Participant in such issue to be redeemed.

Neither DTC nor Cede & Co. (nor any other DTC nominee) will consent or vote with respect to the Bonds unless authorized by a Direct Participant in accordance with DTC's MMI Procedures. Under its usual procedures, DTC mails an Omnibus Proxy to the issuer as soon as possible after the record date. The Omnibus Proxy assigns Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts the Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Principal, redemption price, if any, and interest payments on the Bonds will be made to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit Direct Participants' accounts upon DTC's receipt of funds and corresponding detail information from the City or the Fiscal Agent, on payable date in accordance with their respective holdings shown on DTC's records. Payments by Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such Participant and not of DTC, the Fiscal Agent, or the City, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of principal and interest to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of the City or the Fiscal Agent, disbursement of such payments to Direct Participants will be the responsibility of DTC, and disbursement of such payments to the Beneficial Owners will be the responsibility of Direct and Indirect Participants.

DTC may discontinue providing its services as depository with respect to the Bonds at any time by giving reasonable notice to the City or the Fiscal Agent. Under such circumstances, in the event that a successor depository is not obtained, bond certificates are required to be printed and delivered.

The City may decide to discontinue use of the system of book-entry-only transfers through DTC (or a successor securities depository). In that event, bond certificates will be printed and delivered.

THE CITY AND THE FISCAL AGENT WILL NOT HAVE ANY RESPONSIBILITY OR OBLIGATION TO DTC PARTICIPANTS OR THE PERSONS FOR WHOM THEY ACT AS NOMINEES WITH RESPECT TO THE ACCURACY OF THE RECORDS OF DTC, ITS NOMINEE OR ANY DTC PARTICIPANT WITH RESPECT TO ANY OWNERSHIP INTEREST IN THE BONDS, OR PAYMENTS TO, OR THE PROVIDING OF NOTICE FOR, DTC PARTICIPANTS OR THE INDIRECT PARTICIPANTS OR BENEFICIAL OWNERS.

The information in this section concerning DTC and DTC's book-entry system has been obtained from sources that the City believes to be reliable, but the City takes no responsibility for the accuracy thereof. For further information, Beneficial Owners should contact DTC in New York, New York.

SWAP AGREEMENTS

On December 5, 2002, the City entered into an ISDA Master Agreement, Schedule and a separate Confirmation for each of the Series 1993 Bonds and the Series 1995 Bonds (collectively, the "2002 Swap Agreement") with Citigroup Financial Products Inc., as successor to Salomon Brothers Holding Company, Inc. (the "2002 Swap Provider"). Under the 2002 Swap Agreement, the City makes regularly

scheduled payments to the 2002 Swap Provider on the notional amount thereof at a fixed rate of 4.52% for the Series 1993 Bonds and a fixed rate of 4.53% for the Series 1995 Bonds. In addition, the 2002 Swap Provider makes payments to the City on such notional amount at a variable rate equal to the bond rate or alternatively, 68.5% of one-month LIBOR (in the event the average rate on the Series 1993 Bonds or Series 1995 Bonds, as applicable, as a percentage of the average of the one-month LIBOR has exceeded 68.5% of one-month LIBOR for a period of more than 180 days). As of the date of this Official Statement, the 2002 Swap Provider pays the City 68.5% of one-month LIBOR.

On February 21, 2007, the City entered into two separate forward starting interest rate swap transactions, each evidenced by an ISDA Master Agreement, Schedule and a Confirmation, as amended on February 10, 2009 (collectively, the "2007 Swap Agreements," and together with the 2002 Swap Agreement, the "Swap Agreements"), between the City and each of Merrill Lynch Capital Services, Inc. and Wachovia Bank, National Association (the "2007 Swap Providers," and together with the 2002 Swap Provider, the "Swap Providers"). The 2007 Swap Agreements are intended to hedge the interest rate risk on $180,000,000 aggregate principal amount of new money bonds expected to be issued in calendar year 2010, split equally between the 2007 Swap Providers. Under the 2007 Swap Agreements, commencing on August 1, 2010, if the City issues new money variable rate bonds, the City will make regularly scheduled payments to the 2007 Swap Providers on the notional amount thereof at a fixed rate of 4.52275%, and the 2007 Swap Providers will make regularly scheduled payments to the City on such notional amount at a variable rate equal to the Bond Market Association Rate or the Securities Industry and Financial Markets Association Rate, each as defined therein.

Under certain conditions, each of the Swap Agreements may be terminated prior to its stated termination date in which case the City may be obligated to make a substantial payment to, or may be entitled to receive a substantial payment from, the applicable Swap Provider. There can be no assurance that a Swap Provider will pay or perform its obligations under the applicable Swap Agreement in accordance with the terms thereof, or that a Swap Provider will be able to pay any termination payment which it may be required to pay upon the occurrence of certain events of default or termination events under the applicable Swap Agreement.

SECURITY FOR THE BONDS

Pledge of Project Revenues

Pursuant to the General Ordinance, the City pledges and assigns to the Fiscal Agent, in trust, for the security and payment of all Water and Wastewater Revenue Bonds (other than Subordinated Bonds as defined therein) issued under or subject to the General Ordinance, and grants to the Fiscal Agent, in trust, a lien on and security interest in all Project Revenues and amounts on deposit in or standing to the credit of the Water and Wastewater Funds. The Fiscal Agent shall hold and apply the security interest and lien on Project Revenues and funds and accounts, in trust, for the equal and ratable benefit and security of all present and future holders of Water and Wastewater Revenue Bonds (other than Subordinated Bonds) issued under or subject to the General Ordinance. The General Ordinance provides that such pledge may also be for the benefit of the provider of a Credit Facility or a Qualified Swap (as defined therein), or any other person who undertakes to provide moneys for the account of the City for the payment of principal or redemption price of and interest on any series of Water and Wastewater Revenue Bonds (other than Subordinated Bonds) issued under or subject to the General Ordinance, on an equal and ratable basis.

The Swap Agreements are considered Qualified Swaps under the General Ordinance. The City's regularly scheduled payments under the Swap Agreements are secured on a parity basis by a lien on and a security interest in all Project Revenues for the benefit of each of the Swap Providers, as the Swap Provider, and, with respect to the 2002 Swap Agreement, Financial Security Assurance Inc., as the bond insurer. All other obligations of the City under each of the Swap Agreements, including payments due upon the early termination of a Swap Agreement, are secured by a lien on and security interest on all

Project Revenues subordinate to the lien described in the preceding sentence. See "SWAP AGREEMENTS" for additional information concerning the Swap Agreements.

Water and Wastewater Funds

The Act and the General Ordinance establish the following funds and accounts to be held by the Fiscal Agent:

(a) Revenue Fund.

(b) Sinking Fund and within such fund a Debt Service Account, a Charges Account and a Debt Reserve Account.

(c) Subordinated Bond Fund.

(d) Rate Stabilization Fund.

(e) Residual Fund and within such fund a Special Water Infrastructure Account.

(f) Construction Fund and within such fund an Existing Projects Account, a Bonds Proceeds Account and a Capital Account.

The foregoing funds are referred to herein as the "Water and Wastewater Funds." The General Ordinance also establishes a Rebate Fund, which is not held for the benefit of the holders of the Water and Wastewater Revenue Bonds.

The application of Project Revenues under the General Ordinance and priority of payments are set forth below.

The Water and Wastewater Funds are required under the General Ordinance to be held separate and apart from all other funds and accounts of the City and the Fiscal Agent and the funds and accounts therein shall not be commingled with, loaned or transferred among themselves or to any other City funds or accounts except as expressly permitted by the General Ordinance.

The City is required by the General Ordinance to cause all Project Revenues received by it on any date to be deposited into the Revenue Fund upon receipt thereof by the City, and the Fiscal Agent shall, upon receipt of Project Revenues, deposit such Project Revenues into the Revenue Fund. The City and Fiscal Agent also shall cause to be deposited into the Revenue Fund such portion of proceeds of Bonds as designated by Supplemental Ordinance or Bond Committee Determination and any other funds directed to be deposited into the Revenue Fund by the City.

If at any time sufficient moneys are not available in the Revenue Fund to pay Operating Expenses and to make the transfers described below under "Application of Project Revenues," then amounts on deposit in the Construction Fund, Rate Stabilization Fund and Residual Fund may be loaned temporarily, at the written direction of the City, to the Revenue Fund for the payment of such Operating Expenses to the extent of the deficiency, until such loaned amounts are required by the Water Department for purposes of the Fund making the loan. If a similar deficiency exists in the Construction Fund, amounts on deposit in the Revenue Fund, Rate Stabilization Fund and Residual Fund may be loaned temporarily, at the written direction of the City, to the Construction Fund, to the extent of the deficiency, until required by the Water Department for purposes of the Fund making the loan.

Application of Project Revenues

Under the provisions of the General Ordinance, Project Revenues are applied to the extent available in the following order of priority: (i) payment of Operating Expenses; (ii) payment of the principal or redemption price of and interest on Water and Wastewater Revenue Bonds issued under the General Ordinance (except Subordinated Bonds), regularly scheduled payments under any Swap

Agreement, payments under a Credit Facility to repay advances thereunder to pay any of the foregoing and payments with respect to fees and expenses in respect of a Credit Facility; (iii) payments into the Debt Reserve Account to the extent necessary to cure a deficiency therein; (iv) payments into any debt reserve account established within the Sinking Fund and not held for the equal and ratable benefit of all Water and Wastewater Revenue Bonds (other than Subordinated Bonds) to the extent necessary to cure a deficiency therein; (v) payment of principal or redemption price of and interest on Subordinated Bonds; (vi) all payments other than regularly scheduled swap payments, including, without limitation, any payments due to a Swap Provider upon the early termination of a Swap Agreement; (vii) transfer to the City the amount necessary to pay General Obligation Bonds issued for the Water and Wastewater Systems; (viii) transfer to the Rate Stabilization Fund the amount determined by the Water Commissioner; (ix) transfer to the Capital Account of the Construction Fund the sum of the Capital Account Deposit Amount, the Debt Service Withdrawal and the Operating Expense Withdrawal, less any amounts transferred to the Capital Account from the Residual Fund; and (x) after providing for any inter-Fund loans, transfer to the Residual Fund any amount remaining on deposit in the Revenue Fund.

The City has covenanted in the General Ordinance that it will not direct the Fiscal Agent to transfer, loan or advance proceeds of the Bonds or Project Revenues from the Water and Wastewater Funds to any City account for application other than for Water Department purposes. The General Ordinance permits the application of Project Revenues to pay Interdepartmental Charges and also permits moneys to be transferred in each Fiscal Year from the Residual Fund to the City's General Fund in an amount not to exceed the lower of (A) all Net Reserve Earnings (as defined below) or (B) $4,994,000. "Net Reserve Earnings" shall mean the amount of interest earnings during the Fiscal Year on amounts in the Debt Reserve Account and the Subordinated Bond Fund less the amount of interest earnings during the Fiscal Year on amounts in any such reserve funds and accounts giving rise to a rebate obligation pursuant to Section 148(f) of the Code.

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 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. 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.

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 or 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). See APPENDIX III - "SUMMARIES OF CERTAIN AUTHORIZATIONS FOR THE BONDS - The Restated General Water and Wastewater Revenue Bond Ordinance of 1989 – Debt Reserve Account."

On November 26, 2007, the City deposited a surety policy issued by FSA in a principal amount of $67 million dollars 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 April 1, 2009, in the amount of $114,030,169, was funded with Water and Wastewater proceeds and earnings on the investment thereof.

On November 21, 2008, Moody's Investors Service Inc. ("Moody's") reduced the Aaa insurance financial strength of FSA and its affiliated insurance operating companies to Aa3 with developing outlook. An explanation of the significance of any rating action should be obtained from the rating agency furnishing same. FSA currently meets the credit rating requirements prescribed by the General Ordinance with respect to eligible providers of supply policies for deposit in the Debt Reserve Account. The City and the Water Department are monitoring the financial condition and ratings of FSA in relation to such credit quality requirement.

On the date of issuance of the Bonds, the City will deposit a portion of the proceeds of the Bonds in the Debt Reserve Account, which, together with the surety policy and cash then on deposit in such Debt Reserve Account, will be sufficient to meet the Debt Reserve Requirement for all Water and Wastewater Bonds outstanding after the issuance of the Bonds.

Rate Covenants

The Rate Covenant contained in the General Ordinance requires the City to establish rents, rates, fees 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 1.20 times the Debt Service Requirements for such Fiscal Year (recalculated to exclude therefrom principal and interest payments in respect of Subordinated Bonds). In addition, Net Revenues, in each Fiscal Year, must be at least equal to 1.00 times: (i) the Debt Service Requirements for such Fiscal Year (including Debt Service Requirements in respect of Subordinated Bonds); (ii) amounts required to be deposited into the Debt Reserve Account during such Fiscal Year; (iii) the principal or redemption price of and interest on General Obligation Bonds issued for the Water and Wastewater Systems payable in such Fiscal Year; (iv) debt service requirements on Interim Debt payable in such Fiscal Year; and (v) the Capital Account Deposit Amount for such Fiscal Year, less any amounts transferred from the Residual Fund to the Capital Account during such Fiscal Year. To ensure compliance with the rate covenant, the General Ordinance requires that the City review its rents, rates, fees and charges not less frequently than once in each Fiscal Year. For a discussion of the Water Department's experience in meeting the rate covenant, see "RATES – Compliance with Rate Covenants" herein.

Insurance Covenants

In addition to the rate covenant described above, for each Fiscal Year ending on or after June 30, 2000, the City has covenanted to the Fiscal Agent, for the benefit of Financial Guaranty Insurance Company ("FGIC"), that for so long as the Series 1993 Bonds insured by FGIC are outstanding, to establish rates and charges for the use of the Water and Wastewater Systems 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% of the Debt Service Requirements (excluding debt service due on any Subordinated Bonds) in such Fiscal Year; and that in addition to the conditions described below under "Additional Bonds," any calculation by a Consulting Engineer of projected rate covenant compliance in connection with the proposed issuance of Additional Bonds for each Fiscal Year ending on or after June 30, 2000 must state that Net Revenues (excluding amounts transferred from the Rate Stabilization Fund into the Revenue Fund during, or as of the end of, such Fiscal Year) in each Fiscal Year included in the projection period are projected to be at least equal to 90% of the Debt Service Requirements (excluding debt service due on any Subordinated Bonds) in such Fiscal Year. The foregoing agreement is for the benefit of FGIC only and may be amended or waived by FGIC in its sole discretion without the consent of holders of the Bonds.

The City also has covenanted to the Fiscal Agent, in the manner described in the preceding paragraph for the benefit of FSA, for so long as the Series 2003 Bonds, the Series 2005A Bonds and the Series 2005B Bonds insured by FSA are outstanding. The agreement with FSA is for the benefit of FSA only and may be amended or waived by FSA in its sole discretion without the consent of holders of the Bonds.

Limitations on Effectiveness of Pledge of Project Revenues and Water and Wastewater Funds

The effectiveness of the pledge of the Project Revenues and the Water and Wastewater Funds may be limited because, while the Fiscal Agent will have custody of the Water and Wastewater Funds, the City will have complete control of deposits into and expenditures from the Water and Wastewater Funds, except that the City will not have control of expenditure of amounts on deposit in the Sinking Fund, including the Debt Reserve Account. No requisition procedure or other similar procedure will be established for the expenditure of moneys by the City from the Water and Wastewater Funds, and no consent or approval of the Fiscal Agent is required to be obtained by the City as a condition of the City's expenditure of moneys in the Water and Wastewater Funds. The Fiscal Agent will not monitor deposits into or withdrawals from the Water and Wastewater Funds (other than the Sinking Fund, including the Debt Reserve Account) or the purposes to which moneys in the Water and Wastewater Funds are applied.

The General Ordinance provides that if, on any date when a deposit is required to be made of the Project Revenues, the City fails to comply with any provision of the General Ordinance, the Fiscal Agent is authorized to and shall seek, by mandamus or other suit, action or proceeding at law or in equity, the specific enforcement or performance of the obligation of the City to cause the Project Revenues to be transferred to the Revenue Fund.

No daily, monthly or other periodic deposits are required to be made into the Sinking Fund prior to the dates on which debt service payments on the Water and Wastewater Revenue Bonds are due.

The enforcement of remedies available to Bondholders (or the Fiscal Agent or any trustee for Bondholders) under the Act or the General Ordinance may be limited as described herein under "REMEDIES OF BONDHOLDERS."

Additional Bonds

The General Ordinance permits the issuance of additional bonds which may be secured on a parity with the outstanding Water and Wastewater Revenue Bonds. The General Ordinance imposes certain conditions on the issuance of additional bonds thereunder, including the condition that a report of a Consulting Engineer be delivered to City Council stating that the Net Revenues are currently sufficient to comply with the rate covenant and are projected to be sufficient to comply with the rate covenant for each of the two Fiscal Years following the Fiscal Year in which the additional bonds are to be issued; provided that if interest on the additional bonds or a portion thereof has been capitalized, the projection shall extend to the two Fiscal Years following the Fiscal Year up to which interest has been capitalized. See APPENDIX III - "SUMMARIES OF CERTAIN AUTHORIZATIONS FOR THE BONDS" for a

discussion of the circumstances under which additional Bonds may be issued under the General Ordinance.

Transfer to an Authority

The City is authorized under the General Ordinance, upon the satisfaction of the conditions specified in the General Ordinance, to convey and assign to a municipal authority or another entity all or substantially all of the City's right, title and interest in the Water and Wastewater Systems and thereupon to be released from all of its obligations under the General Ordinance and under the Water and Wastewater Revenue Bonds.

For a further discussion of the funds and accounts, priority of payment, the rate covenant, transfer of the Water and Wastewater Systems and other provisions of the General Ordinance, see APPENDIX III - "SUMMARIES OF CERTAIN AUTHORIZATIONS FOR THE BONDS."

BOND INSURANCE

The Bonds may or may not be issued with bond insurance and the decision whether to use bond insurance on all or a portion of the Bonds will be subject to market conditions at the time of pricing of the Bonds.

REMEDIES OF BONDHOLDERS

Remedies under the Act and the General Ordinance available to Bondholders and to any trustee for Bondholders appointed by the holders of 25% in outstanding principal amount of any series of Water and Wastewater Revenue Bonds in default are described in APPENDIX III - "SUMMARIES OF CERTAIN AUTHORIZATIONS FOR THE BONDS." In addition to the remedies therein described, Bondholders or a trustee therefor are entitled under the Pennsylvania Uniform Commercial Code to remedies as secured parties with respect to the Project Revenues and the funds on deposit in the Water and Wastewater Funds.

The ultimate enforcement of Bondholders' rights upon any default by the City in the performance of its obligations under the Act, the General Ordinance and the Bonds will depend upon the application of remedies provided in the Act, the General Ordinance and other applicable laws. Litigation may be necessary to obtain relief in accordance with these remedies. Such litigation may be protracted and costly. Remedies such as mandamus, specific performance or injunctive relief are equitable remedies, which are subject to the discretion of the court.

Enforcement of Bondholders' rights may be limited by and is subject to the provisions of the Federal Bankruptcy Code, as now or hereafter enacted, and to other laws or legal or equitable principles which may affect the enforcement of creditors' rights. The Pennsylvania Intergovernmental Cooperation Authority Act for Cities of the First Class (the "PICA Act") prevents the City from filing a petition for relief under Chapter 9 of the Federal Bankruptcy Code ("Chapter 9") as long as the Pennsylvania Intergovernmental Cooperation Authority has outstanding any bonds issued pursuant to the PICA Act, and if no such bonds were outstanding, requires approval in writing by the Governor of the Commonwealth for a filing under Chapter 9 by the City. See APPENDIX IV – "CERTAIN INFORMATION CONCERNING THE CITY OF PHILADELPHIA – Pennsylvania Intergovernmental Cooperation Authority."

The filing of a petition under Chapter 9 operates as an automatic stay of the commencement or continuation of any judicial or other proceeding against the debtor or its property. However, a petition filed under Chapter 9 does not operate as a stay of application of pledged special revenues to the payment of indebtedness secured by such revenues. Special revenues include receipts derived from the ownership or operation of systems that are used to provide utility services and the proceeds from borrowing to

finance such systems. The Federal Bankruptcy Code further provides that special revenues acquired by the debtor after the commencement of a Chapter 9 case shall remain subject to any lien resulting from any security agreement entered into by the debtor before the commencement of the case. However, the lien on special revenues derived from a system will be subject to the payment of the necessary operating expenses of that system. Therefore, Project Revenues acquired by the City after the filing of a Chapter 9 petition will remain subject to the lien of the General Ordinance in favor of the Bondholders, but will be subject to the payment of the Water and Wastewater Systems' necessary operating expenses as determined by the City. The Federal Bankruptcy Code also provides that a transfer of property of a debtor to or for the benefit of a bondholder, on account of such bond, may not be avoided as a preferential transfer.

Unless the debtor consents or the plan proposed under Chapter 9 so provides, the bankruptcy court may not interfere with any of the property or revenues of a Chapter 9 debtor or with such debtor's use or enjoyment of any income-producing property. Accordingly, if the City decided to use Bond proceeds, the Project Revenues or the Water and Wastewater Funds pledged for the benefit of the Bondholders for other than Water Department purposes, a bankruptcy court would not have the power to interfere with that decision. Even if a bankruptcy court had such power, the court, in the exercise of its equitable powers, could refuse to require the City to use Bond proceeds, the Project Revenues and the Water and Wastewater Funds to pay Bondholders.

The debtor may file a plan for the adjustment of its debts which may include provisions modifying or altering the rights of creditors generally, or any class of them, secured or unsecured. The plan, when confirmed by the court, binds all creditors which have had notice or knowledge of the plan and discharges all claims against the debtor provided for in the plan. No plan may be confirmed unless certain conditions are met, among which are that the plan is in the best interests of creditors, is feasible and has been accepted by each class of claims impaired thereunder. Even if the plan is not so accepted, it may be confirmed if the court finds that the plan is fair and equitable with respect to each class of non-accepting creditors impaired thereunder and does not discriminate unfairly. Thus, under the above described "cram-down" provisions of the Federal Bankruptcy Code, a plan of adjustment could be imposed on the Bondholders that would give them less than their anticipated rate of interest on the Bonds or possibly even less than a full return of their principal, and/or extend the time for payment of principal of or interest on the Bonds.

The foregoing references to the Federal Bankruptcy Code should not be construed as implying that the City expects to resort to the provisions of such statute or that, if it did, any proposed restructuring would include a dilution of the sources of payment of and security for the Bonds.

THE WATER DEPARTMENT

General

The Water Department was established by the City pursuant to the Charter with the power and duty to operate, maintain, repair and improve the City's 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. See "RATES" below. 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. See APPENDIX I – "FINANCIAL STATEMENTS OF THE WATER FUND FOR FISCAL YEARS ENDED JUNE 30, 2008 AND 2007" hereto.

The Water and Wastewater Funds are funds required by the General Ordinance to be established and maintained with the Fiscal Agent for so long as the Bonds are outstanding for the purpose of segregating Bond proceeds and Project Revenues from other funds of the City not held exclusively for Water Department purposes.

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.

The following are brief biographical descriptions of the Commissioner, his deputies and the senior management of the Water Department:

Bernard Brunwasser was appointed Water Commissioner in April, 2004. Previously, Mr. Brunwasser served as Deputy Water Commissioner and General Manager of the Finance Division since January 1989. He holds a B.A. degree from Pennsylvania State University and has attended Temple University's School of Public Administration. Since joining the Water Department in 1970, Mr. Brunwasser has held a number of increasingly responsible administrative and managerial positions in both the Operations and Finance Division. He currently serves on the American Water Works Association's Finance, Accounting and Management Controls Committee of the Management Division.

Joseph S. Clare, III was appointed Deputy Commissioner in August, 2004. Mr. Clare previously served as General Manager of Finance since 2003 and Administrative Services Director and Assistant General Manager of Finance and Administration since September, 1998 and as Accounting Manager and Contracts Audit Supervisor for the Water Department since 1987. He also previously served as a Deputy Commissioner in the Department of Public Property. Mr. Clare is a Certified Public Accountant and received B.S. and M.B.A. degrees in Accounting Control and Finance from Drexel University.

Debra Anita McCarty was appointed Deputy Water Commissioner in April, 2004. She is principally responsible for managing the Water Department's Operations Division. She received a Bachelor of Engineering Sciences of Environmental Engineering from Johns Hopkins University in Baltimore in 1979. After serving in a private engineering firm for several years, she began her employment with the Water Department in 1982. Since her initial appointment, Ms. McCarty has held a number of increasingly responsible engineering and managerial positions, most recently holding the position of Chief of Wastewater, which included responsibility for the operation of the City's three large wastewater treatment plants. She has also served as plant manager of the Southwest Water Pollution Control Plant and Process Manager for the Northeast Water Pollution Control Plant.

David A. Katz was appointed Deputy Water Commissioner in June, 2001, managing the Water Department's Environmental Policy and Planning efforts. Previously, Mr. Katz had served as Divisional Deputy City Solicitor. He had been with the City's Law Department since 1987 and had served as the General Counsel to the Water Department since April, 1992. He holds a B.S. in Economics from the Wharton School, University of Pennsylvania and a J.D. from the Washington College of Law, American University. Prior to joining the Law Department, Mr. Katz served in a variety of public and private legal positions.

Gerald D. Leatherman was appointed Divisional Deputy City Solicitor and General Counsel to the Philadelphia Water Department in March, 2008. He joined the City's Law Department in 2003 serving as a Deputy City Solicitor in the Housing /Code Enforcement and Neighborhood Transformation Divisions. Prior to that, Mr. Leatherman worked in the General Counsel's Office of the Philadelphia Housing Development Corporation and as a Private Practitioner. Mr. Leatherman received a Bachelor of Arts from the American University and a J.D. from Temple University Beasley School of Law.

Francis X. Meiers was appointed General Manager for Human Resources Administration in January, 2009. He holds a B.A. degree in Political Science from Temple University. Prior to his appointment as General Manager for Human Resources Administration, he served in the Water Department's Personnel Office where for 28 years he worked at a variety of human resources functions, most recently as the Water Department's Employee & Labor Relations Officer. In that capacity he facilitated performance management of the Department's workforce through supervisory and performance appraisal training, and by overseeing the Department's use of progressive discipline. In addition he played a central role in defending PWD's position during litigation resultant from the department's actions related to employee and labor relations activities.

Joanne Dahme was appointed General Manager of the Public Affairs Division in January, 2009. She holds a B.C.E. degree in Civil Engineering from Villanova University and an M.J. in Journalism and a Masters in Creative Writing, both from Temple University. Ms. Dahme joined the Water Department in 1980 and served as the Manager of the Public Affairs Division from 1994 to 1999. She later served as a Watersheds Programs Manager for the Department's Office of Watersheds until returning to assume her current position in Public Affairs. She currently serves on the board of the Delaware Estuary Program in addition to several regional watershed planning committees.

Stephen J. Furtek was appointed Interim General Manager of Planning and Engineering on March 1, 2005. His permanent appointment was effective January, 2006. Mr. Furtek is a registered Professional Engineer and holds a B.S. degree in Civil and Urban Engineering from the University of Pennsylvania. He has held a number of increasingly responsible positions since joining the Water Department in 1982, including Supervisor of the Water & Sewer Design Section and Manager of the Design Branch.

Michelle L. Bethel was appointed Deputy Revenue Commissioner in charge of the Water Revenue Bureau in July, 2008. She holds a B.S. in Accounting with a Minor in Public Relations from Kutztown University and an M.B.A. in Human Resource Management from the University of Phoenix. Prior to her appointment as Deputy Revenue Commissioner, Ms. Bethel worked for the Commonwealth of Pennsylvania Department of Revenue in Harrisburg for 14 years. Ms. Bethel has extensive knowledge with customer service, collections, and compliance issues gained through working in increasingly responsible management positions. She also is a certified trainer.

Personnel

As of December 31, 2008, the Water Department employed approximately 1,939 permanent employees, of whom 1,464 are represented by District Council 33, and 208 by District Council 47, both of the American Federation of State, County and Municipal Employees. The balance (267) represent the Water Department's upper management, supervisory and senior engineering and administrative personnel

who are not eligible for union membership. There are approximately 199 employees in the Water Revenue Bureau of the Revenue Department whose positions are funded by the Water Department. Union representation in the Water Revenue Bureau parallels that of the Water Department.

The City entered into collective bargaining agreements with District Councils 33 and 47, effective July 1, 2004, each of which expired on June 30, 2008. The City reached agreement with both District Council 33 and District Council 47 on contract extensions that will terminate on June 30, 2009.

Relationship to the City

The Water Department was established by the City pursuant to the Charter as one of the City's ten operating departments. As such, the Water Department reports to the Office of the Managing Director. The Water Department relies on other City departments and agencies for support of its operations. Eight departments receive a direct appropriation from the Water Department's operating budget at the beginning of each fiscal year to fund the support services to be rendered to the Water Department in such fiscal year. The eight departments are: the Revenue Department (Water Revenue Bureau) for meter reading, billing and collection services; the Law Department for legal services; the Department of Public Property for the rental of office space, communications and parking; the Office of Fleet Management for vehicle acquisition, fuel, and maintenance; the Department of Technology for computer support services; the Procurement Department for services related to the acquisition of goods and services; the Finance Department for fringe benefits, indemnities and support services; and to the Sinking Fund Commission for the payment of debt service.

Approximately 17 City departments and agencies, including the Revenue Department and the Department of Public Property, provide additional services to the Water Department during the year for which they are paid at the close of each fiscal year. Total interfund charges from these departments totaled $9,432,351 for Fiscal Year 2008 and $8,607,941 for Fiscal Year 2007. These additional services include purchasing of services, supplies and equipment by the Procurement Department; certain communication services by the Public Property Department; street repairs by the Streets Department; disbursements and cash management by the Director of Finance; auditing services by the Office of the City Controller; testing and hiring services from the Personnel department and Labor Relations unit and other support services provided by the Managing Director's Office, Civil Service Commission, Department of Licenses & Inspections, and the Police Department. The Department also charges the aviation fund through a year end interfund charge. For Fiscal Year 2008, the charges to the aviation fund were $1,977,190.

The City is the largest customer of the Water Department. For Fiscal Year 2008, the City paid $22,356,365, net of a one-time credit of $3,173,904, for Fiscal Year 2007 overcharges for water, sewer and fire connection charges and other services provided by the Water Department, which represented 3.73% of the Water Department's total revenues for that year. For Fiscal Year 2007, the City paid $31,601,180 for water, sewer and fire connection charges and other services provided by the Water Department, which represented 6.08% of the Water Department's total revenues for that year. For Fiscal Year 2006, the City paid $28,255,900 for water, sewer and fire connection charges and other services provided by the Water Department, which represented 5.8 % of the Water Department's total revenues for that year. For Fiscal Year 2005, the City paid $23,776,844 for water, sewer and fire connection charges to the Water Department, which represented 5.12% of the Water Department's total revenues for that year. For Fiscal Year 2004, the City's charges from the Water Department were $22,289,256 which represents 4.83% of budgeted total revenues. Projections in the engineering report include $32,129,000 in Fiscal Year 2010 and $34,143,000 in Fiscal Year 2011. City payments to the Water Fund are made as of the close of each Fiscal Year. The Fiscal Year 2009 budget includes an estimate of $28.0 million for these changes.

The total interdepartmental direct obligations incurred by the Water Department for non-Water department services for Fiscal Year 2008 were $287,742,477, including $174,986,552 in debt service and

$72,514,878 in employee fringe benefits. Total interfund charges from other departments totaled $9,432,351 for Fiscal Year 2008. The total interdepartmental direct obligations incurred by the Water Department for non-Water department services for Fiscal Year 2007 were $255,663,137, including $173,922,377 in debt service and $65,650,950 in employee fringe benefits. Total interfund charges from other departments totaled $8,607,941 for Fiscal Year 2007. Fiscal Year 2006 were $264,667,861, including $166,415,949 in debt service and $56,279,707 in employee fringe benefits. Total interfund charges from other departments totaled $7,191,745 for Fiscal Year 2006. Fiscal Year 2005 estimated obligations for direct appropriations for non-water department activities were $245,854,643. This includes $156,546,920 in debt service and related expenses and $53,143,276 in fringe benefits. For Fiscal Year 2009 budget appropriations for non-water department activities were $295,428,377. This includes $174,254,100 in debt service and related expenses and $73,806,000 in fringe benefits. An ordinance was recently enacted to increase appropriations for debt service by $10,000,000 for Fiscal Year 2009 and decrease Water Department appropriations for payroll and contracted services by $10,000,000. The Engineering Report projects interdepartmental charges to rise to $55,733,000 (excluding debt service of $195,226,000 and fringe benefits of $70,923,000) in Fiscal Year 2010.

The Water System

The Water System provides water to the City, which comprises approximately a 130 square mile service area. In addition, the Water Department has contracted to provide up to 35 million gallons per day ("MGD") of water to Bucks County Water and Sewer Authority pursuant to an agreement with that authority. The population served by the Water System was approximately 1,728,900 as of the 2000 census, of which 1,518,000 were in the City and 154,000 were in Bucks County. Sales to Aqua Pennsylvania are to approximately 56,900 people in Montgomery and Delaware Counties.

On June 29, 2000 the Water Department entered into a contract with the Philadelphia Suburban Water Company, which, as the result of a recent merger, is now Aqua Pennsylvania, under which the Water Department agreed to provide wholesale water service through March 1, 2026. This Agreement provides for service through two interconnections – one in Tinicum Township, Delaware County and another in Cheltenham Township, Montgomery County. The Tinicum interconnection allows for an average daily draw of 3.705 MGD and maximum daily demand of 7.0 MGD, and became operational in November, 2001. The Cheltenham interconnection allows for an average daily draw of 2.0 MGD and a maximum daily demand of 2.5 MGD. This interconnection was activated in 2002. Current projections on which the Engineering Report is based assume that the total population in the present service area will stabilize at approximately those levels for the remainder of this decade. As of December 2008, the Water System served approximately 472,600 retail customer accounts through 3,137 miles of mains and provided fire protection through approximately 25,200 fire hydrants. As of December 2008 there were approximately 13,400 water/wastewater accounts in non-service status due to service shutoffs for non-payment.

The City obtains approximately 58% of its water from the Delaware River and the balance from the Schuylkill River. The City has been historically authorized by applicable regulatory authorities to withdraw up to 390 MGD from the Delaware River and up to 258 MGD from the Schuylkill River. The renewal of the Water Department's water allocation permits is currently being negotiated with regulatory agencies. PADEP has proposed reducing the Water Department's water allocations to levels closer to current actual usage. Should the Water Department's allocation be reduced, this could have an impact on existing and future wholesale water rates and on our costs in providing additional new water service to surrounding communities.

Water treatment is provided by the Samuel S. Baxter Plant on the Delaware River and by the Belmont and Queen Lane Plants on the Schuylkill River. The combined rated capacity of these plants under the Water Department's Partnership for Safe Water procedures is 536 MGD and their combined maximum capacity is 683 MGD. The storage capacity for treated and untreated water in the combined

plant and distribution system totals 1,065.5 million gallons ("MG"). In Fiscal Year 2008, the Water System distributed 91,756 MG of water at an average rate of 250.7 MGD. The maximum daily water production requirement experienced by the Water System in Fiscal Year 2008 was 302.1 MG and occurred on June 9, 2008.

The Water Department has been very successful in developing and applying programs to reduce uncaptured revenue and the loss of finished water from the distribution system. The Water Department has cut its Non-revenue water by 40% over the past decade, from a typical annual level of 120-140 MGD prior to Fiscal Year 1995 to 74.9 MGD at the close of Fiscal Year 2008. The Water Department has been very active in promoting new methods through the American Water Works Association ("AWWA"), and has attained the recognition as an industry leader in this regard. Programs include the annual publication of a detailed system water audit, ongoing leak detection and repair, a Meter Management Program featuring the nation's largest water utility Automatic Meter Reading (AMR) system, a successful Revenue Protection Program which has recouped millions of dollars of uncaptured revenue and participation in important research projects on leakage management. In Fiscal Year 2007 the Water Department installed instrumentation to control leakage by advanced pressure management, a technique that has proven successful internationally. The Water Department is one of the first water utilities in the United States to employ this effective technique.

During Fiscal Year 2007 the Water Department began employing contracted services for inline leak detection in active large-diameter transmission water piping. In the first two years of the program a total of 20 miles of piping was scanned and 45 hidden leaks were pinpointed. A number of these leaks were found to exist on inaccessible piping beneath interstate highways or railroads. This service has added another highly effective tool to the battery of methods that the Water Department is employing to minimize lost water.

The Water Department was the first water utility in the United States to adopt the best management water audit approach published by the International Water Association and the AWWA in 2000. The method accounts for all water as either consumption or losses. Apparent Losses are the paper losses due to customer meter inaccuracies, billing error and unauthorized consumption. These losses cause water utilities to lose a portion of the revenue to which they are entitled. Real Losses are physical losses, largely leakage. These losses cause excess production costs for water utilities. The summary data from the Water Department's recent water auditing history is given below. During Fiscal Year 2008 the City of Philadelphia transitioned from its longtime legacy customer billing system to the Basis2 Customer Billing System by Prophecy International Holdings, Ltd. The new system was placed online in mid-year and many applications are being refined. Total billable consumption for the year has been quantified at 175.8 MGD.

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Component	FY2008	FY2007	FY2006	FY2005	FY2004	FY2003	FY2002	FY2001	FY2000
Water Supplied, mgd (A)	250.7	255.3	253.8	260.3	263.0	270.2	263.0	267.5	277.7
Billed Consumption, mgd (B)	175.8	169.5	177.0	176.9	176.9	183.4	178.2	181.7	185.8
Unbilled Authorized Consumption, mgd (C)	2.1	2.3	2.4	2.3	2.4	3.0	2.5	2.4	3.0
Unbilled Authorized Consumption Costs	$717,200	$214,300	$191,000	$155,200	$159,700	$180,400	$145,900	$134,500	$149,000
Total Authorized Consumption, mgd (D=B + C)	177.9	171.8	179.4	179.2	179.3	186.4	180.7	184.1	188.8
Water Losses, mgd (A-D)	72.8	83.5	74.4	81.1	83.7	83.8	82.3	83.4	88.9
Apparent Losses, mgd (E)	19.0	21.9	15.2	14.2	11.1	13.3	13.1	14.5	18.6
Apparent Losses costs, million	$27.3	$30.8	$20.3	$19.1	$10.9	$10.0	$9.0	$11.6	$13.7
Real Losses, mgd (F)	53.8	61.6	59.2	66.9	72.6	70.5	69.2	68.9	70.3
Real Losses costs, million	$4.9	$5.1	$4.3	$3.9	$4.1	$3.7	$3.4	$2.5	$2.9
Infrastructure Leakage Index, dimensionless	9.0	10.3	9.9	11.0	12.1	11.9	13.1	12.7	12.3
Non-revenue Water, mgd	74.9	85.8	76.8	83.4	86.1	86.8	84.8	85.8	91.9
Percent Non-revenue Water by volume	32.4	36.3	32.7	34.6	35.4	32.1	32.2	32.1	33.1
Percent Non-revenue Water by cost	15.1	17.5	13.0	12.4	9.0	8.3	8.1	9.2	11.1

Non-revenue Water = Unbilled Authorized Consumption (C) + Apparent Losses (E) + Real Losses (F), or

Non-revenue Water = Unbilled Authorized Consumption + Water Losses

Philadelphia Water Department – Water Revenue Bureau Annual Water Audit Summary

Fiscal Year	Water Recovered, MGD	Revenue Recovered
2008	N/A	$636,300
2007	0.36	$531,400
2006	1.01	$1,413,000
2005	1.74	$2,835,000
2004	1.67	$2,003,000
2003	1.14	$1,782,000
2002	0.69	$1,037,000
2001	5.81	$2,900,000
2000	1.39	$2,100,000
Total	13.45	$15,237,000

In Fiscal Year 2008 hydrant availability was 99.7%. The implementation of a new process to track hydrant information and deploy repair crews has resulted in hydrant availability remaining significantly above 99% since January 2006. A proactive program is responsible for this high reliability. The program calls for routine inspection, repair and painting. During Fiscal Year 2008, the Water Department coordinated with the Philadelphia Fire Department to inspect virtually all of the city's 25,200 fire hydrants; and the Water Department conducted 4,777 repairs and painted 2,672 hydrants. In addition, 1,547 tamper-proof hydrant locks were installed on hydrants. Over 68.9 percent of the Department's hydrants have locking devices. Due to these locking devices hydrant abuse is controlled to levels that had no noticeable effect on the operation of the water system.

Water Main Replacement

The Water Department's accelerated water main replacement program, in place now for over ten years, continues. The current level of 231.2 breaks per 1,000 miles is significantly better than the national average of 270 breaks per 1,000 miles. By reducing the emergency repairs required, the Water Department is better able to manage its crews and other resources, and continually provide better service to its customers. The Water Department also closely monitors water main conditions to determine that adequate capital investment is made to ensure the integrity of the water supply system.

Distribution System Reservoir Planning Initiative

The Reservoir Team was created to better manage the strategic planning, capital program projects and operations and maintenance functions of the Water Department distribution system finished water storage reservoirs. In its initial work the team updated all standard operating procedures and improved as-built facility documentation. In 2004, a comprehensive assessment of reservoir practices was conducted by a noted engineering consulting firm, Economic and Engineering Services, Inc. This assessment found that the Water Department provides outstanding upkeep of its reservoirs to meet the quantity and quality needs of the drinking water supply system. Since this time the Reservoir Team has strategically focused on the long-term options for the East Park and Oak Lane Reservoirs where the floating covers are into the second half of their useful lives. The Team's Strategic Planning Group obtained the services of the consulting group CH2M Hill who conducted hydraulic analysis and a life-cycle cost evaluation comparing replacement of floating covers and construction of pre-stressed wire-wound concrete tanks at East Park Reservoir. Based upon the consultant's findings, the team recommended, and the PWD administration approved, a plan to construct concrete tanks at the East Park

site. Concrete tanks are known to provide superior protection of water quality and have become common in the use of ground level reservoirs throughout the United States. Three tanks are currently planned at a cost of $40 million with the first tank scheduled to be on line by 2013, which is the end of the life cycle on the current floating cover basin. A Request for Proposal was issued for the design of the concrete tanks and layout of the site. CH2M Hill was selected in a competitive process to develop detailed design plans and specifications. Contractual documents are being processed and active design is expected to start by early 2009.

The Oak Lane Reservoir was taken out of service on Tuesday, February 24, 2009, immediately after it was discovered that the polypropylene membrane cover was deteriorating and particles from the cover were released into the water. Operations to implement the shut down were efficient and effective with no negative impact on water supply. The south basin lining and cover were installed under contract # W-3059 completed May 1997. The reservoir capacity is 70 million gallons and provided water to the East Oak Lane and West Oak Lane Pumping Stations. These pumping stations are now supplied directly from Lardner's Point Pumping Station while an investigation into the cause of the breakdown is conducted and a plan of action is instituted. It is expected that the reservoir will be out of service for an extended period of time.

Regulatory Achievements

The water provided by the Water System meets all physical, chemical, radiological and bacteriological water quality standards established by the United States Environmental Protection Agency ("EPA") under the Safe Drinking Water Act and by the Pennsylvania Department of Environmental Protection ("PaDEP"). The Water Department is aware of recent proposed and planned state and federal regulations relating to drinking water quality and has completed research and monitoring efforts with respect to the content and status of these regulations so that it will be able to comply with such regulations when adopted.

The EPA promulgated two sister rules, the Interim Enhanced Surface Water Treatment Rule ("IESWTR") and the Stage 1 Disinfectant/Disinfection By-Product Rule ("D/DBP"), both of which took effect January 1, 2002. The Water Department complied with these rules by implementing improvements at its treatment facilities. Several major changes contribute to the department's continuing tradition of supplying safe and healthy drinking water: the introduction of filter applied and post filter pH control systems, moving and adding chlorine application points, renovation of several flocculation basins, the rebuilding of several filters and the installation of on-line turbidimeters for each filter. These major projects were supported by many smaller ancillary projects that made these changes effective. In January 2006, EPA promulgated the Long Term Stage 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) and the Stage 2 Disinfection and Disinfection Byproducts Rule (Stage 2 D/DBP). Full implementation of these regulations is not required until 2012, but the Water Department, through previous treatment changes, already comply with these new rules. Water quality improvements, especially in the area of reducing disinfection byproduct formation, will still be pursued. Further modification of pH, the use of powdered activated carbon, and moving disinfection back in the treatment process will all be evaluated. Conceptual designs of post chlorine contactors are underway. A full scale plant trial using the Belmont post chlorine contactor was conducted in August and September 2008. Additional plant trials will be conducted to better understand the impact of moving chlorine back in the process. Chlorine dioxide and hydrogen peroxide are being evaluated as alternative preoxidants.

The Bureau of Laboratory Services has just completed the one year study of distribution disinfection byproduct sampling locations as required by the EPA's Individual Distribution Sampling Evaluation (IDSE) Rule. This study will be submitted to EPA in early 2009 and will determine future DBP sampling locations for Philadelphia and the potential impacts of future regulations. The next regulations to take effect are the Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR)

and the Stage 2 Disinfection/Disinfection Byproduct Rule(D/DBPR2). The Water Department is already prepared to meet these rules, which do not go into effect until 2012.

To prepare for future regulations and be proactive in determining the best alternatives to maintain high quality finished water, the Water Department will evaluate numerous advanced water treatment processes for possible future implementation. The Planning and Research Unit has conducted research on pre and post ozone, biologically active filtration, magnetic ion exchange (MIEX) technology, alternative coagulants, manganese control strategies, and biofilm in the distribution system. These technologies, along with membrane filtration and ultraviolet radiation, will be compared using water quality goals, feasibility, and economics.

The Water Department continues to participate in the Partnership for Safe Water ("PfSW"), a national, joint program of the EPA and the water industry. The Water Department has received the 10-year Director's Award from the PfSW for complying with the Phase III requirements for over 10 years. The Department continues to improve on individual filter performance and achieves less than 0.10 NTU in the filter effluent nearly 100 % of the time. Individual filters meet PfSW standards greater than 99 % of the time. The finished water effluent turbidity at all three plants averages less than 0.06 ntu, which is five times lower than the current regulatory standard of 0.3 ntu. This, in combination with a multibarrier approach, guards against outbreaks of water contamination. The Water Department continues to operate within guidelines that are far more rigorous than Commonwealth or federal laws require.

An additional example of this "more rigorous than required" approach is the Water Department's Microbial Communication Plan. This plan describes what communication will be taken at each level of treatment so that the multibarrier system is always enforced and that appropriate management personnel are notified of actions taken. In the plan, management includes Operations Management, the Bureau of Laboratory Services, and the Water Quality Committee (a management team comprising managers from the Health Department, Public Affairs, Operations, Engineering, and Law). It also includes notification and involvement from the primary agency (PaDEP), in addition to the City's Health Department, at water quality levels that are below the regulatory limits.

The Water Department pursues its proactive position within the community by developing a risk communication plan. This plan is in place to develop tools that explain issues of concern to the public. The basic elements of the process are: collection of pertinent "up to date", detailed information, often by conducting cutting edge research, for a topic position paper, sharing this information with preselected experts and citizen groups, and using the feedback to craft a document which helps communicate this issue effectively to the public.

The Water Department continues to prepare for future regulations regarding the distribution system. The Water Department has a district metered zone, uses online water quality monitors at reservoirs and pump stations, and water system hydraulic monitoring and modeling. All of these tools allow the Load Control Center to research and track water through the system. The Department is actively involved in monitoring, commenting on, and implementing practices to respond to PADEP and EPA rulemaking for distribution systems.

Lead and Copper Rule Compliance History

Beginning in 1992, the Water Department has conducted nine rounds of in-home sampling for compliance with the Lead and Copper Rule ("LCR") as summarized in the table below. During the first round of sampling in 1992, the Water Department was above the action level ("AL") for lead. The AL for lead is defined as less than or equal to 0.015 mg/L in 90% of the home tap samples. The AL for copper is defined as less than or equal to 1.3 mg/L in 90% of the home tap samples. Following that initial round, the Water Department made various changes in its corrosion control strategy, based on in-house research and industry knowledge. In subsequent rounds Philadelphia met the action levels for both lead and copper.

Lead and Copper Monitoring History						
Year	Samples required	Homes sampled	Lead		Copper	
			90th Percentile	Action level	90th Percentile	Action level
Jan-Jun 1992	100	162	**0.021 mg/L**	0.015 mg/L	0.9 mg/L	1.3 mg/L
Jul-Dec 1992	100	143	0.015 mg/L		0.8 mg/L	
Jan-Jun 1997	100	118	0.014 mg/L		0.4 mg/L	
Jul-Dec 1997	100	108	0.011 mg/L		0.4 mg/L	
Jun-Sep 1998	50	78	0.010 mg/L		0.3 mg/L	
Jun-Sep 1999	50	59	0.009 mg/L		0.3 mg/L	
Jun-Sep 2002	50	63	0.013 mg/L		0.3 mg/L	
Jun-Sep 2005	50	108	0.010 mg/L		0.3 mg/L	
Jun-Sep 2008	50	97	0.006 mg/L		0.3 mg/L	

Following the initial sampling period, the PADEP allowed the Water Department to go to reduced monitoring. Currently, the Water Department has to conduct LCR monitoring every three years. The Water Department did not exceed the AL for copper in any of the nine rounds of sampling and the latest round of testing produced the lowest lead results to date. The next sampling period for the LCR is June to September 2011.

Water Treatment Research

The Water Department continues to conduct pilot scale investigations to enable it to respond to upcoming regulations and to investigate effects of proposed process changes. The initial phase of the pilot plant study was conducted to investigate changing the coagulant dose, the pH of coagulation and point of chlorination. This work was completed and integrated into the current water treatment process, as mentioned above. The pilot plant research continued with the investigation of the practicality of using ozone to inactivate Cryptosporidium oocysts. The conclusions from this extensive phase indicate that ozonation for inactivation is very expensive. The cost is estimated at $100 million, plus $40 million in contingency for re-pumping. Data collected through American Water Works Research Foundation ("AwwaRF") sponsored research, Water Operations, and source water assessment seems to indicate that the Water Department will be able to meet regulations relative to Cryptosporidium without ozone or ultraviolet light inactivation. The next phase of the research conducted by the pilot plant was to investigate the limits of the use induced oxide coated media to remove manganese (Mn) from drinking water. This AwwaRF sponsored research has been completed published in a report issues 2006. Pilot plant research in the area of Mn control continues. Again, this is an AwwaRF sponsored study that is now focusing on how a biologically active filter may be able to control Mn, report due in 2010.

Drought Management

The Water Department has been a participant in the development of drought management plans, which allocate Delaware River Basin water resources during drought periods among jurisdictions dependent on the Delaware River for water supply. These plans have been used to effectively manage drought emergencies declared in the past and are expected to adequately address future drought emergencies. In addition, the City is able to draw water supply from both the Schuylkill and the Delaware River systems and therefore is not dependent on a single source of supply. Currently, the City and Commonwealth of Pennsylvania are not under a drought watch or warning. PWD actively participates in flow management planning with the Delaware River Basin Commission as an advisor to Pennsylvania on the Supreme Court Consent Decree Parties Flow Working Group for the Delaware River.

Capital Facilities Assessment Program

The Water Department has developed a comprehensive assessment program for its water, wastewater, and finished water pumping facilities, which proactively addresses future capital funding requirements. The program is called The Capital Facilities Assessment Program ("CFAP") and its intention is to complement the established maintenance program at each facility by instituting a framework for the periodic assessment of major infrastructure. CFAP inspections are prompted in Maximo, the computerized maintenance management system, utilized at these facilities. These assessments give the Department the physical condition, re-inspection schedule and inspection methodology for each infrastructure asset. All of this information is organized and documented which aids the facility managers in scheduling O&M and capital inspections.

Asset Management Initiative

PWD is developing an asset management structure which will enhance the PWD's philosophy and practices for infrastructure renewal. Presently functional units (i.e. wastewater operations) have developed performance measures and goals to achieve their core missions in managing their assets. The PWD currently has a suite of programs in place to manage and assess its infrastructure in order to best meet their core missions. (Maximo, capital facility inspection program, predictive/preventive maintenance programs for key assets, "point system" for scheduling water main replacement/rehabilitation, sewer assessment program for collector system condition assessment and GIS). These individual programs are utilized to make "best practice" rehabilitation or renewal decisions for PWD's collective infrastructure. The asset management initiative will investigate and identify appropriate asset management strategies for the PWD to integrate into its decision making process to assist decision making and capital project ranking. This process will take place over the next several years. Consideration of the relative risk of failure for the individual asset, life-cycle costing for replacement, ancillary damage/consequences if the asset were to fail, and operations and maintenance history of the asset (to evaluate non-capital options for extending the individual assets life). With this information and existing PWD programs an effective process can be developed to assist managers in making informed decisions of either increased maintenance (operating budget) to extend useful life, planning for capital expenditure using life-cycle costing principles, and the relative rank of the capital expenditure compared to other proposed capital expenditures.

Energy

The Water Department has convened an energy committee tasked with the development of a comprehensive energy policy and plan. The cost of energy and the rate structure associated with it have determined how the Water Department traditionally thinks about energy. The Water Department is frugal and has controlled energy cost well by monitoring electrical demand and reducing waste. However, deregulation of electricity with projected cost increases, volatile natural gas markets, wet weather pumping scenarios and carbon footprint reduction have initiated this work and a fresh look is required at all policies and procedures to conserve energy and identify alternative sources. The energy committee developed and released an RFP for expert assistance to develop a five-year strategic energy plan for PWD. This plan will include rate projections, conservation management, and development of renewable energy sources. In the meantime, PWD has started designs for a 4 megawatt biomethane cogeneration facility at its Northeast WWTP that is planned for construction in Fiscal Year 2010. Once operational, this project will reduce PWD's electricity usage by 10% overall and save an estimated $2 million in annual electricity costs. Efforts to enhance biomethane production also have been initiated to take glycol (airport de-icer fluid) from the Philadelphia International Airport to the digesters at the Southeast WWTP. The glycol will enhance biomethane production for the plant and use at the Biosolids Recycling Facility. This will create revenue from the airport and save money on reduced natural gas purchases. PWD has also awarded a $30,000 contract to examine solar energy opportunities at its facilities to offset and reduce energy costs. PWD continues to explore the feasibility of renewable energy opportunities at its facilities

from geothermal wells at its new West Philadelphia Sewer Maintenance Yard, to revisiting hydroelectric power options from the rivers, to new technologies such as algae for biofuel production.

Transfer of the Water and Sewer System at the Former Philadelphia Naval Shipyard

The water and sewer infrastructure within the former Philadelphia Naval Shipyard is owned by the Philadelphia Authority for Industrial Development ("PAID"). This is a developing 1,200 acre industrial and commercial site that is now referred to as the Philadelphia Naval Business Center ("PNBC"). The Water Department has operated much of the water and sewer system under a contract with PAID since it was relinquished by the Navy under the federal base closure process. Since the contract inception in October 2002, the Water Department has billed PAID approximately $2.5 million for contract operations. The most recent bill, in the amount of $882,919, was sent in January, 2009 and was partially paid in the amount of $285,698. The Water Department is currently working on a transition plan to assimilate the water and sewer systems into the public systems serving the balance of the City. The transfer of utility ownership is expected to occur in July, 2009. Since some of the Navy-built water and sewer infrastructure at PNBC does not comply with Water Department standards, improvements are underway to modify and improve the existing system. Also, significant development is planned which require the expansion or reconfiguration of the current water and sewer infrastructure. The New River City budget described more fully in the next section includes approximately $60 million for the expansion and modernization of the water and sewer systems at PNBC.

At present, the Water Department delivers potable water to a master meter located at PNBC. Similarly, there is a single wastewater connection through which all wastewater from PNBC is discharged for treatment at the Water Department's Southeast Water Pollution Control Plant. PAID sub-meters and bills the businesses for water and sewer services. The current billings for water and sewer to PAID through the master meter for the 12 month period ending December 2007 totaled $526,822.10 and December 2008 totaled $477,010.12.

Based on information provided by PAID, there are currently approximately 132 existing water and sewer customers at PNBC that will become Water Department customers. If the existing meter sizes and consumption patterns are assumed to continue, monthly revenues of approximately $149,009 would result, or approximately $1,788,000 per year based on rates in effect as of December, 2008. PNBC is one of the remaining large undeveloped parcels in the City of Philadelphia, and the Water Department anticipates very significant growth in its commercial and industrial customer base there.

Partial Substitution of Debt Reserve Account/New River City Project

The Water Department is required to maintain a debt reserve account at least equal to the highest year's debt service. The current balance requirement is approximately $175 million. On April 28, 2009 the fund contained in excess of $114 million in cash and a $67,000,000 surety policy. The debt reserve is a parity reserve with all outstanding bond series sharing the same reserve. The City is permitted to substitute up to approximately $131 million of Water and Wastewater Bond proceeds in the Water Fund debt service reserve account with a surety policy pursuant to the General Ordinance and as specifically authorized by City Ordinance (Bill No. 060005). The resulting available proceeds are to be utilized to acquire or construct Water and Sewer infrastructure projects that are consistent with the original purposes of such bonds and to reimburse the Water Department for the costs related to the transaction. The projects that have be designated for funding have been designated the "New River City" program. Federal tax law requires that all "change of use" proceeds be spent within 24 months.

In late November, 2007, a partial substitution in the amount of $67 million was completed. FSA was contracted to provide the surety policy. At that time the transaction costs were paid and the balance of the funds ($64,325,000) were deposited into the residual fund-special infrastructure account as required by the Ordinance. No provision was included in either the Fiscal Year 2009 or Fiscal Year 2010 Water Fund budget for additional substitutions.

As part of the New River City program, the Water Department executed a program agreement with PAID to provide program management and oversight. To date, six asset acquisition agreements totaling $76,107,472.90 have been executed (actual disbursements will be limited to the $64,325,000 in currently available funding and may be supplemented with the "Pennworks" grant/loan discussed herein). Two of the six projects are substantially completed but no disbursement has yet been made. The other four projects at the PNBC are underway and are expected to be completed within the next 12 months. A seventh project was outlined in the program budget and has been preliminarily approved for $1.5 million, but an asset acquisition agreement has not yet been executed. Work on this project is substantially complete. As described in the preceding section, the transfer of the water and sewer utilities at PNBC from PAID to the Water Department, including the four projects outlined above, is planned to occur in July, 2009. One additional project was included in the project budget but has not yet been included in an asset acquisition agreement. The balance of any funds in the Residual fund-Special Infrastructure account, if any, will be used by the Water Department to fund eligible "shovel ready" capital projects.

The Wastewater System

The Wastewater System service area totals 360 square miles, of which 130 square miles are in the City and 230 square miles are in suburban areas. Service to suburban areas is provided under agreements with adjacent municipalities and municipal authorities, which generally require delivery of wastewater to the Wastewater System. The population served by the Wastewater System was approximately 2,218,000 as of the 2000 census, of which 1,518,000 were in the City and 700,000 were in the suburbs. Current projections on which the Engineering Report is based assume that the total population in the present service area will stabilize at approximately those levels for the remainder of this decade. As of December 2007, the Wastewater System served approximately 471,000 retail customer accounts.

The Wastewater System consists of three water pollution control plants ("WPCPs"), 13 pumping stations, approximately 3,652 miles of sewers, and a centralized biosolids handling facility. The Wastewater System includes 1825 miles of combined sewers, 749 miles of sanitary sewers and 717 miles of stormwater conduit. The Wastewater System is divided into three drainage districts (Northeast, Southeast and Southwest).

The federal Water Pollution Control Act, as amended (the "Clean Water Act"), provides for the restoration and maintenance of the chemical, physical and biological integrity of the nation's waters. To that end, the Clean Water Act establishes the National Pollution Discharge Elimination System ("NPDES"), a permit system administered by EPA in conjunction with the states. The EPA has delegated the NPDES program for the Commonwealth to the PaDEP. The Water Department is subject to the requirements of the Clean Water Act and the conditions set forth in the NPDES permit applicable to each of the WPCPs. In addition, the City is subject to regulation by PaDEP, which exercises regulatory authority over municipal sewage treatment operations, and to regulation by the Delaware River Basin Commission ("DRBC"), which exercises regulatory authority over withdrawals from and discharges into the Delaware and Schuylkill Rivers. Current NPDES permits for the Northeast, Southeast and Southwest WPCPs were issued and became effective on September 1, 2007 and are scheduled to expire August 31, 2012. These permits with PaDEP provide flexibility to treat additional flows resulting from efforts to control combined sewer overflows. These permits require the Water Department to update its Combined Sewer Overflow Long Term Control Plan and Capital Improvement Program to provide additional projects that reduce CSO frequency and volume. The update to the Long Term Control Plan is due September 1, 2009. The Clean Water Act requires that publicly owned treatment works such as the treatment portions of the Wastewater System achieve levels of secondary treatment as defined in the Clean Water Act, or, where applicable, more stringent levels of treatment required to meet water quality standards established pursuant to any Commonwealth or federal law or regulation. By order of the DRBC issued in 1969, the City is required to achieve effluent limitations which are considered more stringent than those required to achieve secondary treatment levels as defined in the Clean Water Act.

The three WPCPs have maintained high levels of treatment such that they have been recognized by the National Association of Clean Water Agencies (NACWA), formerly the Association of Metropolitan Sewerage Agencies ("AMSA"), with either Silver, Gold or Platinum awards over the past decade. The three WPCPs met all permit requirements in calendar year 2007 and have received NACWA platinum or gold awards. In calendar years 2007 and 2008, all three wastewater treatment plants achieved perfect NPDES compliance. The Southeast and Southwest Plants received platinum awards for 5 or more years of perfect compliance. The Northeast Plant received a gold award.

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 2008. This has occurred despite wage increases. Currently, as part of its strategy to reduce overflows from combined sewers, the Water Department is treating a greater quantity of collected stormwater 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 improvement program 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.

Sewer Infrastructure Assessment Program

Completed in Fiscal Year 2005, a $6 million pilot sewer assessment program evaluated the condition of sewer system infrastructure using video technology to inspect over 215 miles of sewers, and used this information to build a database and ranking system to prioritize needed improvements. Trained Water Department personnel are continuing the sewer assessment surveys from Fiscal Year 2007 to Fiscal Year 2011. In Fiscal Year 2006, 2007 and 2008, the Department began to use data collected through the sewer assessment program to prioritize needed sewer reconstruction and repair, and schedule this work in the capital and operating budgets. This project has already helped to identify sewers that were in immediate need of repair, and it is anticipated that over time this project will result in a reduction of costly and disruptive emergency sewer repairs, such as those that occur when a sewer collapses. In Fiscal Year 2009 and Fiscal Year 2010, the Water Department plans to continue the video inspections and to perform additional excavations and repairs.

Clean Air Act

The federal Clean Air Act ("CAA"), as amended, sets forth requirements for the regulation of certain air emissions. In January 1994, PaDEP published regulations pursuant to the CAA's mandates for the control of Volatile Organic Compounds ("VOC") and Nitrogen Oxides ("NOx") emissions from major stationary sources. The Northeast WPCP and the Biosolids Recycling Center/Southwest WPCP complex were found to be a major source of VOC and NOx emissions, while the Southeast WPCP is a Natural Minor source. The Office of Philadelphia Air Management Services ("AMS") issued the Water Department a Title V State Operating Permit for the NE and BRC/SW facilities on June 1, 2001. Prior to their expiration in June 2006, the Water Department timely filed for the renewal of its Title V permits and is currently awaiting its new permits. The State's Odor Emission Limitation Regulations are included as part of these permits. During Calendar Year 2005, AMS has issued nine odor violations at the Northeast facility and none at the SW/BRC facility. During Calendar Year 2006, AMS has issued six violations at the Northeast facility and three at SW/BRC. During Calendar Year 2007 and 2008, AMS has issued two violations in both 2007 and 2008 at the Northeast facility and none at SW/BRC. In 2009 (to date) no odor violations have been issued at either facility. Due to these odor incidents, the Water Department hired a consultant to assist in the development of a long-term odor control strategy. PWD and AMS are working to finalize the odor strategy for the NE plant. Odors at the SW/BRC facility have been dramatically reduced with the termination of composting at the facility and will be further reduced once the new pellitization facility is on line at BRC.

The Water Department believes it has identified a major source of the odors at the Northeast Plant and is working with a discharger to correct this problem. The Water Department has worked closely with AMS in developing their Odor Response Plan (which is part of the permit) and this plan is implemented whenever odors are detected. The original June 1, 2001 permit expired on June 1, 2006 and we are currently in negotiations with AMS for the renewal permits. AMS has requested an Administrative Consent Order for odors at NE and the SW/BRC facilities before it issues the Water Department its new Title V permits. Initial discussions with AMS regarding the scope and content of the Administrative Consent Order have begun. The Water Department continues to operate its facilities in a manner that maximizes treatment while minimizing odors.

The CAA also has a Risk Management Plan (RMP) component which is required for all facilities where regulated substances (chlorine, ammonia, methane) are stored above designated levels. The RMPs are designed to minimize the impact of a process accident on the surrounding community. In June 1999, the Water Department submitted to EPA, their RMPs for covered facilities. As of 2007, the Water Department has eliminated the use of compressed liquid chlorine gas at all of its facilities substituting instead liquid sodium hypochlorite. Therefore, none of the Department facilities are regulated under the RMP component of the CAA.

Wastewater Research

Major work is being conducted in association with the utilization of digester gas beyond its current use as a heating fuel in the winter. A grant has been received to purify methane gas to enhance its beneficial use. The intention is to utilize the excess gas production either as an expense off set (producing electricity) or as an income generator (selling the purified gas as a green fuel - biomethane).

In keeping with the idea that digester gas has more value than previously realized, research into the solids loading capacity of our digesters and co-digestion was initiated. The idea is to improve the percent solids that can be fed into the digesters thereby increasing the gas production while maintaining solids concentration in the effluent thereby increasing the over all plant capacity to process solids. This work requires several phases with the practical limits of existing capacity being investigated followed by processes used to increase solids prior to digestion.

Research is being conducted by the Department to establish the limits of its wastewater capacity. This research involves planning level assessments of the types of technology that are available, their costs and the land required to build it. The research includes the collection of storm water specific water quality data. The ongoing results of this research are being integrated into the Department's CSO Long Term Control Plan which is being facilitated by the office of watersheds.

Computational Fluid Dynamics

Within the auspices of the engineering division, the capacity to conduct computational fluid dynamic (CFD) modeling has been generated. This tool allows for better design and/or analysis of hydraulic processes, which is the majority of processes utilized in water and waste water treatment. This capacity is utilized by both the water and wastewater side of the Department. For example, it is being used to determine the efficacy of a post filtration chlorine contactor at Baxter WTP and it is also being used to analyze the velocity profile on influent flow in NE WPCP set 2 primary tanks. Flow streams that intercept the accumulated sludge re-suspend that sludge thereby reducing the upper end capacity of that unit process. The CFD tool was used to modify the influent conditions to eliminate this effect increasing the hydraulic capacity of that process. The development of this capacity is in line with the Department's history of strong internal engineering.

Biosolids Treatment and Utilization

The City is required by federal and Commonwealth law, administered by the EPA and 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 currently contains a dewatering station and a storage facility. The BRC has produced two grades of biosolids, as defined by state and federal regulations. These are Class A biosolids compost and Class B dewatered biosolids cake. Class B biosolids are 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, and supplies of which are still stockpiled at BRC, is put to a variety of local 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 believes it is in full compliance with the technical standards in Part 503. For the most part, these standards have been adopted by Pennsylvania, Maryland, Virginia and New Jersey in those states' regulation of biosolids quality and use.

The Water Department operated the BRC under permits and regulatory rules issued by PaDEP. In 1998, the PaDEP issued a ten-year renewal of the municipal compost-processing permit for the BRC. The Water Department operated the BRC in compliance with this permit, staying fully within the boundaries of its permitted processing area and having no excess inventory of biosolids products. With the cessation of composting in 2007, PWD has operated the BRC under the provisions of a permit-by-rule as a "captive facility" associated with the Southwest Water Pollution Control Plant.

The Water Department's program for biosolids disposition consisted of various land-based applications conducted in accordance with requirements of the state environmental agencies in which its biosolids products are applied. The Water Department had permits and orders from PaDEP, the Virginia Department of Environmental Quality and the Maryland Department of the Environment necessary to ensure complete disposition of its biosolids products. From PaDEP, the Water Department had permits or approvals for the agricultural utilization of biosolids at over 40 farms. These approvals were given through Chapter 275 provisions of the April 9, 1988, Pennsylvania Municipal Waste Management regulation, and through General Permit No. PAG 080004, under amended regulations of January 27, 1997. The first five-year registration period for Philadelphia's Class B biosolids under this General Permit was completed on December 12, 2002, and the Water Department renewed the registration for a second five-year period. The Water Department also received approval in 2000 from the Maryland Department of the Environment to distribute its biosolids cake for use on Maryland farmland, and has maintained compliance with monthly reporting requirements and the submission of annual fees. Similarly, Synagro Central, LLC, requested of the Virginia Department of Environmental Quality in 2007 on behalf of the Water Department, and received registration for, the use of Philadelphia's Class B biosolids on Synagro's inventory of agricultural utilization sites in Virginia.

The Water Department also had coverage for distribution in Pennsylvania of its remaining stockpile of biosolids-derived compost. In Pennsylvania, Class A biosolids distribution is allowed under the General Permit for Beneficial Use of Exceptional Quality Biosolids by Land Application (PAG-07). The Water Department's biosolids compost, a Class A material, is registered under this general permit. Improvements to the BRC have been completed that were designed to further reduce costs and improve reliability. With the cessation of composting, emissions of odorants from biosolids and compost processing were largely reduced. Other significant improvements over the past several years included: replacement of four dewatering centrifuges to accomplish a reduction in the mass of biosolids materials; replacement of all feed pumps for liquid sludge and polymer; installation of a vehicle wash system to improve vehicle maintenance; replacement of centrate return lines to improve reliability of the dewatering process; replacement of pumps for the feed of liquid sludge and polymer to the centrifuges;

installation of a new gas heating system for the Dewatering and Mixing Building to reduce reliance on oil supplies; and rehabilitation of the weigh scale equipment.

The Water Department has been active in national and regional biosolids programs. The Water Department has been affiliated with the National Biosolids Partnership (the "NBP"). The NBP is a collaboration of the Water Environment Federation (the "WEF") and NACWA, with support of the EPA. The Water Department is also a founding member of the Mid-Atlantic Biosolids Association (the "MABA"), a regional group of biosolids producers and users that was formed in 1999 to increase professionalism, to support regionally-relevant research, and to promote public acceptance. At the state level, the Water Department is represented on the Biosolids Committee of the PWEA.

While the Water Department has been successful in using Class B biosolids 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, and one that could operate in Philadelphia without odors. It 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 Recyling 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. Payments to date to PBS have totaled $8,893,368. Total payments for Fiscal Year 2009 are projected to be $17,000,000, including the payments made to date. The Fiscal Year 2010 proposed budget includes $24,000,000 for payments to PBS.

Watershed Management

The Water Department's Office of Watersheds ("OOW"), created by the Water Department in Fiscal Year 1999, is working to achieve viable and measurable improvements to the region's waterways by implementing planning and management strategies that foster good science, public involvement and fiscal responsibility. Its goal is to meet regulatory requirements while enhancing the health and aesthetics of the environment. OOW has been charged with the mission of integrating traditionally separate tasked programs, including Philadelphia's Combined Sewer Overflow (CSO) program, the Stormwater Management Program, and its Source Water Protection Program, to maximize the resources allocated to these programs and to ensure the comprehensive achievement of each of their goals. The Office of Watersheds organization is composed of engineers, aquatic biologists, environmental specialists, urban planners, GIS specialists and community and education outreach staff, which facilitates the necessary interdisciplinary approach to achieve watershed protection. OOW is formulating watershed management plans for the City's receiving waters through the establishment of watershed partnerships. These

partnerships act as a forum for participating members to work together to develop a watershed strategy that meets state and federal regulatory requirements but that also embraces the environmental/public sensitive approach to improve stream water quality and quality of life in communities. The Water Department has implemented an approach to water quality management that seeks to reduce water pollution from all sources in a manner that is based on measurable results, be it improvements to the dissolved oxygen and fecal coliform levels of the stream, or streambank restoration and the addition of riparian buffers to the adjoining park land, or a mixture of both. These improvements translate into a fair and equitable distribution of the costs related to pollution abatement and achieving water quality goals. The Water Department has also successfully engaged urban and suburban communities to explore inter-regional cooperation based on an understanding of the impact of land use and human activities on water quality. Watershed Management Plans have been completed for the Cobbs Creek Watershed and the Tookany/Tacony-Frankford (TTF) Watershed and are currently in the first five year implementation stage of these 20 year plans. In 2006, the TTF Partnership established itself as a registered 501(c)(3) non-profit entity and in 2007 its Board hired an executive director to oversee the implementation of the plan. The Wissahickon Watershed Partnership was launched in November 2005 with a targeted plan completion date in the summer of 2009. Similar plans are being developed for the Pennypack Creek Watershed (begun in winter 2007) and for the Poquessing Creek Watershed (planned to start in winter 2009). In the interim, the office has completed complementary river conservation plans for the Pennypack and Poquessing creeks. Both the Pennypack and Poquessing plans are aimed for completion in 2012.

A river conservation plan was also initiated for the Delaware Direct Watershed, within the city's boundaries, in winter 2007. This river conservation plan will serve as the basis an integrated watershed management plan, with a special focus on storm flood relief projects and the department's combined sewer overflow long term control plan.

Combined Sewer Overflow Program

The fundamental goal of the Water Department's combined sewer overflow ("CSO") 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.

The present NPDES permits require the Water Department to implement a combined sewer overflow program. In older sections of the City, both wastewater and storm water 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, the additional storm water exceeds the capacity of the collection system and/or wastewater treatment plant. Therefore, during these rain events, the combined system was designed to discharge, or overflow, the excess storm water/wastewater mix directly to local waterways. The Water Department has 177 CSO points in its collection system (one was recently eliminated as a component of the Department's CSO Long Term Control Plan ("LTCP")).

The Water Department's strategy to attain these goals has three phases: aggressive implementation of a comprehensive program for Nine Minimum Controls; planning, design and construction of 17 capital projects that further enhance system performance and reduce CSO volume and frequency; and commitment of up to $4 million in services and resources toward comprehensive watershed-based planning and analyses that will identify additional, priority actions to further improve water quality in Philadelphia area water bodies (Cobbs Creek and Tookany/Tacony-Frankford Watershed Management Plans as mentioned above).

These three phases successively provide more comprehensive programs that follow the direction of the EPA CSO Policy and its guidance documents and are consistent with the requirements of the Clean Water Act. The Phase I Nine Minimum Controls and the Phase II capital improvement program will result in implementation of the highest level of cost-effective, technology-based improvements. They

will provide a substantial reduction in CSO volume and frequency and a significantly greater percentage of combined sewer flow transported and treated at the Water Department's three wastewater plants.

In contrast to Phases I and II, the Water Department's Phase III plan is water quality-based. Its emphasis on the completion of watershed planning for each basin is geared to ensure cost effective solutions based upon a solid foundation of in stream research. Each integrated watershed management plan seeks to identify: sources of instream pollution; the relative impact of each source on the attainment of water quality standards; the measures needed to control various sources in addition to CSOs; and, the ultimate ability to attain water quality standards. Most importantly, these plans are created through a stakeholder-driven process, one in which the Partnership members prioritize the goals of the plans to ensure that they include hefty components of community education, stewardship, overall environmental quality, and regional coordination. Plans that are embraced and valued by all communities are the most sustainable and transferable.

On September 28, 1998, PaDEP issued a letter approving the Water Department's LTCP subject to certain conditions and/or clarifications specified in their letter. Under the Water Department's cost-effective approach, substantially all of the LTCP's estimated $48 million in capital projects can be managed within projected capital improvement program funding levels. The Water Department is in the process of finalizing a new CSO permit with the state that essentially stays the course of the current permit's philosophy and implementation goals. Currently, the Water Department is updating its CSO Long Term Control Plan to include a strategy that combines green infrastructure solutions with traditional underground storage and conveyance projects as a means to significantly eliminate CSOs over the next 20 years. This strategy focuses on the land-based approach under our integrated watershed management plans. This update is due to our regulators by September 2009.

Stormwater Management

The Water Department delivers many of the City's stormwater management services, including maintenance of the City's 619 miles of separate storm sewers, 1,599 miles of combined sewers, and approximately 78,500 storm water inlets. In recent years, changes in work practices and investment in new equipment have enabled the Water Department to steadily increase the number of inlets cleaned annually from 52,349 in Fiscal Year 1995 to 91,875 in Fiscal Year 2002. In Fiscal Year 2005, the Water Department cleaned 75,118 inlets, removing over 14,000 tons of debris. In Fiscal Year 2006, the Water Department cleaned 77,603 inlets, removing over 20,000 tons of debris. In Fiscal Year 2007, the Department cleaned 78,478 inlets, removing over 16,000 tons of debris. In Fiscal Year 2008, the Department cleaned 73,355 inlets, removing over 12,891 tons of debris. More recently, the Water Department has set for itself the goal of cleaning all 78,572 inlets at least once per year, averaging 6,600 inlets cleaned per month.

In 1987, the Clean Water Act was amended to address discharges from municipal separate storm sewer systems. Municipal separate storm sewer systems collect storm water from homes, businesses, streets, and other sources and convey it directly to rivers and creeks without treatment. Cities whose separate storm sewer systems serve a population of over 100,000 were required under these amendments to obtain a NPDES permit for their discharges. The Clean Water Act requires dischargers to reduce any contaminated flow in the storm sewer system to the maximum extent practicable.

PaDEP issued the City its initial storm water permit on September 29, 1995, effective for five years. The permit requires the City to implement four management programs to reduce the discharge of pollutants from its municipal separate storm sewer systems. The management programs require the City to reduce pollution from (1) commercial and residential areas; (2) illicit connections; (3) industrial facilities; and (4) construction sites.

The initial five-year NPDES Phase I storm water permit issued in 1995 was scheduled to expire in September, 2000. The Water Department applied for a new permit in March, 2000 as required. The

Water Department finalized a new stormwater permit in 2005. This permit complements the philosophy and implementation strategies of the City's CSO permit. The Water Department has also been a municipal partner in the state sponsored Act 167 Stormwater Management Plan for the Darby-Cobbs Watershed (completed in 2006) and was the sponsor for the Tookany/Tacony-Frankford Watershed Act 167 Plan (completed in 2008). The Water Department has recently contracted with the Pennsylvania Department of Environmental Protection to conduct a county-wide Act 167 Plan, focusing on the Pennypack (fall 2008), Poquessing (fall 2009) and Wissahickon (fall 2011) watersheds over the next five years.

Most importantly, these planning efforts resulted in groundbreaking revisions to the City's Stormwater Regulations, which went into effect on January 1, 2006. There are four main components of the Regulations: Water Quality, Channel Protection, Flood Control, and Nonstructural Site Design. All projects with more than 15,000 square feet of earth disturbance must comply with all four of the components. Some redevelopment projects may be exempt from the channel protection and flood control requirements. Since 2006, the Water Department's Stormwater Team reviewed over 850 conceptual plans for stormwater zoning permits, over 500 final technical plans for stormwater building permits, over 250 coordinated reviews with the state Department of Environmental Protection, and over 275 erosion and sediment control site inspections. Plans reviewed cover approximately one square mile of earth disturbance, in which the first one inch of rainfall is required to be captured or infiltrated. As of March, 2009, over 1000 acres (1.6 square miles) of development have been approved resulting in a total of 997 million gallons (0.99 billion gallons) of runoff managed/reduced. Implementation of these approved plans will result in the reduction or management of almost one billion gallons of runoff, or 3% of the City's annual runoff.

Proposed Changes in Rates and Charges for Stormwater Management Services

The Water Department filed a notice of request for new rates for the period Fiscal Year 2009 through Fiscal Year 2012 with City Council on April 4, 2008. The rate request was filed with the Department of Records on May 5, 2008. In accordance with the regulations, a hearing examiner and public advocate were appointed. Public hearings were held during the period from July 21 to July 31 and technical hearings were held during the week of August 11, 2008. The Department also proposed to change the way it charges customers for stormwater management services. This part of the case was bifurcated and is currently in process. It is expected that a hearing officer report will be issued by May 1, 2009 and that the Water Commissioner's decision will be rendered by May 31, 2009. New stormwater rates and charges will likely be effective on or about July 1, 2010, if approved.

The City's cost of stormwater management has been steadily and significantly increasing. As the City's stormwater management costs increase, it becomes more important to recover the costs of management on a basis that is the most fair and reasonable to all properties that place a demand on our sewer systems. Over a decade ago, the Water Department convened a Citizens Advisory Group ("CAG") to recommend to the City a more equitable stormwater charge methodology. After a two year deliberation, the CAG came to a consensus and recommended that we transition from a meter-based stormwater management charge to one that was based on a property or parcel's gross area and impervious area. At the time, we were unable to implement this recommendation due to technology limitations. Today, the City has the information systems necessary to develop a more equitable program and the Water Department has been designing a new parcel area based stormwater charge consistent with the principles recommended by the CAG.

For many years, the Water Department has recovered the costs for the operation and maintenance of its stormwater system components (pipes, storm drains, pump stations, treatment facilities, and billing) through a service charge related to our customers' water meter size. This method was considered a reasonable means to approximate the contribution of stormwater runoff from a property. Properties with larger water meters usually also have large impervious area (land covered by asphalt, pavement and

structures which generate runoff). Many other utilities use meter sizes or a combination of meters and measured volume to allocate the cost responsibility among customers for stormwater runoff and infiltration/inflow volume conveyed to the sewer system. Most municipalities do not finance stormwater operations through dedicated stormwater user fee revenues, and instead finance stormwater operations through their General Fund revenues.

Residential properties are currently charged for stormwater collection and treatment in the amount of $10.18 monthly as part of the monthly service charge. This charge is currently based upon the weighted average residential parcel gross and impervious area of a residential property, is currently still associated with the standard 5/8-inch residential meter.

Beginning in Fiscal Year 2011, the Water Department has proposed that all residential properties, regardless of meter size, be assessed a separate service charge for stormwater management services and related billing and collection costs. At the same time, the current meter based stormwater charge component would be removed from the wastewater service charge portion of their bill.

For non-residential properties, the Water Department has proposed to transition stormwater charges across its entire customer base over a three year period beginning in Fiscal Year 2011 (as noted above, residential customers will not be significantly affected). This transition will result in more equitable stormwater charges that closely match the cost of managing stormwater runoff from each property. Current calculations show that the majority of large meter customers will see a reduction or otherwise minor impact on the stormwater component of their water and sewer bills. For those customers that will see noticeable increases in their stormwater fees, the Water Department will attempt to identify opportunities to reduce the stormwater runoff from the properties, through the use of Best Management Practices, and thus decrease their stormwater fees.

The Water Department is also evaluating properties that do not presently have a water/sewer account. These parcels also generate stormwater runoff that is managed by the City and therefore should be reasonably charged for such service. These current non-customers include parking lots, utility right-of-ways and vacant land. It has been proposed that these new stormwater only customers will be charged beginning with the three year phase in due to commence in Fiscal Year 2011. There are currently approximately 40,000 new parcels that are expected to billed for these charges.

The CAG also encouraged the City to provide a mechanism for customers to ease the burden of property based stormwater charges. The Department has included the adaptation of a stormwater credit process as part of the proposed new stormwater rates. Customers who have the ability to decrease the amount of directly connected impervious area (hard surfaces that direct runoff to the City's sewer system) on their property may do so using any number of stormwater management practices (rain gardens, infiltration islands, porous asphalt and sidewalks, vegetated swales, green roofs and apply for applicable stormwater credits. The Water Department would then review the stormwater credit request, and based on the stormwater credit program regulations, re-evaluate that property's stormwater charges.

Source Water Protection

Based on the assessment findings and identification of top priorities for source water protection, the Water Department facilitated the formation of the Schuylkill Action Network ("SAN") in spring 2003 to focus on drinking water quality issues of the Schuylkill River Watershed, which covers parts of 11 counties in southeastern Pennsylvania. The SAN team members include the US Environmental Protection Agency Region III, the Pennsylvania Department of Environmental Protection, the Philadelphia Water Department, the Delaware River Basin Commission, conservation districts, locally elected officials, watershed organizations, and other stakeholders assisting with crafting local solutions. In 2004, the SAN was awarded a $1.5 million grant from the Environmental Protection Agency's Targeted Watershed Program - one of only 13 awarded nationally in 2004. Funding from the grant is being applied to priority projects identified by the SAN's working groups.

The SAN working groups include a Steering Committee, a Planning Workgroup, and Technical Workgroups to address the complex issues in the Schuylkill River watershed. SAN has been developing and implementing projects that restore and protect the watershed as a regional drinking water source; promoting stewardship and education; transferring the experience and lessons learned to other communities; and enhancing intergovernmental communication and coordination.

Most notably, the SAN initiated the first Early Warning System ("EWS") of its kind. The early notification of changes in river water quality is important to public water suppliers with drinking water intakes on both the Schuylkill and Delaware Rivers. The Delaware Valley Early Warning System, which covers both the Schuylkill and lower Delaware Rivers, is a fully integrated computer-based system that includes three major components: a telephone-based notification system, the website and data management system, and a water quality monitoring network. The system provides a secure and centralized location through which the EWS participants, including water utility personnel, emergency responders, government agencies and industry representatives, can share information about source water quality and emergency or contamination events.

In addition, the SAN also launched the first recreational advisory system of its kind in the summer of 2005. The Philly RiverCast System is a forecast of water quality that predicts potential levels of pathogens in the Schuylkill River between Flat Rock Dam and Fairmount Dam (i.e., between Manayunk and Boathouse Row). The Philly RiverCast System uses a three-tier color scale to designate the suitability of water quality for contact recreational activities.

Green: Water quality is suitable for all recreational activities.

Yellow: Water quality may not be suitable for activities involving direct contact with the river

Red: Water quality is not suitable for activities involving direct contact with the river.

Since its launch in 2005, RiverCast has experienced approximately 150,031 visits. The interest is this site provides the department will the ability to gauge the public's interest in the recreational use of the Schuylkill River, an essential component to encouraging public stewardship of the river's natural resources.

Based on the success of the Source Water Protection Program, the Water Department has been awarded the USEPA Region III (Mid Atlantic States) 2002 Source Water Protection Award, the American Water Works Association's 2003 Exemplary Source Water Protection Award and the 2005 American Council of Engineering Companies Diamond Award for the Schuylkill River Source Water Assessment. These awards recognize the Water Department as the model for the region and country in the area of Source Water Protection.

Polychlorinated biphenyls (PCBs)

Pursuant to Section 303(d) of the Clean Water Act, the Delaware River has been declared impaired for an organic chemical known as polychlorinated biphenyls ("PCBs"). As a result of this, the Delaware River Basin Commission ("DRBC") is performing a Total Maximum Daily Load ("TMDL") analysis. The TMDL will define how severely the river is impaired and will set forth a plan to reduce loadings of PCBs into the river. Based on our current understanding, the river exceeds its allowable loadings by three orders of magnitude (that is 1,000 times greater than allowed). Loadings come from virtually every source imaginable, e.g., sediments, air, runoff from land, contaminated sites as well as point sources which include our three wastewater treatment plants. The level and extent of clean up that will be required by each source category is currently being evaluated by the DRBC, EPA and the states comprising the DRBC. At a minimum, the Water Department will be required to implement best management practices to reduce its loadings. This could involve additional staff to track down the sources of PCBs coming into the plant and to devise programs to reduce the loadings coming to our plant.

By December 2009 the TMDL should be finalized and the Water Department will have a more precise estimate of both operating and capital costs required to address this issue.

EPA request to the Water Department, pursuant to Section 308 of the Clean Water Act

On December 5, 2007, EPA sent a request to the Water Department, pursuant to Section 308 of the Clean Water Act, requesting information on any sanitary sewer overflows (SSOs) occurring in the City and in the suburban townships served by the Water Department's wastewater treatment plants. On January 30, 2008 the Water Department responded to EPA's information request. The Water Department already has in place plans and a Consent Order and Agreement with the State to correct the two known structural SSOs within the City's collection system located at PC-30 and R-20. As of March 19, 2009, the Water Department has not received any determinations or findings from EPA based on the information previously provided.

Investigation and Mitigation of Flooding

Several areas of the City (South Philadelphia, Northern Liberties, Washington Square West) have experienced significant basement flooding during intense rain events. The frequency and intensity of flood producing rain events have increased over the last two years. As a result of these events, the Water Department has initiated an intensive study of the basement flooding situation. The Water Department has initiated a hydraulic analysis of the sewer system in the flood prone areas in order to understand the cause of the basement flooding as well as to determine possible solutions. The Water Department has begun and will continue to schedule flood relief capital projects into its capital program as determined by the hydraulic analysis. Thus far, the Water Department has programmed flood relief projects in Snyder Avenue ($10 million), in South Philadelphia, and in Washington Square West area. These projects by their complex nature will take many years to design and construct. In order to provide relief for properties as quickly as possible while the capital solutions are identified, designed, and constructed, the Water Department has budgeted $3 million for Fiscal Year 2008 and Fiscal Year 2009 for a Backwater Valve installation program.

This Backwater Valve installation program will consist of the Water Department, through private plumbers, evaluating flood prone properties to determine if they would benefit from the installation of a backwater valve(s). If the determination is positive, then a backwater valve configuration shall be engineered for that particular property and installed by a private plumber at the Water Department's cost. The property owners must agree to accept maintenance responsibility for the backwater valve(s).

Moratorium on Additional Connections to the Poquessing Intercepting Sewer and Corrective Action Plan

The Water Department has determined that a manhole located along the Poquessing Creek Interceptor overflows and discharges into the Poquessing Creek in Northeast Philadelphia during extreme wet weather events. This manhole's monitoring and maintenance designation is PC-30. The Poquessing Interceptor not only serves the City but also accepts flow from three suburban Townships, namely Lower Southampton, Bensalem and Lower Moreland. The discharge of sanitary waste and stormwater from PC-30 into the Poquessing Creek constitutes a violation of Pennsylvania's Clean Streams Law and the Clean Water Act. The Water Department has been working along with PADEP to understand the causes of the overflow and discharge and to develop a plan to correct the discharge.

It has been determined that the root cause of the discharge from PC-30 stems from the fact that during extreme wet weather events, the amount of stormwater discharged into the Interceptor by the City, Lower Southampton, Bensalem and Lower Moreland exceeds the carrying capacity of the City's conveyance system. PC-30 thus becomes a relief point overflowing and discharging into the Poquessing Creek. Since the City's conveyance system is exceeded in these extreme wet weather events, PADEP has asked the City, pursuant to the Pennsylvania Sewage Facilities Act, commonly known as Act 537, to place a moratorium on the addition of any new connections to the Poquessing Interceptor until the City

submits a Corrective Action Plan ("CAP") to address the overflow and a Connection Management Plan ("CMP") to ensure that newly allowed connections won't have a materially adverse impact on the environment.

The City has agreed and has submitted its CAP and CMP to PADEP and PADEP has approved both documents. The City's CAP involves the building of a relief sewer to capture and transport the overflow. The estimated cost of the relief sewer is $40 million and its estimated completion date is December 2010. The City's CAP addresses both the environmental issue under the Cleans Streams Law as well as the requirements under Act 537. The City's CMP will allow for and manage new connections to the Poquessing Interceptor. In addition, the City is working along with Lower Southampton, Bensalem and Lower Moreland to either share the costs of relief sewer or to have these Townships build their own solutions so that their wet weather flows do not exceed their contractual limits. Further, the City is requiring, and the Townships are implementing, an I&I program to reduce infiltration into the Township's sewers thus reducing the flows into the Poquessing Interceptor.

The PADEP issued a Consent Order and Agreement (COA) regarding the overflows at manhole PC-30. The COA requires the Water Department to construct a parallel relief sewer. The Water Department submitted a Water Quality Management Part II Application for authorization to construct and operate the parallel relief sewer in December, 2008, where it remains under review. The sewer must be constructed and operational within 26 months of receipt of the Water Quality Permit.

Moratorium on Additional Connections to Manayunk Main Intercepting Sewer and Corrective Action Plan

The Water Department has determined that the Main Intercepting Sewer located along the Schuylkill River overflows during extreme rain events and discharges into the Schuylkill River in the Manayunk section of the City. This overflow is referred to as Relief Point R-20. The Main Intercepting Sewer serves the Northwest section of the City. The discharge of sanitary waste and stormwater from R-20 into the Schuylkill River constitutes a violation of Pennsylvania's Clean Streams Law and the Clean Water Act. The Water Department has been working along with PADEP to understand the causes of the overflow and discharge and to develop a plan to correct the discharge.

It has been determined that the root cause of the discharge from R-20 stems from the fact that during extreme wet weather events the amount of stormwater discharged into the Interceptor by the City exceeds the carrying capacity of the City's conveyance system. Since the City's conveyance system is exceeded in these extreme wet weather events PADEP has asked the City, pursuant to the Pennsylvania Sewage Facilities Act, commonly known as Act 537, to place a moratorium on the addition of any new connections to the Main Intercepting Sewer until the City submits a Corrective Action Plan (CAP) to address the overflow and a Connection Management Plan (CMP) to insure that newly allowed connections won't have a materially adverse impact on the environment.

The City has agreed and has submitted its CAP and CMP to PADEP. The City's CAP involves the building of a 3.0 million gallon storage tank on Venice Island along the Main Interceptor to capture the overflow. The estimated cost of the tank is $45 million and its estimated completion date is July 2011. The City's CAP will address both the environmental issue under the Cleans Streams Law as well as the requirements under Act 537. The City's CMP will allow for and manage new connections to the Main Interceptor. This project is also incorporated into the Department's current NPDES Permit.

The PADEP issued a Consent Order and Agreement (COA) regarding the overflows at Relief Point R-20. The COA requires the Water Department to construct a 3 million gallon storage tank on Venice Island. The Water Department submitted a Water Quality Management Part II Permit Application for authorization to construct and operate a storage tank in December, 2008, where it remains under review. The storage tank must be constructed and operational within 34 months of receipt of the Water Quality Management Permit.

Capital Improvement Program

The Charter requires the City Council to adopt annually, on or prior to May 31, a capital budget for the ensuing fiscal year and a capital program showing the capital expenditures planned for that year and each of the five ensuing fiscal years. The Capital Improvement Program of the Water Department for the Fiscal Years 2009 to 2014 and the Water Department 2009 and 2010 capital budget are described below. These costs have been approved by City Council as part of the City's capital program and capital budget, except as noted below. Additionally, the City may change the elements of the Capital Improvement Program from time to time and may change the proposed financing schedule reflected in the Capital Improvement Program.

The Water Department's Planning and Engineering Division is continuing to implement improvements to the Water Department's capital program planning process to better anticipate future needs for the infrastructure maintenance and upgrades in an evolving regulatory environment. To that end, the Water Department has initiated a new sewer assessment program to evaluate the Water Department's collector systems infrastructure. This project includes cleaning and video inspection of approximately 150 miles of the sewer system. With this information the Water Department will evaluate the current Collector System Capital Program and make recommendations for changes accordingly. Another capital program initiative includes a second generation of the Water Department's capital program information system. The new computerized system will be browser based using state of the art computer technology. This system will link to numerous Water Department programs and databases including the Geographic Information System, the Water Main Break database, the vender payment system, and the plant maintenance management system. As a result of the implementation of ERV (Engineering Records Viewer), the Water Department and selected managers from other departments can now access, at their workstation, all record drawings, as-builts, and historic information pertaining to a specific section of the city, block, or project, electronically. The system was built for long term use through open architecture design, expandability, and programming flexibility. In addition, the Water Department is continuing its use of pilot plants to explore new and alternative treatment technologies. The Water Department has expanded the preventive and predictive maintenance management system to all seven treatment plants, has initiated new procedures to plan and track long term capital projects within the treatment plants, and has improved better communication through reporting capabilities and tracking of projects between the Operating and Engineering Divisions. Through these initiatives and capital planning tools, both the level and volatility of the Water Department's long-term capital expenditures can be more cost-effectively managed.

The following table sets forth major elements of the Water Department's adopted Capital Improvement Program for Fiscal Years 2009 through 2014.

Fiscal Years 2009-2014
Capital Improvement Program
(In Dollars)

	Fiscal Year 2009 (Budgeted)	Fiscal Year 2009-2014 (Planned)
Engineering and Administration	21,729,000	147,803,000
Improvements to Treatment Plants	41,000,000	251,000,000
Conveyance System (new and reconstruction)	21,980,000	131,880,000
Collector System (new and reconstruction)	26,540,000	141,100,000
Storm Flood Relief	30,000,000	295,000,000
Vehicles	4,000,000	19,000,000
Total	145,249,000	985,783,000

Development of Proposed Fiscal Year 2010 Capital Budget

The Charter requires City Council to adopt a balanced capital budget for the fiscal year on or before May 31 of each year. The Mayor's capital budget is developed from proposed budgets submitted by the various departments of the City, including the Water Department. The Water Department began preparation of its capital budget for Fiscal Year 2010 in October 2008, when all divisions were supplied with documentation to complete and return to the Planning & Engineering Division reflecting their budgetary requests for the next fiscal year. The Water Department has developed and installed a computerized budgeting system to enable each division to prepare budget requests based on historical and current experience. The Water Commissioner reviewed all budget proposals with the assistance of the Planning & Engineering Division and submitted the Water Department's proposed budget to the City's Planning Commission in November 2008.

The proposed budget below has been approved by the City Planning Commission and the Mayor's office and was included in the City budget and five year financial plan presented to City Council on March 19, 2009. City Council held a public hearing on the Water Fund operating budget on April 27, 2009 and on the City's Five Year Plan and Capital Budget on March 25, 2009 and March 31, 2009. City Council has not yet approved the Fiscal Year 2010 capital budget.

Philadelphia Water Department

Capital Budget Summary	2010	2010-2015
Collector System	23,020	136,820
Storm Flood Relief	40,000	325,000
Conveyance System	21,960	131,760
Engineering and Administration	22,287	145,455
Vehicles	2,500	14,500
Treatment Facilities	48,000	288,000
Totals	157,467	1,041,535.00

Future Financings

Approximately 77% of the costs of the Capital Improvement Program are expected to be funded with the proceeds of debt to be incurred during the six-year period. 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. Any additional grants or loans received by the Water Department from Pennvest or other agencies will reduce the amount of future Water and Wastewater Revenue Bonds to be issued.

The Water Department received approval on March 1, 2007 for a grant/loan from the Commonwealth (Pennsylvania Department of Community and Economic Development) for a $2 million grant and $3 million low interest loan from Pennworks for approximately $7 million of improvements to the water, sewer and stormwater infrastructure at the former Navy Yard. Settlement on this agreement has yet to occur, but is anticipated for July, 2009. It is anticipated that these funds will be used in connection with program funds from the New River City initiative to fund water and sewer system improvements at the former Navy Yard in south Philadelphia. It is also expected that a reimbursement agreement with PIDC for the debt service on this loan will be executed and funded with program funds from the New River City initiative.

In February, 2009, the Water Department submitted five applications to Pennvest for infrastructure grants or loans, for consideration at their April board meeting. Four of the applications totaling $211.1 million were for traditional water and sewer infrastructure repair, replacement and upgrades. One project, totaling $30,000,000 was for "green" infrastructure projects primarily related to flood control and CSO mitigation. On April 20, 2009, three of the traditional water and sewer applications, totaling $184.893 million, 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, the green infrastructure application was approved for funding through a low interest loan on the same terms. The Department did not originally anticipate the funding of these projects through additional borrowings. Additional debt service for these loans has been included in the Department's Fiscal Year 2010 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 fifteen years. The Department has accepted all of the funding offered and is seeking additional authorizations from City Council, as required, to complete these projects. To that end, a supplemental ordinance to the Restated General Ordinance authorizing such borrowing (the Twelfth Supplemental Water Bond Ordinance No. 090321) was introduced on April 23, 2009 and has been referred to the Finance Committee for a hearing.

The Capital Improvement Program originally provided for the issuance of the Bonds in the anticipated principal amount of $325,000,000 near the beginning of calendar year 2009. The current financial plan anticipates the issuance of new money bonds in several transactions, the first of which is the issuance of the Bonds. Three million dollars of the authorization has been reserved for the Pennworks financing described above. The balance of the new money issue, $180,000,000, is tied to two forward starting swaps which have been extended to August 1, 2010. The Department's current financial plan anticipates the execution of the financings covered by these agreements on or before the revised execution date. 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. In the engineering report, two additional Revenue bond issues are anticipated. One bond issue for $135,000,000 in authorization remaining under ordinance No. 090321 is required in Fiscal Year 2014 as necessary to fund the approved capital program. The Capital program also anticipates an additional borrowing of $350,000,000 sometime during Fiscal Year 2015. These bonds have not yet been authorized by City Council.

Update on Market Conditions of Variable Rate Bonds

The City and the Water Department have been working on restructuring various outstanding Water and Wastewater Revenue Bonds in an attempt to lower interest costs.

The City and the Water Department restructured the Series 1997B Bonds, currently outstanding in the amount of $78.5 million. The City replaced a bond insurance policy issued by Ambac Assurance Corporation and a liquidity facility issued by KBC Bank with a direct pay letter of credit issued by Bank of America, N.A. The transaction closed on September 10, 2008.

The City and the Water Department are working on restructuring the Series 2005B Bonds. The City intends to replace the insurance policy issued by Financial Security Assurance, Inc. ("FSA") and liquidity facility issued by DEPFA with a direct pay letter of credit issued by Bank of America, N.A. The City anticipates this transaction to close in June, 2009.

The Series 2003 Bonds are variable rate bonds insured by FSA with Dexia as the liquidity provider. As of April 20, 2009, none of the Series 2003 Bonds were bank bonds. The City and the Water Department continue to monitor the Series 2003 Bonds and are currently evaluating options to best handle potentially restructuring or refunding these bonds.

Water and Wastewater Economic Stimulus Projects

The Philadelphia Water Department has 74 "shovel ready" projects with a construction value of $176 million and associated engineering and construction management services of $35.2 million for a total value of $211.2 million. The Department has submitted applications to obtain federal economic stimulus funding for these projects under the American Recovery and Reinvestment Act of 2009 ("ARRA") The federal economic stimulus funding for water and wastewater projects is being given to states to administer through the existing State Revolving Fund Programs. In Pennsylvania these programs are managed by Pennvest. These projects breakdown as follows:

- Water Distribution System Improvements – 28 projects with a construction estimate of $57.268 million. These projects consist of 14 miles of water main replacement and the construction of a new 14 million-gallon per day (MGD) potable water pump station. This request was approved for funding in its entirety through a loan.

- Wastewater Collection System Improvements – 16 projects with a construction estimate of $84.759 million. These projects consist of 8 miles of sewer replacement and the construction of a new 14' x 8' relief sewer to alleviate wet weather overflows. This request was approved for funding in its entirety through a loan. The loan did not include federal economic stimulus funding for these projects under the ARRA.

- Water Treatment Plant Improvements – 20 projects with a construction estimate of $42.866 million. These projects consist of a variety of infrastructure rehabilitation projects at our water treatment facilities in order to maintain the facilities in proper working order to meet our regulatory requirements. This request was approved for funding in its entirety through a loan.

- Wastewater Treatment Plant Improvements - 10 projects with a construction estimate of $22.0 million. These projects consist of a variety of infrastructure rehabilitation projects at our wastewater treatment facilities in order to maintain the facilities in proper working order to meet our regulatory requirements. This request was not approved for funding.

- Green infrastructure projects- One project, totaling $30,000,000 was for "green" infrastructure projects primarily related to CSO mitigation. projects consist of a variety of new infrastructure projects at various locations throughout the City related to the reduction of stormwater infiltration to the City combined sewer system. Such projects include tree pits and trenches, rain gardens, bump outs and other stormwater management facilities to assist in meeting regulatory requirements. This request was approved for funding in its entirety through a loan. The loan did not include federal economic stimulus funding for these projects under the ARRA.

The Water Department has been advised that the Commonwealth of Pennsylvania expects to receive a total of approximately $225 million in Federal stimulus funding for state-wide water and sewer infrastructure projects. Any additional appropriations required for these projects has not yet been authorized by City Council and is included in ordinance No. 090321 discussed above under "Future Financings".

Enhanced Security

In light of the events of September 11, 2001, when terrorists struck the United States, the Water Department took steps to improve the security of the City's water supply and all other major Water Department facilities and assets. These steps were taken in close coordination with the City's Managing Director's Office and all other appropriate city agencies and departments. The Water Department is representative agency in the City of Philadelphia Emergency Operations Center. The EOC is designed to permit city emergency personnel to respond quickly to any major event through specialized computer and communications equipment, including a backup 911 system. This center can accommodate around the clock staffing by officials from the Police, Fire, Health, and Water Departments and additional city agencies. The Water Department remains in contact with federal, state, and local law enforcement and emergency personnel and has performed a vulnerability analysis of its entire potable water system. The work was primarily funded by the EPA and the Water Department delivered its report to the EPA on March 31, 2003. Details of the enhanced security measures already taken and those presently under consideration cannot be disclosed.

It should be noted that the Water Department had an extensive water quality protection and security plan in place prior to the events of September 11, 2001. All finished water basins are completely covered; all plants are fenced in and topped by barbed wire; gates are secured; video surveillance equipment has been installed; and the Water Department continues to draw and conduct nearly one thousand tests on water samples from various locations each day. Municipal Guards were assigned to the main entrance at each water plant in 2002 to control access to the facility to only authorized persons and/or deliveries. Online water quality monitors provide continuous testing of all stages of the treatment process.

To further ensure the safety and quality of the City's drinking water, the Water Department will continue to expand its network to continuously monitor water quality using online instrumentation. The system provides the Department with the ability to track real-time water quality conditions at selected locations throughout the City's water distribution system and to monitor any variations should they occur. Water quality data is currently transmitted from twelve monitoring sites to the Water Department's central laboratory where technicians check for early warning signs of water quality deterioration and document any unforeseen changes. The Water Treatment Plants have online instrument clusters at multiple raw and finished water locations. These monitors will also be connected to the distribution systems monitoring network. The Water Department plans to assess the performance of the monitoring system at the current locations while continuing to investigate alternative technology for further installations at wholesale customer interconnects, pumping stations and other critical points in the distribution system. Recently, the US EPA awarded a grant to the Water Department to install a Contamination Warning System in Philadelphia's distribution system as part of its Water Security initiative program. Philadelphia, New York, San Francisco, and Dallas were the cities selected for this research pilot program. The Project included total costs of $12,599,846. On November 21, 2008, the Department was notified that appropriations for the initial phase of the project totaling $2,677,963 were approved. The initial phase included $2.0 million in Federal funds and $677,963 in local share.

The City of Philadelphia recently received a grant to design and install Emergency Back-up Power generation at key facilities. The Water Department's treatment and finished water pumping stations were included. The Belmont High Service Pumping Station was targeted as the initial site for Back-up Power and the generator has been installed. In Fiscal Year 2007 the Water Department began work on an Emergency Back-up Power generation for the Belmont Water Treatment Plant, East Oak Lane Reservoir Pump Station and Fox chase Booster Pumping Station. The remainder of the Water Department facilities are scheduled for design and construction over the next seven fiscal years with the final facility being in-service in 2013.

HISTORICAL COMPARATIVE STATEMENT OF REVENUES AND EXPENSES
(Legally Enacted Basis)

The comparative statement of revenues and expenses set forth below has been derived from the financial statements of the Water Fund of the City. The City Controller has examined and expressed opinions on the basic financial statements of the City of Philadelphia contained in the City's Comprehensive Annual Financial Report for Fiscal Years 2003, 2004, 2005, 2006, 2007 and 2008 and the City of Philadelphia's basic financial statements for Fiscal Year 2007 and 2008. See also, APPENDIX IV – "CERTAIN INFORMATION CONCERNING THE CITY OF PHILADELPHIA – City Financial Procedures – Independent Audit and Opinion of the City Controller." The City Controller has not examined and expressed an opinion on the financial statements for the Water Fund contained in APPENDIX I to this Official Statement or on any other financial data contained in this Official Statement. Such financial statements for the Water Fund have been prepared by the Water Department and approved by the Director of Finance.

The City Controller has not participated in the preparation of this Official Statement nor in the preparation of the budget estimates and projections and cash flow statements and forecasts set forth in various tables contained in this Official Statement. The City Controller expresses no opinion with respect to any of the data contained in this Official Statement.

For purposes of rate setting, calculating rate covenant compliance and 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 recorded on a receipts basis except revenues from other governments and interest, which are accrued as earned. A 100% reserve is provided for all doubtful non-governmental receivables. With respect to governmental receivables, a 100% reserve is provided when the City has reason to believe that no appropriation has been made by the other government to finance these receivables. The Water Department does not account for payments for water and sewer service from its governmental contract customers as "revenues from other governments."

Expenditures are recognized and recorded as expenses at the time they are paid or encumbered, except expenditures for debt service and lease payments which are recorded when paid. A reserve is maintained for encumbrances at the close of the fiscal year intended to be sufficient to liquidate estimated obligations incurred in such fiscal year.

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Philadelphia Water Department
Historical Operating Results
(In Thousands)

Operating Revenues	**FY03**	**FY04**	**FY05**	**FY06**	**FY07**	**FY08**
Sales to General Customers	$323,872	$339,777	$376,041	$408,794	$436,420	$444,814
Service (Sales) to Other Municipalities	$24,878	$25,704	$39,156	$39,640	$31,529	$32,677
Services to Other Philadelphia Agencies (includes Fire Protection)	$21,503	$23,407	$30,484	$29,108	$32,174	$24,334
Private Fire Connections	$1,041	$1,202	$1,451	$2,057	$1,953	$1,604
Industrial Sewer Surcharge	$7,307	$6,985	$4,887	$4,693	$4,754	$4,382
Other Operating Revenue	$31,243	$19,208	$1,957	$1,657	$2,026	$6,663
Subtotals – Water	$139,347	$141,536	$154,352	$165,223	$173,011	$174,992
Wastewater	$270,497	$274,747	$299,624	$320,726	$335,845	$339,689
Total Operating Revenue	**$409,844**	**$416,283**	**$453,976**	**$485,949**	**$508,856**	**$514,681**
Operating Expenses:						
Water	$105,044	$110,061	$118,053	$122,226	$130,348	$148,132
Wastewater	$145,060	$151,988	$156,488	$162,021	$172,788	$196,362
Total Operating Expenses	**$250,104**	**$262,049**	**$274,541**	**$284,247**	**$303,136**	**$344,494**
Excess of Operating Revenues over Operating Expenses	**$159,740**	**$154,234**	**$179,435**	**$201,702**	**$205,720**	**$170,187**
Non-Operating Revenues						
Interest on Investments	$36,172	$2,908	$7,489	$15,877	$24,726	$85,331
Reimbursements - Pennsylvania Clean Streams Grant	$7,893	$0	$418	$332	$463	$249
Other Non-Operating Revenues	$319	$2,427	$2,206	$1,868	$2,284	$7,514
Total Non-Operating Revenues	**$44,384**	**$5,335**	**$10,113**	**$18,077**	**$27,473**	**$92,887**
Excess of Revenues over Expenses before Interest Expenses and Principal Payments on Bonded Indebtedness	**$204,124**	**$159,569**	**$189,548**	**$219,779**	**$233,193**	**$263,074**
Interest Expenses:						
General Obligation Bonds	$0	$0	$0			
Revenue Bonds	$86,763	$89,050	$87,480	$87,789	$89,856	$82,433
Less: Interest Capitalized						
Bond Anticipation Notes						
Pennvest Loan	**$110**	**$99**	**$87**	**$76**	**$64**	**$53**
Total Interest Expenses	**$86,873**	**$89,149**	**$87,567**	**$87,865**	**$89,920**	**$82,486**
Excess of Revenues over Expenses Exclusive of Debt Principal Payments	**$117,251**	**$70,420**	**$101,981**	**$131,914**	**$143,273**	**$180,588**
Add: Unencumbered Funds Available for Appropriation at Beginning of Fiscal Year	$0	$0	$0			
Deduct: Debt Principal Payments on Bonded Indebtedness During Fiscal Year	$70,484	$69,031	$71,515	$78,550	$84,002	$92,501
Net Unapplied Project Revenues	$46,767	$1,389	$30,466	$53,364	$59,271	$88,087
Deduct: Funds Transferred to General Fund	$4,138	$0	$4,401	$4,994	$4,994	$4,994
Deduct: Funds Transferred to Residual Fund	$9,839	$13,820	$8,728	$9,862	$11,330	$75,930
Deduct: Transferred to Renewal and Replacement Fund						
Deduct: Funds Transferred to Capital Account	$16,023	$16,348	$16,709	$16,955	$16,988	$16,926
Add: Transfer from Renewal and Replacement Fund						
Transfer (TO)/FROM The Rate Stabilization Fund	$16,767	-$28,779	-$628	-$21,553	-$25,959	$9,763
Unencumbered Funds Available for Appropriation at end of Fiscal Year	$0	$0	$0	$0	$0	$0
Debt Service Coverage Ratio:						
Total Debt Service	1.08	1.08	1.08	1.08	1.08	1.42
Revenue Bond Debt Service	1.2	1.2	1.2	1.2	1.2	1.56

Analysis of Comparative Statement of Revenues and Expenses

Fiscal Year 2003

Revenues. Total Fiscal Year 2003 revenues increased by $36.5 million over the previous year due mainly to the receipt of $29 million from a one-time bond interest rate swap agreement.

Expenses. Total Fiscal Year 2003 expenses increased by $38 million over the previous year due primarily to an increase of $10 million in debt service costs.

In Fiscal Year 2003, a transfer of $16.8 million was made to the Rate Stabilization Fund. Deposits of $16.0 million to the Capital Account and $9.8 million to the Residual Account were made from the Revenue Account.

Fiscal Year 2004

Revenues. Total Fiscal Year 2004 revenues decreased by $2.5 million over the previous year. The bond swap gain of $29 million mentioned above was not repeated in 2004 but there was a rate increase of 1.6% that produced additional Revenues of $16.1 million.

Expenses. Total Fiscal Year 2004 expenses decreased by $3.8 million over the previous year. There was no transfer of funds to the Rate Stabilization Fund in 2004; in 2003, $16.8 was transferred.

In Fiscal Year 2004, a withdrawal of $28.8 million was made from the Rate Stabilization Fund. Deposits of $16.3 million to the Capital Account and $13.8 million to the Residual Account were made from the Revenue Account.

Fiscal Year 2005

Revenues. Total operating and non-operating revenue for Fiscal Year 2005 increased by $29.3 million over the previous year. This was primarily due to a 12.8% water and sewer rate increase effective on February 1, 2005 coupled with an increase in the collection of sewer charges due from other municipalities reflecting a payment of $9.0 million collected from Bucks County for the reservation of additional capacity and other related items and new rates for all other wholesale customers that were effective July 1, 2004.

Expenses. Total Fiscal Year 2005 expenses increased by $3.0 million over the previous year primarily due to a $14.6 million increase in employee benefits expense and a decrease in other operating expenses.

In Fiscal Year 2005, a withdrawal of $0.6 million was made from the Rate Stabilization Fund. Deposits of $16.7 million to the Capital Account, $4.4 million to the general fund, and $8.7 million to the Residual Account were made from the Water Fund Account.

Fiscal Year 2006

Revenues. Total operating revenues increased $21.8 million primarily due to a 12.8% rate Water & Sewer Rate increase effective February 1, 2005 coupled with a 1.9% increase effective on August 1, 2005. Total non-operating revenues increased $5.0 million due to increased interest on investments.

Expenses: Total operating expenses increased $7.2 million due primarily to a $6.3 million increase in the cost of employee benefits, a $3.4 million increase in the cost of materials and supplies and a $5.0 million transfer of Year end excess balance of Water Sinking Fund Reserve to the General Fund. These increased expenses were offset by a $7.6 million decline in payroll expense.

In Fiscal Year 2006, a deposit of $21.6 million was made to the Rate Stabilization Fund. Deposits of $17.0 million to the Capital Account and $10.0 million to the Residual Account were made from the Water Fund Account.

Fiscal Year 2007

Revenues. Total operating revenues increased $22.7 million primarily due to a 4.2% rate Water & Sewer Rate increase effective July 1, 2007. Total non-operating revenues increased $9.4 million due to increased interest on investments.

Expenses: Total operating expenses increased $26.6 million due primarily to a $9.3 million increase in purchase of services, a $7.3 million increase in payroll services, coupled with a $3.8 million increase in the cost of employee benefits and a $3.5 million increase in the cost of materials and supplies. These increased expenses were offset by a $1.0 million decline in indemnities and taxes.

In Fiscal Year 2007, a deposit of $26.0 million was made to the Rate Stabilization Fund. Deposits of $17.0 million to the Capital Account and $11.3 million to the Residual Account were made from the Water Fund Account.

Fiscal Year 2008

Revenues. Total operating revenues increased $12.7 million primarily due to a 4.2% rate Water & Sewer Rate increase effective July 1, 2007. Total non-operating revenues increased $4.7 million due to decreases in interest on investments and operating grants.

Expenses: Total operating expenses increased $29.9 million due primarily to a $10.9 million increase in purchase of services, a $5.0 million increase in payroll services, coupled with a $7.4 million increase in the cost of employee benefits and a $3.1 million increase in the cost of materials and supplies and a $2.4 increase in indemnities and taxes.

In Fiscal Year 2008, a withdrawal of $9.8 million was made from the Rate Stabilization Fund. Deposits of $17.0 million to the Capital Account and $75.9 million to the Residual Account, including transfers to the special infrastructure account related to the new river city sinking fund reserve substitution transaction in the amount of $64,325,000, were made from the Water Fund Account.

Fiscal Year 2009 Budget

The Water Fund operating budget for Fiscal Year 2009 was adopted in May 2008. Revenues and expenses of $592,384,000 (including prior year liquidations) were provided for in the final adopted budget. Projections which were reflected in the Mayor's Fiscal Year 2010 operating budget request indicated projected revenue and expense levels of $577,280,000, including a projected Rate Stabilization fund withdrawal of $42,539,000. These projections included a debt service projection of $184,991,000. Increased debt service was due mainly to the increased cost of debt service on the 1997B, 2003 and 2005B variable rate bonds. Decreased revenues can be attributed mainly to a delay in implementation of the Fiscal Year 2009 rate increase from July 1, 2009 to November 1, 2009. The projections indicate the Department will be in compliance with all of its coverage requirements. An ordinance was approved on March 5, 2009 by City Council which increased appropriations for debt service by $10,000,000 for Fiscal Year 2009 and decreased Water Department appropriations for payroll and contracted services by $10,000,000. The Engineering Report projects the Department will be in compliance with all of its coverage requirements for Fiscal Year 2009.

Development of Proposed Fiscal Year 2010 Budget

The Charter requires City Council to adopt a balanced operating budget for the fiscal year on or before May 31 of each year. The Mayor's operating budget is developed from proposed budgets submitted by the various departments of the City, including the Water Department. The Water Department began preparation of its operating budget for Fiscal Year 2010 in October 2008, when all divisions were supplied with documentation to complete and return to the Finance Division reflecting their budgetary requests for the next fiscal year. The Water Department has developed and installed a computerized budgeting system to enable each division to prepare budget requests based on historical and current operating experience. Divisional budget proposals setting forth estimated obligations for the ensuing fiscal year were submitted to the Finance Division during November 2008. Revenue estimates are prepared by the Water Revenue Bureau under the direction of the City's Finance Department and the Water Department. The Water Commissioner reviewed all divisional budget proposals and the Water Revenue Bureau's budget with the assistance of the Finance Division and submitted the Water Department's proposed budget to the City's Budget Bureau and the City's Managing Director in January 2009. The Mayor has reviewed and approved the Water Department's 2010 Operating Budget and included it as part of his proposed budget to City Council, which was presented to City Council on March 19, 2009. City Council held a public hearing on the Water Fund operating budget on April 27, 2009 and on the City's Five Year Plan and Capital Budget on March 25, 2009 and March 31, 2009. City Council has not yet approved the proposed budget.

Revenues, Expenses and Debt Service

Black & Veatch has been retained by the Water Department as its rate consultant in the rate setting process discussed below.

The following table, prepared by Black & Veatch presents a statement of projected revenues and revenue requirements for Water and Wastewater Systems operations for Fiscal Year 2009 through Fiscal Year 2015, consistent with the requirements of the General Ordinance.

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PROJECTED REVENUE AND REVENUE REQUIREMENTS
(in thousands of dollars)

Line No.	Description			Fiscal Year Ending June 30, 2009	2010	2011	2012	2013	2014	2015
	OPERATING REVENUE									
1	Water Service - Existing Rates			177,254	183,539	183,008	181,799	179,685	177,585	175,485
2	Wastewater Service - Existing Rates			301,435	305,862	305,556	303,634	301,654	299,690	297,718
3	Total Service Revenue - Existing Rates			478,689	489,401	488,564	485,433	481,339	477,275	473,203
	Additional Service Revenue Required									
	Year	Percent Increase	Months Effective							
4	FY 2010	5.75%	12	0	28,141	28,092	27,912	27,677	27,443	27,209
5	FY 2011	5.45%	12	0	0	28,158	27,977	27,741	27,507	27,272
6	FY 2012	5.45%	12	0	0	0	29,502	29,253	29,006	28,759
7	FY 2013	12.9%	12	0	0	0	0	73,015	72,399	71,781
8	FY 2014	6.6%	12	0	0	0	0	0	41,820	41,463
9	FY 2015	6.6%	12	0	0	0	0	0	0	44,199
10	Total Additional Service Revenue Required			0	28,141	56,250	85,391	157,686	198,175	240,683
11	Total Water & Wastewater Service Revenue			478,689	517,542	544,814	570,824	639,025	675,450	713,886
12	Transfer From/(To) Rate Stabilization Fund			48,835	37,195	42,730	36,775	(380)	(9,490)	(15,495)
	Other Income [a]									
13	Other Operating Revenue			22,201	23,333	23,230	22,628	22,030	21,433	20,835
14	Construction Fund Interest Income			3,015	2,543	4,672	5,137	3,108	2,279	5,580
15	Debt Reserve Fund Interest Income			1,035	0	0	0	0	0	0
16	Operating Fund Interest Income			1,092	774	782	983	1,044	1,064	1,047
17	Rate Stabilization Interest Income			4,872	2,403	1,596	993	533	657	974
18	Total Revenues			555,739	583,790	617,824	637,340	665,360	691,393	726,827
	OPERATING EXPENSES									
19	Water & Wastewater Operations			279,513	301,840	318,859	334,300	349,889	366,317	383,641
20	Direct Interdepartmental Charges			55,810	55,733	56,823	58,356	60,361	62,440	64,596
21	Total Operating Expenses			335,323	357,573	375,682	392,656	410,250	428,757	448,237
22	**NET REVENUES AFTER OPERATIONS**			220,416	226,217	242,142	244,684	255,110	262,636	278,590
	DEBT SERVICE									
	Senior Debt Service									
	Revenue Bonds									
23	Outstanding Bonds [c]			183,211	183,740	183,714	183,410	185,111	184,108	182,835
24	Pennvest Parity Bonds			463	305	1,123	1,994	8,966	12,175	12,175
25	Projected Future Bonds [d]			0	4,465	16,946	18,494	18,511	22,574	37,145
26	Total Senior Debt Service			183,674	188,510	201,783	203,898	212,588	218,857	232,155
27	**TOTAL SENIOR DEBT SERV COV (L22/L26)**			1.20 x	1.20 x	1.20 x	1.20 x	1.20 x	1.20 x	1.20 x
	Subordinate Debt Service									
28	Outstanding General Obligation Bonds			0	0	0	0	0	0	0
29	Pennvest Subordinate Bonds			1,227	1,228	1,227	1,022	0	0	0
30	Total Subordinate Debt Service			1,227	1,228	1,227	1,022	0	0	0
31	Total Debt Service on Bonds			184,901	189,738	203,010	204,921	212,588	218,857	232,155
32	**CAPITAL ACCOUNT DEPOSIT**			18,179	18,570	18,961	19,352	19,743	20,134	20,525
33	**TOTAL COVERAGE (L22/(L31+L32))**			1.08 x	1.08 x	1.09 x	1.09 x	1.09 x	1.09 x	1.10 x
	RESIDUAL FUND									
34	Beginning of Year Balance			11,706	14,155	10,444	10,624	10,039	10,819	10,464
35	Interest Income [b]			1,073	504	9	4	0	0	0
	Plus:									
36	End of Year Revenue Fund Balance			17,336	17,909	20,171	20,411	22,779	23,645	25,910
37	Deposit for Transfer to City General Fund [e]			4,994	2,718	2,927	3,692	3,692	3,883	4,435
	Less:									
38	Transfer to Construction Fund			16,000	10,000	20,000	21,000	22,000	24,000	26,000
39	Transfer to City General Fund			4,994	2,718	2,927	3,692	3,692	3,883	4,435
40	Transfer to Debt Service Reserve Fund			0	12,084	0	0	0	0	0
41	End of Year Balance			14,115	10,444	10,624	10,039	10,819	10,464	10,374
	RATE STABILIZATION FUND									
42	Beginning of Year Balance			182,380	137,545	100,350	57,620	20,845	21,225	30,715
43	Deposit From/(To) Revenue Fund			(44,835)	(37,195)	(42,730)	(36,775)	380	9,490	15,495
44	End of Year Balance			137,545	100,350	57,620	20,845	21,225	30,715	46,210

(a) Includes other operating and nonoperating income, including interest income on funds and accounts transferable to the Revenue Fund.
(b) Includes interest earnings on Debt Service Reserve substitution funds deposited in the Special Water Infrastructure Account.
(e) Transfer of interest earnings from the Bond Reserve Account must first go to the Residual Fund as shown in Line 37 to satisfy the requirements for the transfer to the City General Fund, with the balance (if any) included in Line 15 going to the Revenue Fund.

RATES

Rate Setting Process

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 the 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. See APPENDIX IV – "CERTAIN INFORMATION CONCERNING THE CITY OF PHILADELPHIA."

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.

In August 1992, the Water Department adopted Water Regulation 74 and Sewer Regulation 17, governing the change of water and sewer rates and charges. These regulations provide for appointment of a Hearing Officer, enumeration of the duties of the Hearing Officer, provision of a time frame for various elements of the rate change process, establishment of rules and guidelines for public hearings on proposed rate changes and advertisement thereof, compilation of a hearing record, the Hearing Officer's report and the Water Commissioner's Rate Determination.

Current Rate Structure

The City's general service customers' water rate consists of a service charge related to the size of the meter, plus a schedule of quantity charges for all water use. The sewer rate is similar in form. On October 21, 2008, the Water Commissioner in his Rate Determination directed that there be a 7.1 percent, or a $3.49 monthly increase starting November 1, 2008; 6.4 percent or a $3.40 monthly increase starting July 1, 2009; 5.7 percent or a $3.20 monthly increase starting July 1, 2010, and a 5.9 percent or a $3.49 monthly increase starting July 1, 2011, for typical customers using 700 cubic feet or 5,236 gallons. Similar increases were directed for other customers. This followed a 4.22% rate increase, effective July 1, 2007. Hearings on the proposed rates were held during the summer of 2008, with written briefs, exceptions and the hearing officers report all following in the process. Increases in fire connection, and other charges are also included in each of the above noted rate changes.

The Water Department filed a notice of request for new rates for the period Fiscal Year 2009 through Fiscal Year 2012 with City Council on April 4, 2008. The rate request was filed with the Department of Records on May 5, 2008. In accordance with the regulations, a hearing examiner and public advocate were appointed. Public hearings were held during the period from July 21 to July 31 and technical hearings were held during the week of August 11, 2008. The Department also proposed to change the way it charges customers for stormwater management services. This part of the case was bifurcated and is currently in process. It is expected that a hearing officer report will be issued by May 1,

2009 and that the Water Commissioner's decision will be rendered by May 31, 2009. New stormwater rates and charges will likely be effective on or about July 1, 2011, if approved.

No challenges to the City's existing rate determinations are currently pending. Several parties have filed for intervention or participation in the rate case that is currently in process, however, the department believes that the time to appeal any decision on the revenue requirements part of the case has passed. Bucks County Water and Sewer Authority has filed for arbitration with respect to the current rate notice. The parties have agreed to a 90-day stay to give the parties time to settle the matter.

The Water Department estimates that a typical customer has a 5/8 inch meter and uses 8.4 thousand cubic feet (Mcf) of water per year, which, based on the current rate schedule, results in an annual charge of $267.48 for water service, $244.44 for sanitary sewer service and $122.16 for stormwater service, for a total of $634.08 and on July 1, 2009, the annual charge will increase to $674.88.

In addition to charges for general service customers, which are based on metered water consumption, the Water Department charges the City for water and wastewater service provided to City properties, the cost of operating and maintaining the high-pressure fire system (which was decommissioned in January 2005 and for which charges will cease in Fiscal Year 2009), and the cost of the standard pressure public fire protection. Private protection also is billed at a flat rate varying with the size of the connection. The City is the largest customer of the Water Department. For Fiscal Year 2008, the City paid $22,356,365, net of a one-time credit of $3,173,904 for Fiscal Year 2007 overcharges for water, sewer and fire connection charges and other services provided by the Water Department, which represented 4.1% of the Water Department's total revenues for that year. For Fiscal Year 2007, the City paid $31,601,180 for these services provided by the Water Department, which represented 6.08 % of the Water Department's total revenues for that year. For Fiscal Year 2006, the City paid $28,255,900, which represented 5.8 % of the Water Department's total revenues for that year. For Fiscal Year 2005, the City paid $23,776,844 to the Water Department, which represented 5.12% of the Water Department's total revenues for that year. Projections forecast that the City's annual projected charges to be paid to the Water Department of $29,144,000 for Fiscal Year 2009 and $31,416,000 in Fiscal Year 2010. See APPENDIX IV – "CERTAIN INFORMATION CONCERNING THE CITY OF PHILADELPHIA."

Charges for metered water service to the Bucks County Water and Sewer Authority (the "Authority") are set under a contract based on the recovery of operating and certain capital costs allocated to the Authority. Payments for water service rendered to the Authority in Fiscal Year 2005 and 2006 were $3,861,861 and $4,030,504 respectively. Fiscal Year 2007 and 2008 payments were $4,232,558 and $4,387,170, respectively. The contract for water service to the Authority expires in 2011. On January 22, 2009, the Water Department provided the Authority with the required two year notice of termination. It is the Water Department's intent to negotiate a new agreement for substantially similar capacity.

On June 29, 2000 the Water Department entered into a contract with the Philadelphia Suburban Water Company, which in January of 2004 became known as Aqua Pennsylvania (AP), a division of Aqua America, under which the Water Department agreed to provide wholesale water service through March 1, 2026. This Agreement provides for service through two interconnections – one in Tinicum Township, Delaware County and another in Cheltenham Township, Montgomery County. An amendment to the agreement was made on July 1, 2006 which reduces the average daily draw from 4.5 MGD to 3.705 MGD. AP can draw up to 2.0 MGD on average per day through its Cheltenham interconnection. Sales of water to AP generated total annual revenue of $3,106,352 in Fiscal Year 2008, $3,080,781 in Fiscal Year 2007 and $2,399,220 in Fiscal Year 2006. Contracts for wastewater treatment service with ten neighboring municipalities and authorities provide for the billing of charges based on operating costs attributable to the volume and strength of wastewater received from each of these customers. Capital

costs for the wholesale wastewater customers are recovered by one of two different methods - four contract customers are billed monthly for depreciation and return on investment on allocated wastewater conveyance and treatment facilities, while six contracting entities have made, and continue to make, capital contributions to the Water Department for their allocated share of the investment in facilities related to the provision of service to these customers. Fiscal Year 2005 payments totaled $35,348,393 for all ten wholesale wastewater customers. Revenues from these customers for Fiscal Year 2006 was $35,622,015. Fiscal Year 2007 revenues were $27,343,277, and Fiscal Year 2008 revenues were $28,630,133 Capital contributions from wholesale wastewater customers received by the Water Department as of June 30, 2008 have totaled $110,890,838.

Settlement with Bucks County Water and Sewer Authority (BCWSA)

On March 11, 2005 an agreement was executed by the Water Department and Bucks County Water and Sewer Authority to resolve flow exceedance and other issues related to wastewater service to the Bensalem Township area. The settlement provides for two payments to the Water Department. The first payment was received in May, 2005 in the amount of $9.0 million; a second payment of approximately $9.6 million was received in July, 2005. In return, the Water Department has agreed to increase BCWSA's annual daily flow limit from 20 MGD to 24 MGD. The Water Department also agreed to lengthen the term of the current contract by 15 years, extending it to the year 2038.

Other Matters Related to the Bucks County Water and Sewer Authority (BCWSA)

On March 28, 2008 the Water Department formally notified all of its wholesale water (2) and wastewater (10) customers of a 4 phase increase in their rates, with the first phase becoming effective July 1, 2008. BCWSA notified the Department that it was disputing the rate increases and served notice of its intent to bring the dispute to Arbitration, as provided for in its contracts. BCWSA has two contracts with the Department for wastewater service and one contract for wholesale water service. One of its wastewater contracts covers wastewater service to the area in Bensalem Township; the other contract covers several other municipalities in lower Bucks County. Under the terms of the Agreements, BCWSA agreed to pay directly to the Department that part of billings not in dispute and to pay to the Department for deposit into an escrow account held by the Department the disputed portion of billings for service rendered on and after July 1, 2008. The Department has billed BCWSA approximately $7.8 million for services under the three contracts. BCWSA has paid that amount in full, with about $6.1 million being paid directly to the Department and $1.7 million being paid to the Department for deposit into the aforementioned escrow account. BCWSA has sought, and the Department has provided, replies to questions concerning the development of the new rates. The Department is awaiting a reply from BCWSA as to whether any issues remain unresolved and thus may be the subject of further discussion between the parties or may be submitted to arbitration.

On March 15, 2011, the forty-five (45) year wholesale water agreement between the Water Department and BCWSA will reach the end of its term. On January 22, 2009 the Water Department provided the required two year notification of its intent to terminate the agreement. The Water Department indicated its willingness to negotiate a new contract to replace the current agreement.

Contract with Lower Southampton Township

Like the Bensalem Township matter discussed above, Lower Southampton has also exceeded its contractual maximum instantaneous flow limit. Lower Southampton has indicated its desire to control its wet weather peak flows by participating in a project whereby the Water Department builds a larger sewer in the city. Recently Lower Southampton has exceeded its Suspended Solids contractual limit. The Department has opened discussions with the township on how this matter will be remedied. One possibility being raised is a broad restructuring of the existing contract.

Contract with Delaware County Regional Water Quality Control Authority (DELCORA)

The Water Department has been serving DELCORA under a thirty year agreement to provide 50 MGD of wastewater treatment capacity at its Southwest Water Pollution Control Plant. Fiscal Year 2006 and 2007 revenues under this agreement were approximately $7.2 million and $9.2 million, respectively. In mid-2006 the Water Department and DELCORA agreed to extend their long-term wastewater agreement. In accordance with a written agreement between the parties the contract will expire on July 25, 2011, unless a new agreement is reached prior to that date. The Water Department is expected to offer DELCORA a new contract which may reduce DELCORA's contractual limits on flows to a level more consistent with its actual flow levels for the last several years.

Contract with Lower Moreland Township

Like Lower Southampton, Lower Moreland Township has also exceeded its contractual instantaneous flow limit. Similarly, Lower Moreland has clearly indicated its willingness to participate in the Water Department capital project described above. A new contract to codify the Township's obligations in this project as well as increases in Lower Moreland's relatively small contractual flows are nearing completion and an executed contract was recently completed.

Contract with Aqua Pennsylvania (AP)

As noted above, AP was notified by the Department on March 28, 2008 of a four phase increase in its rates for wholesale water service, with the first phase to become effective July 1, 2008. AP objected to the increase on the basis that the Department is not contractually permitted to increase rates to AP, except in concert with a rate increase to the Department's retail customers. Because increased rates to retail customers was not anticipated to become effective until November 1, 2008, the Department and AP agreed to develop new rates for service to AP effective November 1, 2008. On August 27, 2008 the Department provided notice to AP of the new rates and AP has been making payments in full of the new rates but has reserved the right to discuss and possibly bring to arbitration additional issues related to the development of the new rates.

Contract with Springfield Township

Springfield Township has exceeded its contractual limits for the delivery of both Biochemical Oxygen Demand (BOD) and Suspended Solids (SS). Springfield Township has been notified of the Department's need to significantly amend the current agreement or replace it with a new agreement.

Contract with Cheltenham Township

Cheltenham Township's wastewater contract has reached its term. Cheltenham Township has been notified of the need to renegotiate a new agreement to replace the current contract.

Billing and Collections

Under the Charter, the Water Revenue Bureau is directly responsible for the billing, metering and collection of revenues for the Water Fund. The Water Revenue Bureau is part of the City's Revenue Department, which comes under the direction of the Finance Director. Since February 2003, oversight of the Water Revenue Bureau has been under the City's Revenue Commissioner, who reports directly to the Finance Director. Over the years, the Water Department and the Water Revenue Bureau have developed a close level of cooperation between the two entities which is expected to continue regardless of the reporting structure.

In the early 1990s, the Water Revenue Bureau began using outside collection agencies. The collection agencies' responsibilities include the implementation of the Utility Services Tenant's Rights

Act ("USTRA"), which enables the Water Revenue Bureau to collect payments directly from the tenants when landlords refuse to pay. Collection agencies generated $7.9 million in revenue collections, net of commissions, during Fiscal Year 2000, $5.3 million in Fiscal Year 2001, $5.8 million in Fiscal 2002, $5.9 million in Fiscal Year 2003, $2.2 million in Fiscal Year 2004, $2.4 million in Fiscal Year 2005, $4.4 million in Fiscal Year 2006, $5.2 million in Fiscal Year 2007, $2.9 million in Fiscal Year 2008 and $4.0 million in Fiscal Year 2009, to date. Collection agencies are also being utilized to collect on commercial delinquencies.

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. The AMR Program is the largest and most significant water automatic meter reading endeavor to be implemented in the country. Installation commenced September 11, 1997, on schedule. By February 28, 2009, more than 487,466 new meters had been installed. This program has greatly improved the accuracy of billing, which 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. Today, more than 98% of the Water Department's customers have AMR meters, drastically improving our ability to initiate and enforce collection of delinquent accounts.

The Water Department is currently obligated to adhere to a strict moratorium on residential water service shut-offs from November 1 to March 31. Also, an ordinance was recently enacted requiring further restrictions to our ability to enforce customer payment. This ordinance prohibits the shut off water service on holidays, Fridays and weekends throughout the year. The Water Department already has a thorough process for customer notification prior to any shut off activity - notification that includes multiple mailed warnings to properties scheduled for shut off of water service unless the customer makes full payment or enters into a payment agreement with the WRB. The last action that the Water Department wishes to take is the shut off of a water service. During Fiscal Year 2007 the department received and serviced almost 72,000 accounts for shut off. Of these almost 40,000 were either shut off or were found off. The Department also restored service to approximately 24,000 accounts and collected almost $5 million at the door as part of its shutoff process. Recently, approximately 66,000 first notices were mailed as the department enters the end of the winter moratorium. During Fiscal Year 2008 the department received and serviced 69,140 accounts for shut off. Of these almost 36,511 were either shut off or were found off. The Department also restored service to approximately 22,499 and shut offs were cancelled on an additional 7,321 accounts and collected $5.571 million at the door as part of its shutoff process.

The City is required to maintain accounts receivable on its books for at least fifteen years. After that time, a panel determines what receivable, if any, should be written off. An allowance for doubtful accounts is provided for in the department's financial statements for any receivables for which collection is unlikely. The City utilizes many methods to enforce collections of delinquent receivables including the termination of service, the filing and enforcement of property liens, legal proceedings with Municipal and Commonwealth court, and Sheriff sales. Ultimately, WRB has been able to collect in excess of 97.6% of all amounts due to the department. The Water Fund accounts receivable balance also contains payment due by all city agencies (which pay on a once a year basis), and revenues outstanding from sister agencies of the City such as PHA and RDA.

In January, 2008, the Water Department's new billing system went on line. This system enhances the Water Department's ability to track customer billing history and enables the department to automatically flag delinquent accounts as soon as this status is triggered. As we move forward, the Water

Department and Water Revenue Bureau plan to better integrate early notification of customer billing delinquency with the Water Department's enforcement shut-off unit.

The Water Department and the Water Revenue Bureau have also initiated a termination of service procedure for delinquent government owned properties. The Water Revenue Bureau has also recently begun a "water only" Sheriff sale initiative whereby properties with high water delinquencies are identified for Sheriff sale. The Water Revenue Bureau and the City's Department of Technology (formerly the Mayor's Office of Information Services) have also completed arrangements where water customers can pay their bills on line. On line payments now total over $1 million per month. The Water Department and Water Revenue Bureau are also working together to improve the collection of third party accounts receivable. Procedures for follow-up notices, the payment of most permit fees in advance and denial of new permits to delinquent contractors are all being implemented.

The new water billing system "Basis2" by Prophesy International is based on the Oracle platform. The system has now been in operation for approximately fourteen months. As with all large and complex computer systems there were a number of problems identified in the configuration or implementation of the system. Most of these problems, which have been addressed on a priority basis, have been solved. Several are still in testing or are still under development. A plan for the design and implementation of any additional improvements has not yet been developed.

Over the past few years the Department has slowly expanded the acceptance of credit cards and other forms of electronic payments. On-line credit card payments have steadily increased and are now over $1 million monthly for commercial and residential accounts. Last summer, the Department began accepting credit cards at the door as an alternative to the discontinuance of service. Additional expansion of the number and type of electronic payments accepted is planned for the future.

Compliance with Rate Covenants

In Fiscal Years 2003, 2004, 2005, 2006, 2007 and 2008 the Water Department met the bond coverage requirements with a revenue bond debt coverage ratio of at least 1.20 each year, and a total debt service coverage ratio of at least 1.08 each year. Net revenues after operating expenses exceeded the amounts necessary to manage the senior debt service coverage requirements in Fiscal Year 2003 resulting in a deposit to the Rate Stabilization Fund totaling $16.8 million, $21.553 million in Fiscal Year 2006 and $25.959 million in Fiscal Year 2007. Senior debt coverage requirements for Fiscal Years 2004, 2005 and 2008 resulted in draw downs of funds from the Rate Stabilization Fund of $28.8, $0.628 and $9.763 million respectively.

The General Ordinance, which became effective on August 26, 1993, mandates a coverage ratio of at least 1.20 for revenue bond debt service and at least 1.00 for total debt service. All Water Fund expenditures are included in the coverage formula under the General Ordinance. Under the coverage formula under the General Ordinance, the Water Department uses the Rate Stabilization Fund to manage coverage to 1.20 each year, with any revenue which would raise coverage over 1.20 deposited into the Rate Stabilization Fund.

For a summary of revenues, expenses and debt service coverages for Fiscal Years 2003 through 2008, see "HISTORICAL COMPARATIVE STATEMENT OF REVENUES AND EXPENSES (LEGALLY ENACTED BASIS) – Analysis of Comparative Statement of Revenues and Expenses" herein. For a discussion of the Rate Covenant contained in the General Ordinance, see "SECURITY FOR THE BONDS – Rate Covenant" herein.

Compliance with Insurance Covenants

The Water Department has also met the additional rate covenants contained in the insurance agreements with FGIC and FSA described herein under "SECURITY FOR THE BONDS – Insurance Covenants" for each of the Fiscal Years such covenants have been in effect. The additional rate covenants contained in the insurance agreements are for the benefit of FGIC and FSA only and may be amended or waived by FGIC or FSA in their sole discretion without the consent of holders of the Bonds. Please refer to the tables below for an illustration of historical and projected continued compliance.

Philadelphia Water Department
Historical Operating Results

	FY03	FY04	FY05	FY06	FY07	FY08
Excess of Revenues over Expenses before Interest Expenses and Principal Payments on Bonded Indebtedness	$187,355	$188,368	$186,385	$198,226	$207,235	$263,074
Transfer (TO)/FROM The Rate Stabilization Fund	$16,767	($28,779)	$628	($21,553)	($25,959)	$9,763
Net Revenues including Rate Stabilization Fund	$187,355	$188,368	$186,385	$198,226	$207,235	$263,074
Net Revenues excluding Rate Stabilization Fund	$170,588	$188,368	$185,757	$198,226	$207,235	$253,311
Revenue Bond Debt Service	$156,130	$156,973	$155,320	$165,189	$172,696	$174,986
Ratio (Minimum 90%)	109%	120%	120%	120%	120%	145%

Note: For Fiscal periods where there was a Rate Stabilization Fund deposit, this amount was excluded from net revenues for calculation of compliance with the 90% test.

LITIGATION AND CLAIMS

Claims against the Water Department are paid out of the Water Fund and only secondarily out of the City's General Fund, in the event cash balances in the Water Fund are insufficient at the time of payment of the claim. The General Fund is then reimbursed by the Water Fund for any such advance. The following discussion concerning litigation and claims, which has been prepared based on information supplied by the Law Department and has been reviewed by the Law Department, relates to litigation and claims against the City chargeable to the Water Fund. A discussion of other litigation affecting the City is set forth under the caption in APPENDIX IV - "CERTAIN INFORMATION CONCERNING THE CITY OF PHILADELPHIA - Litigation".

Various claims have been asserted against the Water Department and in some cases lawsuits have been initiated. The Water Department may be liable if these claims are reduced to judgment or otherwise settled in a manner requiring payment by the Water Department.

The City, from the Water Fund, paid $3.9 million in Fiscal Year 2003, $2.9 million in Fiscal Year 2004 and $2.4 for Fiscal Year 2005, $4.2 for Fiscal Year 2006, $2.5 million in Fiscal Year 2007 and $4.6 million in Fiscal Year 2008 for claims against the Water Department. The Water Department's budget for each of Fiscal Year 2009 and Fiscal Year 2010 contains an appropriation for Water Department claims in the amount of $6.5 million for each Fiscal Year.

TAX EXEMPTION

In the opinion of Ballard Spahr Andrews & Ingersoll, LLP and the Law Offices of Denise Joy Smyler, Co-Bond Counsel, interest on the Bonds is excludable from gross income for purposes of federal income tax under existing laws as enacted and construed on the date of initial delivery of the Bonds, assuming the accuracy of the certifications of the City and continuing compliance by the City with the requirements of the Internal Revenue Code of 1986, as amended (the "Code"). Interest on the Bonds is exempt from individual and corporate federal alternative minimum tax ("AMT") and is not includable in adjusted current earnings for purposes of corporate AMT. Co-Bond Counsel expresses no opinion regarding other Federal tax consequences relating to ownership or disposition of, or the accrual or receipt of interest on, the Bonds.

The Bonds are exempt from personal property taxes in Pennsylvania, and interest on the Bonds is exempt from Pennsylvania personal income tax and Pennsylvania corporate net income tax, under laws of the Commonwealth of Pennsylvania as enacted and construed on the date of initial delivery of the Bonds.

NEGOTIABLE INSTRUMENTS

The Act provides that bonds issued thereunder shall have all the qualities and incidents of securities under the Uniform Commercial Code of the Commonwealth of Pennsylvania and shall be negotiable instruments.

CONSULTING ENGINEER'S REPORT

The Engineering Report of Black & Veatch Corporation, Kansas City, Missouri, is included in APPENDIX II of this Official Statement in reliance upon the authority of such firm in engineering and related financial matters.

UNDERWRITING

The Bonds are being purchased by the firms listed on the front cover page of the Official Statement (collectively, the "Underwriters"), at an aggregate underwriters' discount of [$_____] from the initial public offering price of the Bonds. The Underwriters will purchase all of the Bonds if any such Bonds are purchased. The obligation of the Underwriters to purchase the Bonds is subject to certain terms and conditions set forth in the purchase contract related to the Bonds.

The initial public offering prices of the Bonds set forth on the inside front cover page hereof may be changed without notice by the Underwriters. The Underwriters may offer and sell Bonds to certain dealers (including dealers depositing Bonds into investment trusts, certain of which may be sponsored or managed by one or more of the Underwriters) and others at prices lower than the offering prices set forth on the inside front cover page hereof.

RATINGS

Moody's, S&P and Fitch have assigned underlying municipal bond ratings of "A3", "A" and "A-", respectively, to the Bonds. Certain information was supplied by the City and the Water Department to the rating agencies to be considered in evaluating the Bonds. Such ratings express only the views of the respective rating agencies and are not a recommendation to buy, sell or hold the Bonds.

Such ratings reflect only the views of such ratings organizations and any desired explanation of the significance of such ratings should be obtained from the rating agency furnishing the same, at the

following addresses: Moody's Investors Service, Inc., 99 Church Street, New York, New York 10007; Standard & Poor's Ratings Service, 55 Water Street, New York, New York 10041; and Fitch Ratings, One State Street Plaza, New York, New York 10004. Generally, a rating agency bases its rating on the information and materials furnished to it and on investigations, studies and assumptions of its own. There is no assurance such ratings will not be revised downward or withdrawn entirely by the rating agencies, if in the judgment of such rating agencies, circumstances so warrant. Any such downward revision or withdrawal of such ratings may have an adverse effect on the market price of the Bonds.

LEGAL MATTERS

Certain legal matters incident to the authorization, issuance and sale of the Bonds will be passed upon by Ballard Spahr Andrews & Ingersoll, LLP and the Law Offices of Denise Joy Smyler, both of Philadelphia, Pennsylvania, Co-Bond Counsel. The proposed form of such legal opinion is included herein as APPENDIX V. Certain legal matters will be passed upon for the City by the City Solicitor. Certain legal matters will be passed upon for the Underwriters by Greenberg Traurig, LLP, Philadelphia, Pennsylvania.

FINANCIAL ADVISORS

Public Financial Management, Inc., and Phoenix Capital Partners, LLP, both of Philadelphia, Pennsylvania, have been retained by the City as Co-Financial Advisors in connection with the issuance of the Bonds and, in such capacity, have assisted the City in the preparation of Bond-related documents. The Co-Financial Advisors' fee for services rendered with respect to the sale of the Bonds is contingent upon the issuance and delivery of the Bonds. Although the Co-Financial Advisors have read and participated in the preparation of this Official Statement, they have not independently verified any of the information set forth herein. The information contained in this Official Statement has been obtained primarily from the City's records and from other sources that are believed to be reliable, including financial records of the City, reports of consultants and other entities that may be subject to interpretation. No guarantee is made as to the accuracy or completeness of any such information. No person, therefore, is entitled to rely upon the participation of the Co-Financial Advisors as an implicit or explicit expression of opinion as to the completeness and accuracy of the information contained in this Official Statement.

NO LITIGATION OPINION

Upon the delivery of the Bonds, the City Solicitor will furnish an opinion, in form satisfactory to Co-Bond Counsel and the Underwriters, to the effect, among other things, that to the best of her knowledge after customary inquiry there is no litigation or other legal proceeding pending, or threatened in writing against the City, to restrain or enjoin the issuance or delivery of the Bonds or challenging the validity of the proceedings of the City taken in connection therewith or the pledge or application of any moneys provided for the payment of the Bonds, or contesting the powers of the City with respect to any of the foregoing.

CERTAIN REFERENCES

All summaries of the provisions of the Bonds and the security therefor, the Act, the General Ordinance set forth herein and in APPENDIX III and all summaries and references to other materials not purported to be quoted in full, are only brief outlines of certain provisions thereof and do not constitute complete statements of such documents or provisions. Reference is made hereby to the complete documents relating to such matters for the complete terms and provisions thereof or for the information contained therein. All estimates, assumptions and statistical information contained herein, while taken from sources considered reliable, are not guaranteed. So far as any statements are made in this Official

Statement involving matters of opinion, or projections or estimates, whether or not expressly so stated, they are made merely as such and not as representations of fact.

The attached Appendices are integral parts of this Official Statement and should be read in their entireties together with all foregoing statements in this Official Statement.

The agreement between the City and holders of Bonds is fully set forth in the Bonds and the General Ordinance. Neither this Official Statement nor any advertisement for the Bonds is to be construed as constituting an agreement with purchasers of the Bonds.

CONTINUING DISCLOSURE

In accordance with the requirements of Rule 15c2-12 (the "Rule") promulgated by the Securities and Exchange Commission, the City will enter into a Continuing Disclosure Agreement (the "Continuing Disclosure Agreement") with Digital Assurance Certification, L.L.C., which shall constitute a written undertaking for the benefit of the owners of the Bonds, to assist the Underwriter in complying with the Rule and to provide continuing disclosure to the owners of the Bonds. See APPENDIX VI – "FORM OF CONTINUING DISCLOSURE AGREEMENT" for the detailed provisions of the Continuing Disclosure Agreement.

CERTAIN RELATIONSHIPS

Co-Bond Counsel each provide ongoing legal services to the City and the Water Department. Black & Veatch Corporation, the Consulting Engineer, provides ongoing consulting and engineering services to the Water Department.

This Official Statement has been duly executed and delivered by the following officers on behalf of the City of Philadelphia, Pennsylvania.

CITY OF PHILADELPHIA

By:_____
Michael A. Nutter, Mayor

By:_____
Alan L. Butkovitz, City Controller

By:_____
Shelley R. Smith, City Solicitor

Approved:

By:_____
Rob Dubow, Director of Finance

APPENDIX I

FINANCIAL STATEMENTS OF THE WATER FUND
FOR FISCAL YEARS ENDED JUNE 30, 2008 AND 2007

Financial Statements
For Fiscal Year Ended June 30, 2008

Philadelphia
PWD
Water Department

CITY OF PHILADELPHIA WATER DEPARTMENT

2008 FINANCIAL STATEMENTS

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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 storm water effectively.

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 1,672,000 as of the 2000 census, of which 1,518,000 were in the City. The population served by the Wastewater System was approximately 2,218,000 as of the 2000 census, of which 1,518,000 were in the City and 700,000 were in the suburbs.

PWD's three water treatment plants deliver approximately 300 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 maintains a vast water conveyance and distribution system: nearly 3,100 miles of water mains, 25,000 fire hydrants, 16 water pumping stations, 18 reservoirs, five water storage tanks,

The Department also treats wastewater at its three water pollution control plants. These plants treat approximately 490 million gallons of wastewater per day that meet or exceed federal and state standards, protecting and preserving our precious waterways. They are the heart of a collection and treatment system that includes 17 wastewater pumping stations, three stormwater pumping stations, nearly 3,500 miles of sewers and 80,000 stormwater inlets. The Department's wastewater system serves more than 2.2 million people in Philadelphia and the suburbs. Its service area totals 360 square miles, of which 130 square miles are in the City and 230 square miles are in suburban areas. The Philadelphia Water Department also operates a central laboratory facility, and a range of technical and administrative support services.

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.

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 1.57, a total debt service coverage ratio of 1.42, and a net operating revenue bond coverage ratio of 1.51 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* $716.9 million resulting from an excess of its assets over its liabilities; its unrestricted net assets showed a balance of $154.8 million.

The Water Fund's net assets showed an increase of $23.6 million during the current Fiscal Year compared with 42.7 million for the prior fiscal year. This change was primarily due to the following:

- A 4.2% water and sewer rate increase effective on July 1, 2007 which resulted in a $10.6 million increase in revenue collections.
- A $3.7 million decrease in debt service expense
- A $2.2 million increase in operating grants
- A $3.7 million increase adjustment to net assets

These increases in the Water Fund's net assets were offset by the following:

- A $10.9 million increase in the purchase of services
- A $7.4 million increase in employee benefits expense
- A $5.0 million increase in personal services
- A $4.4 million increase in the Allowance for bad debt

- A $4.0 million decrease in interest income
- A $3.7 million increase in depreciation expense
- A $3.1 million increase in the purchase of materials and supplies.

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 it's liabilities by $716.9 million

Capital assets, such as land, buildings, meters, water mains, and sewer lines, less any outstanding debt issued to acquire these assets comprise $112.2 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, $449.8 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 $154.8 million.

Bond Issuance

During FY2007, the Department was authorized to issue additional Water and Wastewater Revenue Bonds in the aggregate principal amount of $325,000,000. These bonds have not yet been issued. The proceeds of the bonds will be applied to (i) fund capital improvements to the City's Water and Wastewater Systems (as hereinafter defined), (ii) fund a Debt Reserve Account of the Sinking Fund (as hereinafter defined) relating to the bonds, and (iii) pay costs of issuance relating to the new bonds. In February, 2007 the City entered into a forward starting swap "rate lock" agreement with two counterparties for $180,000,000 of these bonds. These agreements were extended in February, 2008 and now have an execution date of not later than February 17, 2009, unless further extended by the parties.

The Department also issued $345,035,000 of Water and Wastewater Revenue Refunding Bonds, Series 2007A & 2007B. The proceeds of the 2007A Bonds were used to refund the remaining portions of the City's Water and Wastewater Revenue Bonds, Series 1997A and to pay costs of issuance relating to the Bonds. The proceeds of the 2007B Bonds were used to refund a portion of the City's Water and Wastewater Revenue Bonds, Series 2001A and to pay costs of issuance relating to the Bonds. The transaction resulted in net present value savings in excess of $14.5 million in future debt service expense. This brought the net present value savings of bonds refinanced to $107 million since 1993. These savings will primarily be recognized in FY2009 through FY2031, and will

help to moderate rate increases during these years. As part of this issuance, all three of the major bond rating agencies (Moody's, Standard and Poor's and Fitch) affirmed their ratings for the Water Department. It should also be noted that in September 2008, Standard & Poors upgraded the department's credit rating to "A" as part of their ratings on the roffering of the 1997B bonds.

Rate Lock (Swap) Agreement

In February, 2007 the City entered into a "rate lock" agreement with two counterparties for a $180,000,000 portion of these bonds which has an execution date of not later than February 21, 2008, unless extended by the parties. These agreements were recently extended by the City until February 2009.

The eleventh supplemental ordinance authorizes the City to issue up to $325,000,000 in aggregate principal amount (exclusive of original issue discount) of additional Water and Wastewater Revenue Bonds (the "2008 New money bonds") under the general ordinance to finance certain capital projects of the Water department. The City originally anticipated issuing such bonds during Fiscal year 2008 and has entered into the 2007 Swap agreements (as described below) relating to $180,000,000 aggregate principal amount of such bonds.

In connection with the anticipated issuance of the 2008 New money bonds, on February 21, 2007, the City entered into two separate forward starting interest rate swap transactions, each evidenced by an ISDA Master agreement, schedule and confirmation (collectively the "2007 Swap agreements", and together with the 2002 Swap agreement, the "Swap agreements) between the City and each of Merrill Lynch Capital Services, Inc. and Wachovia Bank, National Association (the "2007 Swap providers"). The 2007 Swap agreements are intended to hedge the interest rate risk on $180,000,000 aggregate principal amount of the 2008 New Money bonds, split equally between the 2007 Swap providers. Under the 2007 Swap agreements, commencing on February 1, 2008, the City will pay interest to the 2007 Swap providers on the notional amount thereof at a fixed rate of 3.999% and the 2007 Swap providers will pay interest to the City on such notional amount at a variable interest rate equal to the Bond Market Association Rate (BMA) or the Securities Industry and Financial Markets Association Rate.

The City's regularly scheduled payments under the Swap agreements are secured on a parity basis by a lien and a security interest in all Project Revenues for the benefit of each of the Swap Providers, as the Swap provider, and with respect to the 2002 Swap agreement, Financial Security Assurance Inc., as the bond insurer. All other obligations of the City under each of the Swap agreements, including payments due upon early termination of a Swap agreement, are secured by a lien on and security interest on all Project Revenues subordinate to the lien prescribed in the previous sentence.

Under certain conditions, each of the Swap agreements may be terminated prior to its stated termination date in which case the City may be obligated to make a substantial payment to, or may be entitled to receive a substantial payment from the applicable Swap provider. There can be no assurance that a Swap provider will pay or perform its obligations under the applicable Swap agreement in accordance with the terms thereof, or that Swap provider will be able to pay any termination payment which may be required to pay upon the occurrence of certain events of default or termination under the applicable Swap agreement.

The City is currently re-evaluating the timing of the planned 2008 new money issue and will determine in the next several months whether to issue some or all of the planned 2008 new money issue in February 2009 as originally planned or to extend or terminate the 2007 Swap agreement.

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 storm-water 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 $106 million in debt service expense. A Revenue Protection Unit created in Fiscal Year 2000 has recovered more than $19 milion 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. The impact of these cost-saving measures has been to keep services high, and rates low. From FY97 through FY07 the Department increased rates in six of ten years, adding up to a total increase for residential customers of 33.8 percent during the entire ten-year period. This rate of increase is well below the Philadelphia Consumer Price Index that measured 34.91 percent during the same period.

In July of 2005, the Water Department announced a revision of rates for the period covering FY06 through FY08; a 6.7 percent or a $3.20 monthly increase starting July 1, 2006; and a 4.2 percent or a $2.14 monthly increase starting July 1, 2007. These rates and charges have enabled the Philadelphia Water Department to meet its obligations under the Charter of having a balanced budget through FY08

In April of 2008, the Water Department announced a revision of rates for the period covering FY09 through FY12. After conclusion of the rate process, the Commissioner issued his opinion granting rate increases on November 1, 2008,

July 1, 2008, July 1, 2010 and July 1, 2011. The new rates will enable 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 new rates will enable the Philadelphia Water Department to meet its obligations under the City Charter of having a balanced budget through June 2012 and to meet its bond covenants.

Additional regulatory costs associated with meeting mandated federal and state environmental regulations are requiring more operating and capital dollars; and the continuing demographic changes in the City are causing the Department's high fixed costs (to maintain water mains, sewer mains, pumping stations, treatment plants, sewer inlets, etc.) to be spread over fewer customers.

On October 21, 2008 the Water Commissioner filed his final decision with respect to the proposed 2009-12 rates. Increases in rates were approved for FY2009 beginning November 1, 2008. FY2010, 2011 and 2012 rates will take effect with the beginning of each fiscal year.

Beginning November 1, 2008, a typical residential customer's bill will change by an additional $3.49 a month, or a total monthly bill of $52.84. This change is for the period of November 1, 2008 to June 30, 2009. A typical senior citizen's monthly bill will change by an additional $1.91, or a total monthly bill of $33.00, for those seniors who qualify for the Department's 25-percent senior citizen discount. The income test to qualify for this discount has been raised to $29,800. In addition, the Department has adopted rate changes to be phased in over a three year period for Fiscal Years 2010, 2011 and 2012. These changes include:

• $3.40 increase in the typical monthly bill (total monthly bill of $56.24) for July 1, 2009 to June 30, 2010;

• $3.20 increase in the typical monthly bill (total monthly bill $59.44) from July 1, 2010 to June 30, 2011; and

• $3.49 increase in the typical monthly bill (total monthly bill $62.93) from July 1, 2011 to June 30, 2012.

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 storm-water 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 following table, PWD's water rates are less than half those charged by many neighboring investor-owned utilities.

2008 Regional Residential Water and Sewer Charges*		
	Monthly Water Bill	**Monthly Sewer Bill**
Aqua Pennsylvania+	$46.82	N/A
Pennsylvania American Water+	$47.65	N/A
New Jersey American Water+	$33.53	N/A
North Penn Water Authority +	$24.38	N/A
North Wales Water Authority +	$22.85	N/A
Doylestown Township	$30.23	$55.84
CCMUA (Camden County) **	N/A	$26.25
Trenton	$21.58	$23.30
Philadelphia Water Department	***$20.36***	***$19.87***

Rates in effect on August 20, 2008. Storm water charges ($9.12) are excluded from sewer calculations, because many jurisdictions fund such services from the general tax base or a separate utility assessment.
*Calculations based on 5,236 gallons/month (700 cu.ft.)
** Sewer-only utility.
+ Water-only utilities.

Source: Philadelphia Water Department

Bond Ratings

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

City of Philadelphia's Bond Ratings
General Obligation and Revenue Bonds

	Moody's Investors Service	**Standard & Poors Corporation**	**Fitch IBCA**
General obligation bonds	Baa1	BBB	BBB+
Water & sewer revenue bonds	**A3**	**A-****	**A-**
Aviation revenue bonds	A3	A	A

**Upgraded to A in September 2008

The following excerpt accompanied the reaffirmed A3 rating of Moody's Investors service issued on August 8, 2008: "The A3 rating reflects the system's strong management, improved financial operations… The management team of this large combined water and wastewater system has produced a strong record of operational and financial achievements over the past decade. Operational achievements include continued improvements in environmental compliance, launch of a proactive water main replacement program that has significantly reduced the number of main breaks, and the installation of automatic meters for a significant proportion of residential customers. In addition to the resulting improvements in billing accuracy, the billing cycle was accelerated to a monthly basis, and both have led to an increase in collection rates from 87.3% in fiscal 2000 to 91% consistently in the last three fiscal years ending with 2007. On the financial side, operating costs have been well controlled, with significant reductions in some areas such as contracted electricity costs and costs of operating the biosolids recycling center."

The following excerpt accompanied the affirmed A- rating of Fitch issued in March, 2007: "Due to the management team's history of conservative budgeting and the system's solid operating performance, Fitch expects the system's trend of actual results outperforming projections to continue and the maintenance of a healthy cushion in the RSF.

The system's proposed capital improvement plan (CIP) for fiscal 2008-2013 totals $952, up almost $200 million over the fiscal 2007-2012 CIP due to the inclusion of several flood and combined sewer overflow mitigation projects. Despite the increase, Fitch believes the spending levels in the CIP are manageable."

The following excerpt accompanied the upgrade to the A rating of Standard and Poors: "Standard & Poor's Ratings Services raised its standard long-term rating and Standard & Poor's underlying rating (SPUR) on Philadelphia, Pa.'s water and sewer revenue debt one notch to 'A' from 'A-' based on the system's stable financial performance, resulting in the utility's persistently satisfactory coverage ratios on senior-lien debt of 1.2x; consistently strong management team; and sound overall system operations with ample capacity. The outlook is stable. Philadelphia's well-experienced utility management team continues to emphasize, and is achieving, improved system maintenance, stronger collections, and more-comprehensive fiscal monitoring systems."

Fund Balances

During FY2008 the department withdrew 9.7 million from its Rate Stabilization fund, bringing the cumulative fund balance to approximately $183.1 million, all of which is available to provide necessary working capital to the department and to offset future rate increases. In addition, approximately $12.6 million was transferred to the Residual fund. Virtually all of these funds will be used to

provide capital funding to reduce the amount of additional bond issues to fund the capital program. To date, the department has transferred in excess of $237 million to its capital fund via its annual 1% transfer and $72 million via additional discretionary transfers to capital from its Residual fund.

Maintaining excellence in water purity standards

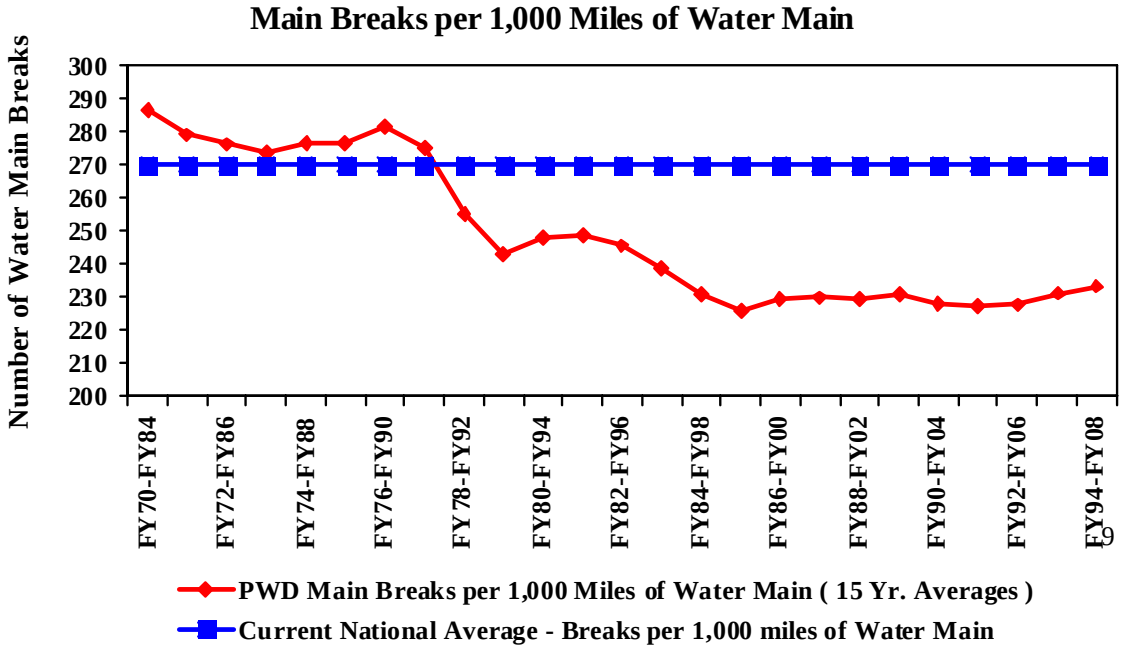
Philadelphia's drinking water meets or surpasses the requirements of state and federal standards 100 percent of the time. Since voluntarily joining the U.S. Environmental Protection Agency's (EPA) Partnership for Safe Water (PfSW) in 1996 (a joint program of the EPA and the water industry), the PWD has committed itself to reduced "turbidity," an industry standard measure of water purity. In FY07, the turbidity of Philadelphia's water (.05 ntu) was 83 percent lower than the amount required by state and federal regulations and 50 percent lower than the Partnership's turbidity goal of 0.1 ntu. Nationally, the PWD is among an elite group of 56 water utilities that have received a Directors Award from the PfSW for meeting the partnerships goals for five consecutive years.

In FY07, PWD also had to comply with the newest EPA water quality requirements, the Long-Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) that was published in the Federal Register in January 2006. The PWD water quality program, instituted to achieve the PfSW goals, was well positioned to achieve compliance with the requirements of the new rule.

Optimize water and sewer main replacement.

PWD closely monitors water main conditions to ensure that adequate capital investment is made, the integrity of the water supply system is sustained, and the occurrence of disruptive and costly water main breaks is reduced. In FY07, 20 miles of main were replaced.

As shown in the chart below, the FY93-FY08 fifteen year moving average level of 232 breaks per 1,000 miles is less than the national average of 270 breaks per 1,000 miles, and is near the lowest level in more than 20 years.

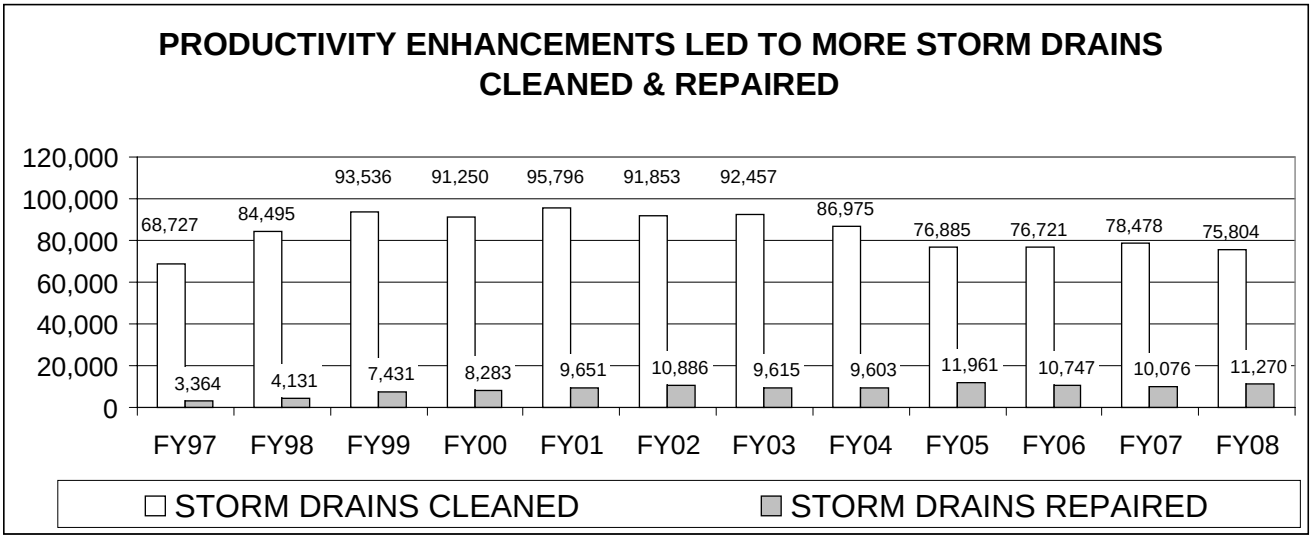


Reducing unbilled or non-revenue water

PWD maintains programs to reduce uncaptured revenue and loss of treated water from the distribution system. Over the past 13 years, PWD has cut non-revenue water by 35 percent, from 133 million gallons per day (mgd) to 86 mgd at the close of FY07. PWD continued a number of successful loss control initiatives in FY07, including a leak detection and repair program that surveyed over 1,024 miles of pipeline for leaks, and abated 27.6 mgd of leakage, representing a cost savings of over $879,000. PWD successfully constructed field equipment to establish its first permanent District Metered Area (DMA) which includes pressure control features to reduce the occurrence of leakage and water main breaks. The DMA was installed in the Germantown section of Philadelphia at a cost of $335,000. The results of this project have been impressive, saving one million gallons of water loss per day for an annual savings of $55,000 and a payback of 5.5 years. In addition, the PWD's Revenue Protection Program continued to recover uncaptured revenue from billing errors, lost customer accounts, and unauthorized consumption. This program has recovered over $19 million since its inception in 2000.

Improved stormwater flood control

PWD’s management of the storm water system is an important multi-faceted service for both flood control and environmental protection. With approximately 90,000 storm drains to maintain, the Department focuses on keeping them in good condition to prevent blockage of storm water flow and creation of hazardous conditions for pedestrians. In FY08, PWD cleaned 75,804 storm drains. In addition, the Department reconstructed 11,270 storm drains.



In January 2006, PWD initiated new Storm-water Regulations. The new regulations are an important tool in the City's efforts to reduce flooding and to protect our rivers and streams. Accordingly, all development projects that disturb more than 15,000 square feet of earth must comply with water quality and non-structural site design requirements that are consistent with state and federal storm water best management practices. During FY 08, PWD received 654 conceptual submittals for zoning permits and 727 full Post Construction Technical submittals for building permits. Storm water regulations include four major components: Water quality protection, channel protection, flood control, and non-structural site design (minimizing impervious land cover). The results of this program since inception have been significant. Seven hundred and sixty two million gallons of storm water runoff has been captured, reducing stress on the storm water infrastructure, and treatment plants.

Sinking Fund Reserve substitution

On November 26, 2007, the City deposited a surety policy in the principal amount of $67 million issued by FSA in the Debt Reserve Account pursuant to the General Ordinance and transferred approximately $64,325,000 million to a Special Water Infrastructure Account to pay the costs of acquiring certain water and sewer infrastructure components of the New River City Program.

The New River City budget includes approximately $60 million for the expansion and modernization of the water & sewer infrastructure at the Navy Yard. This initiative was authorized by City Council in ordinance 060005 passed in the fall of 2007.

Reoffering of City of Philadelphia, Pennsylvania Water and Wastewater Revenue Bonds, Variable Rate Series 1997B

As a result of the ratings downgrade of Ambac Assurance Corporation ("Ambac"), the City decided to replace Ambac's financial guaranty insurance policy (the "Policy") for the 1997B Bonds, which was issued simultaneously with the original issuance of the 1997B Bonds, and the standby bond purchase agreement that currently provides liquidity support for the 1997B Bonds, with an irrevocable, direct-pay letter of credit (the "Letter of Credit"). The Letter of Credit will be issued by Bank of America, N.A. (the "Bank") as described herein. In September 2008, the 1997B Bonds were reoffered in connection with the delivery of the Letter of Credit.

Bond insurance ratings

On July 21, 2008 Moody's placed the Aaa insurance financial strength ratings of FSA and its affiliated insurance operating companies on review for possible downgrade. In the same rating action, Moody's also placed the senior unsecured ratings of parent company, Financial Security Assurance Holdings Ltd. (Aa2-rated) on review for possible downgrade. An explanation of the significance of any rating action should be obtained from the rating agency furnishing the same.

FSA currently meets the credit rating requirements prescribed by the General Ordinance with respect to eligible providers of surety policies for deposit to the Debt Reserve Account. The City and the Water Department are monitoring the financial condition and ratings of FSA in relation to such credit quality requirements, and are considering all options currently available to ensure continued compliance in this respect.

Protecting drinking water supplies

PWD operates the Delaware Valley Early Warning System (EWS) to protect our drinking water supplies from chemical spills and other potential hazards in the Delaware and Schuylkill rivers. The system enables communication among water suppliers and emergency agencies to aid decision-making during source water contamination events. Through the EWS, PWD and other utilities have been provided with advanced warning of significant water quality events, such as the discharge of 100 million gallons of an arsenic-laden fly ash slurry to the Delaware from PP&L in August 2005; a 10,000 gallon leachate discharge into the Delaware from the Tullytown Landfill in March 2006; a cyanide spill into the Wissahickon in June 2006; and numerous other oil, chemical, and sewage spills in PWD's source waters. In FY07 a major redesign of the EWS website and system functionality was accomplished to improve system usability and performance. A user manual was created to provide assistance in using the redesigned EWS, and training was provided to the participants of the EWS Steering Committee as well as to emergency responders and water quality supervisors in Pennsylvania

Department of Environmental Protection's (PA DEP's) Northeast, Southeast, and Southcentral regional offices. Outreach to industrial intakes within the EWS coverage area was also initiated during this time. In FY07 steps were also taken to acquire the City's first aquatic biomonitoring system to further protect Philadelphia's drinking water supply from contaminant events.

Long-term Control Plan for Combined Sewer Overflows

During heavy rainstorms, the release of some stormwater and sewage overflows from combined sewers (sewers that carry stormwater and sanitary waste in one pipe) to the City's rivers and streams, causes pollution to these waterways. In 1997, PWD submitted its Combined Sewer Overflow Long Term Control Plan (CSOLTCP) to the PA Department of Environmental Protection. These plans included the incorporation of Nine Minimum Controls (NMCs) - using industry accepted best practices to efficiently operate and maintain our sewer system, in addition to the identification of $48 million of capital improvement projects that would ensure localized capture and storage of wet weather flows within the existing sewer collection system These efforts successfully reduced overflow volume by three percent or six billion gallons a year. Initial efforts were focused on detecting and eliminating overflows during dry weather, getting the most storage possible in our 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 committed to the development of Integrated Watershed Management Plans (IWMPs). These plans are guided by a 20 year vision to restore our region's waterways to fishable, swimmable and beautiful rivers and streams that are life sustaining and are an amenity to our communities.

PWD is now in the process of updating its CSOLTCP with a strategy built upon its IWMPs. Plans for the Tacony and Cobbs Creek Watersheds have been completed. Plans for the Philadelphia portions of the Delaware and Schuylkill Rivers are in development. These plans are featuring a land-based approach, in addition to the more traditional renovation or augmentation of existing infrastructure, will be implementing green infrastructure practices on publicly owned lands and right of ways, and encouraging green infrastructure on privately owned land. PWD will have a completed update to its CSOLTCP to the PA DEP by September 2009.

Waterways Restoration Program

In FY04, the PWD created the Waterways Restoration Team (WRT), which consists of four crews devoted to removing trash and large debris from the streams and tributaries that define our neighborhoods. The teams also perform restoration work around PWD's storm and combined sewer outfalls and streambanks that contain exposed infrastructure. In addition, these teams maintain a number of green infrastructure Best Management Practices (BMPs) that have been installed by PWD and are recognized as a component of the

department's sewer collection system. From January 2007 to June 2008, the teams removed 316 tons of debris, 41 cars, 1,969 tires and 83 shopping carts from Philadelphia's streams. A large component of the team's mission is to work in partnership with the Fairmount Park Commission to restore tributaries and streams that have been significantly damaged over decades by the volume and velocity of flows from sewer outfalls and from the forces of storm water runoff. In FY08, the team completed ten major restoration projects, providing interim stabilization to sites challenged by stormwater runoff that resulted in projects that were well received by Fairmount Park Commission, regulatory agencies and citizens.

AWARDS AND RECOGNITION

The Philadelphia Water Department and the Partnership for the Delaware Estuary Inc. are presented "Jazz up Your Roof" at the 2008 Philadelphia Flower Show. The exhibit won the Pennsylvania Horticultural Society's Best in Show for the category of Non Academic Educational and the Environmental Award for the best demonstration of skillful design that incorporates environmental stewardship. A rendition of a green roof is featured in the exhibit to demonstrate the extensive environmental benefits they provide as well as its ability to help keep stormwater runoff out of Philadelphia's sewers.

The Philadelphia Water Department's three Water Pollution Control Plants have been selected to receive two Platinum and one Gold Peak Performance Award from the National Association of Clean Water Agencies (NACWA). The Southwest Water Pollution Control Plant received its 7th Platinum Peak Performance Award and the Southeast Water Pollution Control Plant received its 5th Platinum Peak Performance Award, while the Northeast Water Pollution Control Plant received its 3rd Gold Peak Performance Award. NACWA's Peak Performance Awards program recognizes member agency facilities for excellence in wastewater treatment as measured by their compliance with their National Pollutant Discharge Elimination System (NPDES) permits. Gold Awards honor treatment plants that have achieved 100 percent compliance for an entire calendar year. Platinum Awards pay special tribute to member agency facilities that have received Gold Awards for five consecutive years.

The Philadelphia Water Department (PWD) will received the Leader in Sustainable Design and Development award from the Pennsylvania Resources Council, Inc. on Thursday, November 8, 2007. This award recognizes the Department's innovative efforts for effective and sustainable solutions to stormwater management. Pennsylvania Resources Council, Inc. (PRC) is a nonprofit organization formed in 1939 whose mission is to promote conservation of natural resources and protection of scenic beauty through public education and outreach by collaborating with government agencies, businesses, charitable foundations and other nonprofit organizations.

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, 2008 AND 2007

(amounts in thousands)

	2008	2007
ASSETS		
Current Assets:		
Cash on Deposit and on Hand	$ 30	$ 30
Equity in Treasurer's Account	51,016	52,531
Due from Other Governments	548	329
Accounts Receivable	190,855	174,663
Allowance for Doubtful Accounts	(80,345)	(75,989)
Inventories	15,408	15,184
Total Current Assets	177,512	166,748
Noncurrent Assets:		
Restricted Assets:		
Equity in Treasurer's Account	344,646	350,933
Sinking Funds and Reserves	107,098	174,475
Grants for Capital Purposes	-	500
Receivables	2,950	2,114
Total Restricted Assets	454,694	528,022
Net Pension Asset	45,279	54,069
Capital Assets:		
Land	5,919	5,919
Infrastructure	1,830,034	1,796,638
Construction in Progress	138,705	115,525
Buildings and Equipment	1,502,137	1,462,116
Accumulated Depreciation	(1,762,760)	(1,687,615)
Total Capital Assets	1,714,035	1,692,583
Total Noncurrent Assets	2,214,008	2,274,674
Total Assets	**2,391,520**	**2,441,422**
LIABILITIES		
Current Liabilities:		
Vouchers Payable	6,670	5,077
Accounts Payable	10,507	11,725
Salaries & Wages Payable	2,984	2,406
Construction Contracts Payable	8,109	5,943
Accrued Expenses	17,197	14,985
Deferred Revenue	7,723	7,430
Funds Held in Escrow	345	345
Current Portion of Long Term Obligations	91,534	92,501
Total Current Liabilities	145,069	140,412
Noncurrent Liabilities:		
Long Term Obligations	1,578,275	1,669,810
Unamortized Discount and Loss	(75,252)	(82,232)
Other Noncurrent Liabilities	20,822	20,153
Total Noncurrent Liabilities	1,523,845	1,607,731
Total Liabilities	**1,668,914**	**1,748,143**
NET ASSETS		
Invested in Capital Assets, Net of Related Debt	112,198	86,345
Restricted For:		
Capital Projects	159,611	84,786
Debt Service	107,098	174,475
Rate Stabilization	183,130	185,612
Unrestricted	160,569	162,061
Total Net Assets	**$ 722,606**	**$ 693,279**

STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET ASSETS
FOR THE FISCAL YEAR ENDED JUNE 30, 2008 AND 2007

(amounts in thousands)

	2008	2007
Operating Revenues:		
Charges for Goods and Services	$ 499,872	$ 487,928
Miscellaneous Operating Revenues	6,421	5,641
Total Operating Revenues	506,293	493,569
Operating Expenses:		
Personal Services	111,030	106,023
Purchase of Services	88,649	77,779
Materials and Supplies	34,079	30,993
Employee Benefits	74,087	66,643
Indemnities and Taxes	5,295	2,889
Depreciation and Amortization	83,648	82,554
Total Operating Expenses	396,788	366,881
Operating Income (Loss)	109,505	126,688
Nonoperating Revenues (Expenses):		
Operating Grants	497	1,278
Interest Income	27,849	31,804
Net Pension Obligation	(9,745)	(10,049)
Debt Service - Interest	(89,357)	(93,069)
Other Expenses	(8,362)	(6,156)
Total Nonoperating Revenues (Expenses)	(79,118)	(76,192)
Income (loss) before Transfers	30,387	50,496
Transfers Out	(4,994)	(4,994)
Capital Contributions	2,979	-
Change in Net Assets	28,372	45,502
Net Assets - Beginning of Period	693,279	650,543
Adjustment	955	(2,766)
Net Assets - End of Period	**$ 722,606**	**$ 693,279**

STATEMENT OF CASH FLOWS
June 30, 2008 (amounts in thousands)

	2008	2007
Cash Flows from Operating Activities		
Receipts from Customers	$ 494,531	$ 494,254
Payments to Suppliers	(123,497)	(106,080)
Payments to Employees	(185,175)	(173,323)
Claims Paid	(4,531)	(2,417)
Other Receipts (Payments)	-	-
Net Cash Provided by Operating Activities	**181,328**	**212,434**
Cash Flows from Non-Capital Financing Activities		
Operating Grants Received	997	744
Operating Subsidies and Transfers to Other Funds	(4,994)	(4,994)
Net Cash Provided by Non-Capital Financing Activities	**(3,997)**	**(4,250)**
Cash Flows from Capital & Related Financing Activities		
Proceeds from Capital Debt		
Capital Contributions Received		
Acquisition and Construction of Capital Assets	(100,755)	(80,661)
Interest Paid on Capital Debt	(82,486)	(89,920)
Principal Paid on Capital Debt	(92,501)	(84,003)
Other Receipts (Payments)		
Net Cash Provided (Used)by Non-Capital Financing Activities	**(275,742)**	**(254,584)**
Cash Flows from Investing Activities		
Interest and Dividends	90,609	30,936
Net Cash Provided by Investing Activities	90,609	30,936
Net Increase (Decrease) in Cash & Cash Equivalents	(7,802)	(15,464)
Balances - Beginning of the Year	403,494	418,958
Balances - End of the Year	**$ 395,692**	**$ 403,494**
Reconciliation of Operating Income (Loss) to Net Cash Provided (Used) by Operating Activities:		
Operating Income (Loss)	109,505	126,688
Adjustments to Reconcile Operating Income to Net Cash Provided (Used) by Operating Activities:		
Depreciation Expense	83,648	82,554
Change in Assets and Liabilities:		
Receivables, Net	(12,055)	177
Inventories	(224)	(544)
Accounts and Other Payables	161	6,502
Accrued Expenses	-	(3,450)
Deferred Revenue	293	507
Net Cash Provided by operating activities	**$ 181,328**	**$ 212,434**

BUDGETARY COMPARISON SCHEDULE
Water Operating Fund
For the Fiscal Year Ended June 30, 2008

(amounts in thousands)

Revenues	Budgeted Amounts Original	Budgeted Amounts Final	Actual	Final Budget to Actual Positive (Negative)
Locally Generated Non-Tax Revenue	$ 616,934	$ 549,048	$ 555,049	$ 6,001
Revenue from Other Governments	1,500	753	464	(289)
Revenue from Other Funds	72,537	52,110	34,247	(17,863)
Total Revenues	**$ 690,971**	**$ 601,911**	**$ 589,760**	**$ (12,151)**
Expenditures and Encumbrances				
Personal Services	111,077	111,128	106,317	(4,811)
Pension Contributions	37,850	35,389	35,389	-
Other Employee Benefits	33,894	37,126	37,126	-
Sub-Total Employee Compensation	182,821	183,643	178,832	4,811
Purchase of Services	116,684	116,661	98,439	18,222
Materials and Supplies	41,248	41,859	40,298	1,561
Equipment	4,076	4,040	3,140	900
Contributions, Indemnities and Taxes	6,603	5,804	4,586	1,218
Debt Service	183,470	183,470	174,986	8,484
Debt Service - Interest	-	-	-	-
Short-Term Interest	-	-	-	-
Payments to Other Funds	169,069	168,494	107,286	61,208
Total Expenditures and Encumbrances	703,971	703,971	607,567	96,404
Operating Surplus (Deficit) for the Year	**$ (13,000)**	**$ (102,060)**	**$ (17,807)**	**$ 84,253**
Fund Balance Available, July 1, 2007	-	-	-	-
Operations in Respect to Prior Fiscal Years				
Commitments Cancelled - Net	13,000	14,000	17,787	3,787
Prior Period Adjustments	-	-	20	20
Adjusted Fund Balance, July 1, 2007	13,000	14,000	17,807	3,807
Fund Balance Available, June 30, 2008	**$ -**	**$ (88,060)**	**$ -**	**$ 88,060**

CITY OF PHILADELPHIA WATER DEPARTMENT

BONDED DEBT FOR THE FISCAL YEAR ENDED JUNE 30, 2008

(amounts in thousands)

Series	ORIGINAL AUTHORIZATION Date	Issued	Outstanding June 30, 2008	Maturities	Interest Rates	FISCAL YEAR 2009 Service Interest	DEBT Principal Requirements	Outstanding June 30, 2009
Revenue Bonds:								
Fourteenth Series	5/15/89 *	$ 158,265	$23,600	10/2007 to 10/2008	N.A.	$ -	$ 23,600	$ -
Series 1993	8/1/93 *	1,157,585	185,405	6/2008 to 6/2011	5.50 to 7.00	12,389	42,855	142,550
Series 1995	04/15/95	221,630	60,020	8/2007 to 8/2012	5.30 to 6.25	3,422	10,550	49,470
Series 1997 (A)	10/15/97	250,000	-	8/2007	5.00 to 5.25	-	-	-
Series 1997 (B)	11/25/97	100,000	81,100	8/2007 to 8/2027	Variable	6,495	2,600	78,500
Series 1998	12/25/98	135,185	135,185	12/2011 to 12/2014	5.25	7,097	-	135,185
Series 1999	07/07/99	33,040	-	12/2006	5.00	-	-	-
Series 2001	11/15/01	285,920	137,875	11/2011 to 11/2028	3.800 to 5.500	7,069	-	137,875
Series 2003	04/01/03	381,275	371,175	6/2008 to 6/2023	Variable	16,777	1,145	370,030
Series 2005 (A)	05/04/05	250,000	243,730	7/2007 to 7/2035	3.250 to 5.250	12,019	4,290	239,440
Series 2005 (B)	05/04/05	86,105	84,035	8/2007 to 8/2018	Variable	3,798	370	83,665
Series 2007 (A)	05/04/07	191,440	188,625	8/2007 to 8/2027	4.00 to 5.00	8,912	4,300	184,325
Series 2007 (B)	05/04/07	153,595	153,505	11/2007 to 11/2031	4.00 to 5.00	6,975	195	153,310
Pennvest	04/30/00	6,700	942	7/2007 to 4/2019	1.41 to 2.73	20	443	499
Total Revenue Bonds		**3,410,740**	**$1,665,197**			**84,974**	**90,348**	**1,574,849**
General Obligation Bonds:								
Pennvest	06/15/93	20,000	4,613	07/2007 to 04/2012	1.00	41	1,186	3,426
Total Bonded Debt			**$1,669,810**			**85,015**	**91,534**	**1,578,275**

* Partially Refunded

ANNUAL BONDED DEBT SERVICE REQUIREMENT:

Fiscal Year	Interest	Principal	Total
2009	85,015	91,534	176,549
2010	81,265	95,164	176,429
2011	75,029	100,849	175,878
2012	67,307	107,908	175,215
2013	61,631	115,540	177,171

The First Series through the Thirteenth were refunded.

Capitalized Interest added to Construction in Progress in Fiscal 2008 was $6,045,229.
Interest Expense was reduced by the same amount.

SUPPLEMENTAL SCHEDULE OF RATE COVENANT COMPLIANCE FOR FISCAL YEAR ENDED JUNE 30, 2008 (Legally Enacted Basis)

(amounts in thousands)

LINE NO.		2008
1.	Total Revenue and Beginning Fund Balance	$597,805
2.	Net Operating Expense	-334,732
3.	Transfer (To) From Rate Stabilization Fund	9,763
4.	**Net Revenues**	**272,836**
5.	Revenue Bonds Outstanding	-173,759
6.	General Obligation Bonds Outstanding	0
7.	Pennvest Loan	-1,227
8.	**Total Debt Service**	**-174,986**
9.	**Net Revenue after Debt Service**	**97,850**
10.	Transfer to General Fund	-4,994
11.	Transfer to Capital Fund	-16,926
12.	Transfer to Residual Fund	-75,930
13.	**Total Transfers**	**-97,850**
14.	**Net Operating Balance for Current Year**	**0**

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 is such fiscal year; (ii) amounts required to be deposited of Subordinated Bonds) payable in such fiscal year; (ii) amounts required to be deposited into the Debt Reserve Account during such fiscal year; (iii)debt service on all General Obligations Bonds issued for the Water and Wastewater Systems payable is such fiscal year; (iv) debt service payable on Interim Debt in such fiscal year; and (v) 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.

[1] Transfer includes $64,325,000 to Special Water Infrastructure Account within Residual Fund and $11,605,102.22 to the regular Residual Fund

COVERAGE A:	
Line 4	**$272,836**
/ Line 5	**$173,759**
= COVERAGE A:	**1.57**

COVERAGE B:	
Line 4	**$272,836**
/ Line 8 + Line 11	**$191,912**
= COVERAGE B:	**1.42**

COVERAGE C:	
Line 4 - Line 3	**$263,073**
/ Line 5	**$173,759**
= COVERAGE C:	**1.51**

1. THE GOVERNMENT OF PHILADELPHIA

The City of Philadelphia was founded in 1682 and was merged with the county in 1854. The City currently occupies an area of 129 square miles along the Delaware River, serves a population in excess of 1.4 million and is the hub of a five county metropolitan area including Bucks, Chester, Delaware, and Montgomery counties in Southeastern Pennsylvania.

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 customers are residents of the city and approximately 9% are from Bucks County. Philadelphia has experienced a long trend of industry and population loss since 1950, with a particularly sharp economic retreat hitting in the late 1980's and early 1990's. The late 1990's saw a resumption of growth, with employment up 5.7% between 1998 and 2001, and then down about 1.6% between 2001 and 2003, reflecting the slowdown in the national economy. The decline flattened in fiscal 2004 and then grew by about 1.0% in 2005, 0.9% in 2006, and 0.7% in 2007. Results for the first two months of 2008 demonstrate continued growth, with each month showing an increase over the same month of the prior year. Manufacturing has continued to decline in importance, and diversified services now account for 54% of total employment (or more than 60% including the finance/insurance/ real estate sector). Population loss during the 1990's was just over 4%, although this was only about half the loss that had been estimated prior to the 2000 census count. With an estimated 1.45 million residents, the city remains the nation's fifth most populous. 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 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 **G**enerally **A**ccepted **A**ccounting **P**rinciples. 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 and Water Revenue Bureau serve the Greater Philadelphia region by providing integrated water, wastewater, and storm water 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 storm water 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 customers, issues the invoices for the services provided by the Water Department, 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 the 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 amendment 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 6/30/08	$ ---0----
Assets omitted from the legal basis:	
(1) Receivables from Other Governments or Funds	$ 31,991
(2) Fixed Assets-Net of Depreciation	1,714,035
(3) Restricted Assets	454,694
(4) Proprietary Portion of Net Pension Obligation	45,279
	$ 2,245,999
Liabilities omitted from the legal basis:	
(5) Construction Contracts Payable	$ (8,109)
(6) Other Current Liabilities	(116,664)
(7) Bonds Payable and Other Long-Term Debt	(1,523,845)
	$(1,648,618)
Fund Balance accounts included in the legal basis:	
(8) Reserve for Collectible Receivables	$ 73,015
(9) Reserve for Inventories	15,407
(10) Reserve for Purchase Commitments	31,079
	$ 119,501
Equity accounts omitted from the legal basis:	
(11) Invested in Capital Assets, Net of Related Debt	(112,198)
(12) Restricted for Capital Projects	(159,611)
(13) Restricted for Debt Service	(107,098)
(14) Restricted for Rate Stabilization	(183,130)
	$ (562,037)

Unrestricted Net Assets – GAAP Basis – 6/30/2008 $ 154,845

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 ordinance of 1989, amended 1993, which authorized the issuance of Water and Sewer Revenue Bonds, hereby 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 etal. 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:

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

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 2008 was $6,045,229.

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, 2008 are included in accounts receivable. In addition an amount for services rendered through June 30, 2008, 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. 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.

M. 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.

N. 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.

O. 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 2008, excess interest earnings of $4,994,000 were transferred to the General Fund of the City.

3. ACCOUNTS RECEIVABLE

Balances consisted of the Following:

FISCAL YEAR ENDED JUNE 30, 2008

Accounts Receivable:	
Billed in the Last Twelve Months	$ 103,826,211
Billed in 15-year Cycle Billing	41,032,082
Penalties on Receivables	21,214,865
Other Receivables	19,057,443
Total	**$185,130,601**
Bad Debts Written Off	$ 5,783,364

ALLOWANCE FOR DOUBTFUL ACCOUNTS:

Billed in the Last Twelve Months	$ 0
Billed in 15-year Cycle Billing	46,335,611
Penalties on Receivables	21,534,272

Other Receivables	12,474,904
Total	**$80,344,787**

FISCAL YEAR ENDED JUNE 30, 2007

Accounts Receivable:

Billed in the Last Twelve Months	$ 86,119,749
Billed in 15-year Cycle Billing	47,607,358
Penalties on Receivables	24,614,487
Other Receivables	16,321,080
Total	**$174,662,674**
Bad Debts Written Off	$ 8,403,718

ALLOWANCE FOR DOUBTFUL ACCOUNTS:

Billed in the Last Twelve Months	$ 0
Billed in 15-year Cycle Billing	43,683,227
Penalties on Receivables	20,751,628
Other Receivables	11,554,577
Total	**$75,989,431**

4. THE TEN LARGEST RETAIL CUSTOMERS OF THE PHILADELPHIA WATER DEPARTMENT DURING FISCAL YEAR 2007

Customer	Billings (Millions)	% of total Billings	Consumption (MGD)	% of total Consumption
City of Philadelphia	$22.578	4.70%	8.66	5.01%
Philadelphia housing Authority	10.645	2.22	1.81	1.05
Philadelphia school District	6.036	1.26	1.33	0.77
University of Penna.	4.990	1.04	2.26	1.31
Trigen Corporation	2.989	0.62	1.84	1.06
US Government	2.648	0.55	1.37	0.79
Sunoco	2.369	0.49	2.38	1.37
Temple University	1.335	0.28	0.59	0.34

SEPTA	**1.197**	**0.25**	**0.22**	**0.13**
Activity Packaging LLC	**1.083**	**0.23**	**1.45**	**0.84**
Total top ten	**$55.870**	**11.64%**	**21.92**	**12.68%**
Total retail billings	**$479.946**		**172.95**	

5. PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment at June 30, 2008 and 2007 consisted of the following:

Fiscal Years Ended	**June 30, 2008**	**June 30, 2007**
Land	$ 5,919,160	$ 5,919,160
Buildings and related improvements	1,437,250,325	1,403,157,790
Meters and other improvements	81,306,927	80,461,201
Equipment	64,886,823	58,958,365
Transmission and distribution lines	1,748,726,640	1,716,176,413
Construction in progress	138,705,334	115,524,780
Total	$3,476,795,209	$3,380,197,709
Less: Accumulated Depreciation	(1,762,759,576)	(1,687,615,071)
Total	**$1,714,035,630**	**$1,692,582,637**

6. 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 1990's, the grit, scum and screenings incinerators and related handling equipment at our waster water plants which were abandoned due to clean air permit 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. Processing of the remaining compost material on the site will actually continue until approximately October of this year. A permanent solution for sludge processing that does not involve composting is still in the 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.

7. 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 2008 was $9,678,048 and in 2007 was $9,487,527. The expense for vacation pay is recognized in the year earned.

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8. 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 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.

9. CAPTALIZED LEASES

Leases consist of $867,545 in photocopier and computer equipment in Fiscal 2008. Capital leases are defined by the Financial Accounting Standard Board in Statement 13, Accounting for Leases.

10. 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 2008 the fund had the following activity:

Balance at July 1, 2007	$185,611,708
Transfer to Operating Fund	$ 9,763,009
Interest Earnings	$ 7,281,379
Balance at June 30, 2008	$183,130,078

11. 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 2008 the fund had the following activity:

Balance at July 1, 2007	$ 1,697,310
Interest income	1,531,777
Deposit from Operating Fund	80,924,101
Transfer to General Fund	(4,994,000)
Transfer to Capital Projects Fund	(12,600,000)
Balance at June 30, 2007	$ 66,559,188

Note: $64,320,000 Reserved for Prior Year encumbrances. (New River City Project)

12. 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 balance of the Sinking Fund Reserve at 07/01/2007 was $174,753,704.

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:

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

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

13. 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.

14. 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. In Fiscal 2005, $30,077 was paid. As of June 30, 2005 there was no arbitrage liability. There was no Arbitrage liability incurred during FY 2006. There was no Arbitrage liability incurred during FY 2007. As of June 30, 2008 there was an arbitrage liability was $571,496.00..

15. 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. At year end, $364.4 million of bonds outstanding was considered defeased.

In May 2007, the City issued $191.4 million of Water & Wastewater Revenue refunding Series 2007A and $153.6 million Water & Wastewater Revenue refunding Series 2007B bonds. The proceeds of the bonds were used to refund a portion of the 1997A Series Water and Wastewater Revenue Bonds maturing from 2008 through 2031 in the amount of $341.5 million and to advance refund a portion of the Series 2001A Water & Wastewater Revenue Bonds. The refunding structure of the bonds generated approximately $14.5 million in net present value savings or 4.22% of the principal amount of the refunded bonds. This early extinguishing of debt resulted in an accounting loss of approximately $17.1 million representing the difference between the reacquisition price of $353.7 million and the amount of debt extinguished of $341.5 million (less $4.9 million unamortized discount). The resulting loss attributed to the Series 1997A and Series 2001A bonds, $17.1 million, will be amortized over the life of the refunded bonds at a rate of $66,238.95 monthly through November 2031.

Interest Rate Swaption

City Entity	**Water**	**Water**	**Water**	**Water**
Related Bond Series	2003 Refunding	2005 Refunding	2009 Forward	2009 Forward
Initial Notional Amount	$381,275,000	$86,105,000	$90,000,000	$90,000,000
Current Notional Amount	$371,175,000	$84,035,000	$90,000,000	$90,000,000
Termination Date	6/15/2023	8/1/2018	1/1/2037	1/1/2037
Product	Fixed Payer Swap (1)	Fixed Payer Swap (2)	Fixed Payer Swap	Fixed Payer Swap
Rate Paid by Dealer	Bond Rate / 68.5% 1-month LIBOR	Bond Rate / 68.5% 1-month LIBOR	SIFMA	SIFMA
Rate Paid by City Entity	4.52%	4.53%	4.1184%	4.1184%
Dealer	Citigroup Financial Products, Inc.	Citigroup Financial Products, Inc.	Wachovia Bank, N.A.	Merrill Lynch Capital Services, Inc.
Dealer Rating	Aa3/AA- (Citigroup Inc.)	Aa3/AA- (Citigroup Inc.)	Aa1/AA	A1/A (Merrill Lynch & Co.)
Fair Value (3)	(34,222,897)	(8,300,650)	(2,184,819)	(2,184,819)

Notes:
(1) The City received an upfront payment of $24,989,925.68 for the related swaption. Citigroup exercised its option to enter into the swap on 3/18/2003. 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) 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.
(3) Fair values are shown from the City's perspective and include accrued interest.

City of Philadelphia 2003 Water & Sewer Swap

Objective. In December of 2002, the City entered into a swaption that provided the City's Water and Sewer Department with an up-front payment of $24,989,926. As a synthetic refunding of all or a portion of its 1993 Bonds, this payment approximated the present value savings, as of December, 2002, of a refunding on March 18, 2003 based

upon interest rates in effect at the time. The swaption gave Citigroup (formerly 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 the swap on March 18, 2003 and the swap commenced on that date. Under the terms of the swap, the City pays a fixed rate of 4.52% 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 rates are based on an amortizing notional schedule (with an initial notional amount of $381,275,000) and when added to an assumption for remarketing, liquidity costs and cost of issuance will approximate the debt service of the refunded bonds.

As of June 30, 2008, the swap had a notional amount of $371,175,000 and the associated variable-rate bond had a $371,175,000 principal amount. The bonds' variable-rate coupons are not based on an index but on remarketing performance. The bonds mature on June 15, 2023 and the related swap agreement terminates on June 15, 2023.

Fair Value. As of June 30, 2008, the swap had a negative fair value of ($34,222,897). This means that the City's Water and Sewer Department would have to pay this amount if the swap terminated.

Risks. As of June 30, 2008, the City was 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 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 rating of Citigroup or its Credit Support Provider falls below Baa3 or and BBB-, or by Citigroup if the rating of the City's water and wastewater revenue bonds falls below Baa3 or and BBB-. However, because the City's swap payments are insured by FSA, no termination event based on the City's water and wastewater revenue bond ratings can occur as long as FSA is rated at least A or A2.

As of June 30, 2008, the rates were:

	Terms	Rates
Fixed payment to Citigroup under Swap	Fixed	4.52%

Variable payment from Citigroup under Swap	68.5% of 1M LIBOR	(1.68681%)
Net interest rate swap payments		2.83319%
Variable rate bond coupon payments	Weekly resets	1.52%
Synthetic interest rate on bonds		4.35319%

Swap payments and associated debt. As of June 30, 2008, debt service requirements of the variable-rate debt and net swap payments for their term, assuming the current interest rates remain the same, were as follows:

Fiscal Year Ending June 30	Variable Rate Bonds Principal	Variable Rate Bonds Interest	Interest Rate Swaps Net	Total Interest
2009	$ 1,145,000	$ 5,641,860	$ 10,516,093	$ 16,157,953
2010	1,205,000	5,624,456	10,483,653	16,108,109
2011	1,260,000	5,606,140	10,449,513	16,055,653
2012	41,195,000	5,586,988	10,413,815	16,000,803
2013	43,205,000	4,960,824	9,246,682	14,207,506
2014-2018	214,210,000	13,440,144	25,051,633	38,491,777
2019-2023	68,955,000	3,248,164	6,054,385	9,302,549
	371,175,000	44,108,576	82,215,774	126,324,350

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 $4,000,000. 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 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 the swap on 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 rates are based on an amortizing notional schedule (with an initial notional amount of $86,105,000) and when added to an assumption for remarketing, liquidity costs and cost of issuance will approximate the debt service of the refunded bonds.

As of June 30, 2008, the swap had a notional amount of $84,035,000 and the associated variable-rate bond had an $84,035,000 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, 2008, the swap had a negative fair value of ($8,300,650). This means that the Water Department would have to pay this amount if the swap terminated.

Risks. As of June 30, 2008, 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 Baa3 and BBB-, or by Citigroup if the rating of the City's water and wastewater revenue bonds falls below Baa3 and BBB-. However, because the City's swap payments are insured by FSA, no termination event based on the City's water and wastewater revenue bond ratings can occur as long as FSA is rated at least A or A2.

As of June 30, 2008, the rates were:

	Terms	Rates
Fixed payment to Citigroup under Swap	Fixed	4.53%
Variable payment from Citigroup under Swap	68.5% of 1M LIBOR	(1.68681%)
Net interest rate swap payments		2.84319%
Variable rate bond coupon payments	Weekly resets	1.52%
Synthetic interest rate on bonds		4.36319%

Swap payments and associated debt. As of June 30, 2008, debt service requirements of the variable-rate debt and net swap payments for their term, assuming the current interest rates remain the same, were as follows:

Fiscal Year Ending June 30	Variable Rate Bonds Principal	Variable Rate Bonds Interest	Interest Rate Swaps Net	Total Interest
2009	$ 370,000	$ 1,277,332	$ 2,389,275	$ 3,666,607

2010	390,000	1,271,708	2,378,755	3,650,463
2011	405,000	1,265,780	2,367,666	3,633,446
2012	425,000	1,259,624	2,356,152	3,615,776
2013	450,000	1,253,164	2,344,068	3,597,232
2014	14,820,000	1,246,324	2,331,274	3,577,598
2015	15,535,000	1,021,060	1,909,913	2,930,973
2016	16,315,000	784,928	1,468,223	2,253,151
2017	17,145,000	536,940	1,004,357	1,541,297
2018	18,015,000	276,336	516,892	793,228
2019	165,000	2,508	4,691	7,199
	$ 84,035,000	$ 10,195,704	$ 19,071,266	$ 29,266,970

City of Philadelphia Forward-Starting Water and Wastewater Swaps

Objective. In February of 2007, the City entered into two forward starting swaps to take advantage of the current low interest rate environment in advance of the issuance of water and wastewater revenue bonds expected to be issued by the City in 2008.

Terms. The notional amount was evenly split between two counterparties, Merrill Lynch Capital Services, Inc. and Wachovia Bank, N.A. Both swap confirmations were amended in December 2007 to move the swap start date from February 2008 to February 2009 as the bond issuance had been delayed. The termination date is the same for both swaps and is January 2037. The swaps were priced based on an amortizing notional schedule with a combined $180,000,000 initial notional amount. Under the swaps, the City will pay a fixed rate of 4.1184% and will receive a variable rate equal to the SIFMA Municipal Swap Index.

Fair Value. As of June 30, 2008, the swaps taken together had a negative fair value of ($4,369,638). This means that the Water and Sewer Department would have to pay this amount to terminate these swaps.

Risks. As of June 30, 2008, the City is not exposed to credit risk because the swaps had a negative fair value. Should interest rates change and the fair value of the swaps become positive, the City would be exposed to credit risk in the amount of the swaps' fair value. The City is subject to traditional basis risk should the relationship between SIFMA and the bonds change; if SIFMA resets at a rate below the variable rate bond coupon payments, the synthetic interest rate on the bonds will increase. The swaps include additional termination events based on credit ratings. The swap may be terminated by the City if Merrill Lynch's guarantor (Merrill Lynch & Co.) or Wachovia fails to have a rating of at least Baa2 or higher or BBB or higher, or by Merrill Lynch or Wachovia if the City fails to have a rating of at least Baa2 or higher or BBB or higher.

16. BOND RATING UPDATE OF AUGUST 2008:

*Moody's Investors Se*rvice has “affirmed the A3 underlying rating and stable outlook on the City of Philadelphia's outstanding Water and Wastewater Revenue Bonds, affecting approximately $1.6 billion of bonds… The A3 rating reflects the system's strong management, improved financial operations, significant cash balances in the Rate Stabilization Fund, ongoing improvements in environmental compliance…The management team of this large combined water and wastewater system has produced a strong record of operational and financial achievements over the past decade. Operational achievements include continued improvements in environmental compliance, launch of a proactive water main replacement program that has significantly reduced the number of main breaks, and the installation of automatic meters for a significant proportion of residential customers. In addition to the resulting improvements in billing accuracy, the billing cycle was accelerated to a monthly basis, and both have led to an increase in collection rates from 87.3% in fiscal 2000 to 91% consistently in the last three fiscal years ending with 2007. On the financial side, operating costs have been well controlled, with significant reductions in some areas such as contracted electricity costs and costs of operating the biosolids recycling center. As discussed in detail below, management has been able to maintain significant cash balances that support the system's working capital needs, help with rate stabilization, and provide for contingencies.
The credit outlook for the city's Water and Wastewater Revenue Bonds remains stable. The outlook reflects our anticipation of continued good operating and financial management, including maintenance of healthy (though possibly reduced) balances in the Rate Stabilization and Residual Funds and/or satisfactory coverage.

Standard & Poor's Ratings Services raised its standard long-term rating and Standard & Poor's underlying rating (SPUR) on Philadelphia, Pa.'s water and sewer revenue debt one notch to 'A' from 'A-' based on “the system's stable financial performance, resulting in the utility's persistently satisfactory coverage ratios on senior-lien debt of 1.2x; consistently strong management team; and sound overall system operations with ample capacity. The outlook is stable. Philadelphia's well-experienced utility management team continues to emphasize, and is achieving, improved system maintenance, stronger collections, and more-comprehensive fiscal monitoring systems. Although still below average, collections have continued to improve, resulting in a decline in significant receivables, bad debt write-offs, and service shutoffs for fiscal 2007. The stable outlook reflects Standard & Poor's expectation that the water department will adopt the currently proposed rate increases to continue to maintain current satisfactory coverage as rate stabilization reserves are drawn on, as forecast over the next several years.”

From Standard & Poor’s RatingDirect issued August 15, 2008:

CITY OF PHILDELPHIA'S (WATER) BOND RATINGS			
YEAR	MOODY'S INVESTOR'S SERVICE	STANDARD & POORS CORP.	FITCH IBCA
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	

Standard & Poor's has assigned Philadelphia an overall DDP score of '2', reflecting our view that Philadelphia's water-and-sewer-enterprise-fund-related swap portfolio is currently a neutral credit risk due to:

· The system's limited counterparty risk, given significant trigger spreads;
· The swap's above-average economic viability;
· The system's good management practices with a formal swap management policy; and
· A remote termination risk.

Philadelphia has two water-and-sewer-enterprise-fund-related swaps. The city's floating to fixed swaps, in conjunction with the series 1993 and 1995 water and wastewater revenue bonds, are with Citigroup (AA). Counterparty risk was low due to the trigger spread between the counterparty's rating and a credit event. In addition, due to the low degree of termination risk because swap termination payments are insured by Financial Security Assurance and the swap's above-average economic viability, Standard & Poor's is not currently factoring in these values as contingent liabilities for the city.

17. 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 maintains 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. Both of these two plans have multiple divisions.

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 that 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, 2008 was as follows:

Employee Group	Number
Retirees and beneficiaries	
Currently receiving benefits	35,527
Terminated members entitled to	
Benefits but not yet receiving them	1,301
Active members	28,354
Total Members	**65,182**

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 of the unfunded actuarial accrued liability determined as of July 1, 1985. The portion of that liability attributable to a class action lawsuit by pension fund beneficiaries (the Dombrowski suit) is amortized in level installments, including interest, over 40 years through June 30, 2009. The remainder of the liability is amortized over 34 years with increasing payments expected to be level as a percentage of each year's aggregate payroll.

- 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 $517.9 million or 35.4 % of covered payroll of $1,461.6 million.

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

Annual Pension Cost and Net Pension Obligation
The City and other employers' annual pension cost and net pension obligation for the Municipal Pension Plan for the current year were as follows:

(Amounts in Thousands of USD)

Annual Required Contribution (ARC)	536,874
Interest on Net Pension Obligation (NPO)	(60,685)
Adjustment to ARC	84,785
Annual Pension Cost	560,974
Contributions Made	426,934
Increase in NPO	134,040
NPO at beginning of year*	(693,545)
NPO at end of year	(559,505)
Interest Rate	8.75 %
15 Year amortization Factor (EOY)	8.18 %

* The NPO at the beginning of the year differs from the NPO at June 30, 2007 by $13.0 million due to a recalculation of the Contributions made during FY 2007.

The actuarial valuation to compute the current year's required contribution was performed as of July 1, 2008. Methods and assumptions used for that valuation include:

- The individual entry age actuarial cost method
- A five-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 8.75%
- Projected annual salary increases of 5% (including inflation)
- Annual inflation of 2.75%
- No post-retirement benefit increases

Under the City's funding policy, the recommended contribution for the City for the current year amounted to $477.5 million. The City's actual contribution was $419.2 million. The City's contribution did meet the Minimum Municipal Obligation (MMO) as required by the Commonwealth of Pennsylvania's Acts 205 and 189. The Annual

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

Fiscal Year Ended June 30	Annual Pension Cost	Percentage Contributed	Net Pension Obligation
	(In Millions)		(In Millions)
2006	426.0	77.88%	(817.6)
2007	556.3	75.36%	(680.5)
2008	561.0	76.10%	(559.5)

Future Financings

Approximately 70% of the costs of the Capital Improvement Program are expected to be funded
with the proceeds of debt to be incurred during the six-year period. 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.

The Capital Improvement Program provides for the issuance of revenue bonds in the anticipated
principal amount (exclusive of original issue discount) of $325,000,000 near the beginning of Fiscal Year 2008. See “SECURITY FOR THE BONDS – Additional Bonds.” 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 2011 as necessary to fund the approved capital program. See APPENDIX II – “ENGINEERING REPORT.” 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.

(c) 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. Investments are valued as described in Footnote M.

(d) OTHER POST EMPLOYMENT BENEFITS (OPEB)

Primary Government

Plan description: The City of Philadelphia 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.

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 or pays the health care providers directly for non unionized employees. For fiscal year 2008, the City paid $75.8 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 cost each year and amortize any unfunded actuarial liabilities over a period not to exceed thirty (30) 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)

Annual required contribution	83,249
Interest on net OPEB obligation	124
Annual OPEB cost	83,373
Payments made	(79,705)
Increase in net OPEB obligation	3,668
Net OPEB obligaton - beginning of year	-
Net OPEB obligaton - end of year	3,668

Funded Status and Funding Progress: The City is funding OPEB on a pay as you go basis and accordingly, the unfunded actuarial accrued liability for benefits was $1.1 billion. The covered annual payroll was $ 1.5 billion and the ratio of the UAAL to the covered payroll was 73.3 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 3.5% compound annual interest rate on the City's general investments.

18. 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 $1.5 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 $3.2 million.

19. ENHANCED SECURITY

In light of the events of September 11, 2001, when terrorists struck targets in the United States, the Water Department took steps to improve the security of the City's water supply and all other major Water Department facilities and assets. These steps were taken in close coordination with the City's Managing Director's Office and all other appropriate City agencies and departments. The Water Department is a representative agency in the City of Philadelphia Emergency Operations Center. This facility is designed to permit City emergency personnel to respond quickly to any major event through specialized computer and communications equipment, including a backup 911 system. This center can accommodate around the clock staffing by officials from the Police, Fire, and Health Departments, Water Department and additional City agencies.

The Water Department remains in contact with federal, state, and local law enforcement and emergency personnel.

The Water Department has performed a vulnerability analysis of its entire potable water system. The work was primarily funded by the EPA and the Water Department delivered its report to the EPA on March 31, 2003. Details of the enhanced security measures already taken and those presently under consideration cannot be disclosed. It should be noted that the Water Department had an extensive water quality protection and security plan in place prior to the events of September 11, 2001. All finished water basins are completely covered; all plants are fenced in and topped by barbed wire; gates are secured; video surveillance equipment has been installed; and the Water Department continues to draw and conduct nearly one thousand tests on water samples from various locations each day. Municipal Guards were assigned to the main entrance at each water plant in 2003 to control access to the facility to only authorized persons and/or deliveries.

To further ensure the safety and quality of the City's drinking water, the Water Department will continue to expand its network to continuously monitor water quality using online instrumentation. The system provides the Department with the ability to track real-time water quality conditions at selected locations throughout the City's water distribution system and to monitor any variations should they occur.

Water quality data is currently transmitted from six monitoring sites to the Water Department's central laboratory where technicians check for early warning signs of water quality deterioration and document any unforeseen changes. Plans are in place to expand the monitoring system for the distribution system to include the three reservoirs, the three stand tanks and two other remote points. In addition, an online system is under installation at the City's three water treatment facilities to monitor raw and finished water. The Water Department plans to assess the performance of the monitoring system at the current locations while continuing to investigate alternative technology for further installations at wholesale customer interconnects, pumping stations and other critical points in the distribution system. In Fiscal Year 2008 the Department has included $150,000 for this program's expansion in its budget request.

The City of Philadelphia recently received a grant to design and install Emergency Back-up Power generation at key facilities. The Water Department's treatment and finished water pumping stations were included. The Belmont High Service Pumping Station was targeted as the initial site for Back-up Power and the generator has been installed. In Fiscal Year 2006 the Water Department is designing Emergency Back-up Power generation for the Belmont and Baxter Water Treatment Plants, East Oak Lane Reservoir Pump Station and Fox Chase Booster Pumping Station. The remainder of the Water Department facilities are scheduled for design and construction over the next seven Fiscal Years with the final facility being in-service in 2013.

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Financial Statements
For Fiscal Year Ended June 30, 2007

Philadelphia
PWD
Water Department

CITY OF PHILADELPHIA WATER DEPARTMENT

2007 FINANCIAL STATEMENTS

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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 storm water effectively. The PWD operates three water plants treating an average of nearly 300 million gallons of Delaware and Schuylkill river water each day, three wastewater plants cleaning over 450 million gallons per day of sewage, a 73-acre biosolids recycling facility, a sophisticated testing laboratory, and a range of technical and administrative support services. In addition, the Department maintains 3,300 miles of water mains, 3,000 miles of sewers, 75,000 storm water inlets, over 27,500 fire hydrants, and extensive related infrastructure. The Water Revenue Bureau (WRB) of the Department of Revenue manages water and sewer billings and collections for the Water Department.

The Water Department management 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 1.08, and a net operating revenue bond coverage ratio of 1.35 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* $693.3 million resulting from an excess of its assets over its liabilities; its unrestricted net assets showed a balance of $162.1 million.

The Water Fund's net assets showed an increase of $42.7 million during the current Fiscal Year compared with 34.2 million for the prior fiscal year. This increase was primarily due to the following:

- A 4.2% water and sewer rate increase effective on July 1, 2007 which resulted in a $22.4 million increase in revenue collections.
- A $8.7 million increase in interest earnings on the Sinking Fund and other investments.
- A $7.6 million decrease in interest expense.

- A $2.6 million decrease in the Allowance for bad debt

These increases in the Water Fund's net assets were offset by the following:

- A $3.8 million increase in employee benefits expense.
- A $3.4 million increase in the purchase of materials and supplies.
- A $7.3 million increase in personal services
- A $9.3 million increase in the purchase of services
- A 3.7 million increase in depreciation expense

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 it's liabilities by $693.3 million

Capital assets, such as land, buildings, meters, water mains, and sewer lines, less any outstanding debt issued to acquire these assets comprise $86.3 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, $531.2 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 $162.1 million.

Bond Issuance

During FY2007, the Department was authorized to issue additional Water and Wastewater Revenue Bond in the aggregate principal amount of $325,000,000. These bonds have not yet been issued. The proceeds of the bonds will be applied to (i) fund capital improvements to the City's Water and Wastewater Systems (as hereinafter defined), (ii) fund a Debt Reserve Account of the Sinking Fund (as hereinafter defined) relating to the bonds, and (iii) pay costs of issuance relating to the new bonds. In February, 2007 the City entered into a "rate lock" agreement with two counterparties for a $180,000,000 portion of these bonds which has a execution date of not later than February 21, 2008, unless extended by the parties. These agreements were recently extended by the City until February 2009.

The Department also issued $345,035,000 of Water and Wastewater Revenue Refunding Bonds, Series 2007A & 2007B. The proceeds of the 2007A Bonds were used to refund the remaining portions of the City's Water and Wastewater Revenue Bonds, Series 1997A and to pay costs of issuance relating to the Bonds. The proceeds of the 2007B Bonds were used to refund a portion of the

City's Water and Wastewater Revenue Bonds, Series 2001A and to pay costs of issuance relating to the Bonds. The transaction resulted in net present value savings in excess of $14.5 million in future debt service expense. These savings will primarily be recognized in FY09 through FY12, and will help to moderate rate increases during these years. All three of the major bond rating agencies (Moody's, Standard and Poor's and Fitch) affirmed their ratings for the Water Department.

Water and Wastewater Rates

In terms of rates, the PWD continues to have some of the lowest rates in the region for water, wastewater, and storm-water services. The PWD has had great success in containing costs, increasing employee productivity, and improving services. The impact of these cost-saving measures has been to keep services high, and rates low. From FY97 through FY07 the Department increased rates in six of ten years, adding up to a total increase for residential customers of 33.0 percent during the entire ten-year period. This rate of increase is well below the Philadelphia Consumer Price Index that measured 34.91 percent during the same period.

In July of 2005, the Water Department announced a revision of rates for the period covering FY06 through FY08. These rates were needed to offset increased costs and additional debt service required to support PWD's extensive capital program. For the typical PWD residential customer, the rate revision translated into an increase of 1.9 percent or a $0.88 monthly increase that began on August 1, 2005; a 6.7 percent or a $3.20 monthly increase starting July 1, 2006; and a 4.2 percent or a $2.14 monthly increase starting July 1, 2007. These rates and charges will enable the Philadelphia Water Department to meet its obligations under the Charter of having a balanced budget through FY08. The Department anticipates that further rate revisions will be required in FY09. The Department is currently in the process of conducting a comprehensive cost of service rate study, and the amount of the rate revision will not be known until completion of the study and the mandated rate process.

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 storm-water 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 following table, PWD's water rates are less than half those charged by many neighboring investor-owned utilities.

2007 Regional Residential Water and Sewer Charges*		
	Monthly Water Bill	**Monthly Sewer Bill**
Aqua Pennsylvania+	$45.60	N/A
Pennsylvania American Water+	$41.53	N/A
New Jersey American Water+	$33.53	N/A
North Penn Water Authority +	$23.68	N/A
North Wales Water Authority +	$22.85	N/A
Doylestown Township	$30.23	$49.76
CCMUA (Camden County) **	N/A	$26.25
Trenton	$21.58	$23.30
Philadelphia Water Department	***$20.36***	***$19.87***

Rates in effect on November 13, 2007. Storm water charges ($9.12) are excluded from sewer calculations, because many jurisdictions fund such services from the general tax base or a separate utility assessment.
*Calculations based on 5,236 gallons/month (700 cu.ft.)
** Sewer-only utility.
+ Water-only utilities.

Source: Philadelphia Water Department

Bond Ratings

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

City of Philadelphia's Bond Ratings
General Obligation and Revenue Bonds

	Moody's Investors Service	**Standard & Poors Corporation**	**Fitch IBCA**
General obligation bonds	Baa1	BBB	BBB+
Water & sewer revenue bonds	**A3**	**A-**	**A-**
Aviation revenue bonds	A3	A	A

The following excerpt accompanied the affirmed A3 rating of Moody's Investors service issued in March, 2007: "The management team of this large combined water and wastewater system has produced a strong record of operational and financial achievements over the past decade. Operational achievements include continued improvements in environmental compliance, launch of a proactive water main replacement program that has significantly reduced the number of

main breaks, and installation of automatic meters for a significant proportion (To date 99.3%.) of residential customers. In addition to the resulting improvements in billing accuracy, the billing cycle was accelerated to a monthly basis. On the financial side, operating costs have been well controlled, with significant reductions in some areas such as contracted electricity costs and costs of operating the biosolids recycling center… management has been able to maintain significant cash balances that support the system's working capital needs, help with rate stabilization, and provide for contingencies."

The following excerpt accompanied the affirmed A- rating of Fitch issued in March, 2007: Due to the management team's history of conservative budgeting and the system's solid operating performance, Fitch expects the system's trend of actual results outperforming projections to continue and the maintenance of a healthy cushion in the RSF.

The system's proposed capital improvement plan (CIP) for fiscal 2008-2013 totals $952, up almost $200 million over the fiscal 2007-2012 CIP due to the inclusion of several flood and combined sewer overflow mitigation projects. Despite the increase, Fitch believes the spending levels in the CIP are manageable.

The following excerpt accompanied the affirmation of the A- rating of Standard and Poors: "The water department is headed by an experienced and long-standing management team that has implemented a number of operational improvements in recent years The water department is in full regulatory compliance with safe water regulations. In addition, the systems plants are now regularly cited for the high quality of their operation."

"The seasoned management team emphasizes, and is achieving, improved system maintenance, stronger collections, and more comprehensive fiscal monitoring systems."

Fund Balances

During FY2007 the department was again able to add almost $26 million to its Rate Stabilization fund, bringing the cumulative fund balance to approximately $185.6 million all of which is available to provide necessary working capital to the department and to offset future rate increases. In addition, approximately $12 million was transferred to the Residual fund. Virtually all of these funds will be used to provide capital funding to reduce the amount of additional bond issues to fund the capital program. To date, the department has transferred in excess of $220 million to its capital fund via its annual 1% transfer and $58 million via additional discretionary transfers to capital from its Residual fund.

Maintaining excellence in water purity standards

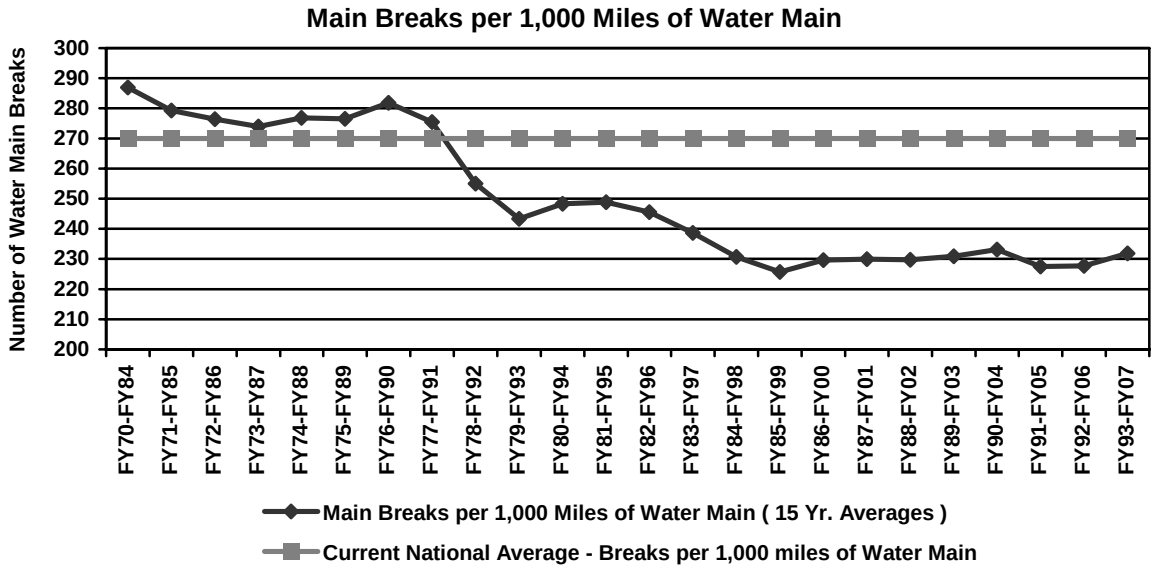
Philadelphia's drinking water meets or surpasses the requirements of state and federal standards 100 percent of the time. Since voluntarily joining the U.S. Environmental Protection Agency's (EPA) Partnership for Safe Water (PfSW) in 1996 (a joint program of the EPA and the water industry), the PWD has committed itself to reduced "turbidity," an industry standard measure of water purity. In FY07, the turbidity of Philadelphia's water (.05 ntu) was 83 percent lower than the amount required by state and federal regulations and 50 percent lower than the Partnership's turbidity goal of 0.1 ntu. Nationally, the PWD is among an elite group of 56 water utilities that have received a Directors Award from the PfSW for meeting the partnerships goals for five consecutive years.

In FY07, PWD also had to comply with the newest EPA water quality requirements, the Long-Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) that was published in the Federal Register in January 2006. The PWD water quality program, instituted to achieve the PfSW goals, was well positioned to achieve compliance with the requirements of the new rule.

Optimize water and sewer main replacement.

PWD closely monitors water main conditions to ensure that adequate capital investment is made, the integrity of the water supply system is sustained, and the occurrence of disruptive and costly water main breaks is reduced. In FY07, 20 miles of main were replaced.

As shown in the chart below, the FY93-FY07 fifteen year moving average level of 232 breaks per 1,000 miles is less than the national average of 270 breaks per 1,000 miles, and is near the lowest level in more than 20 years.

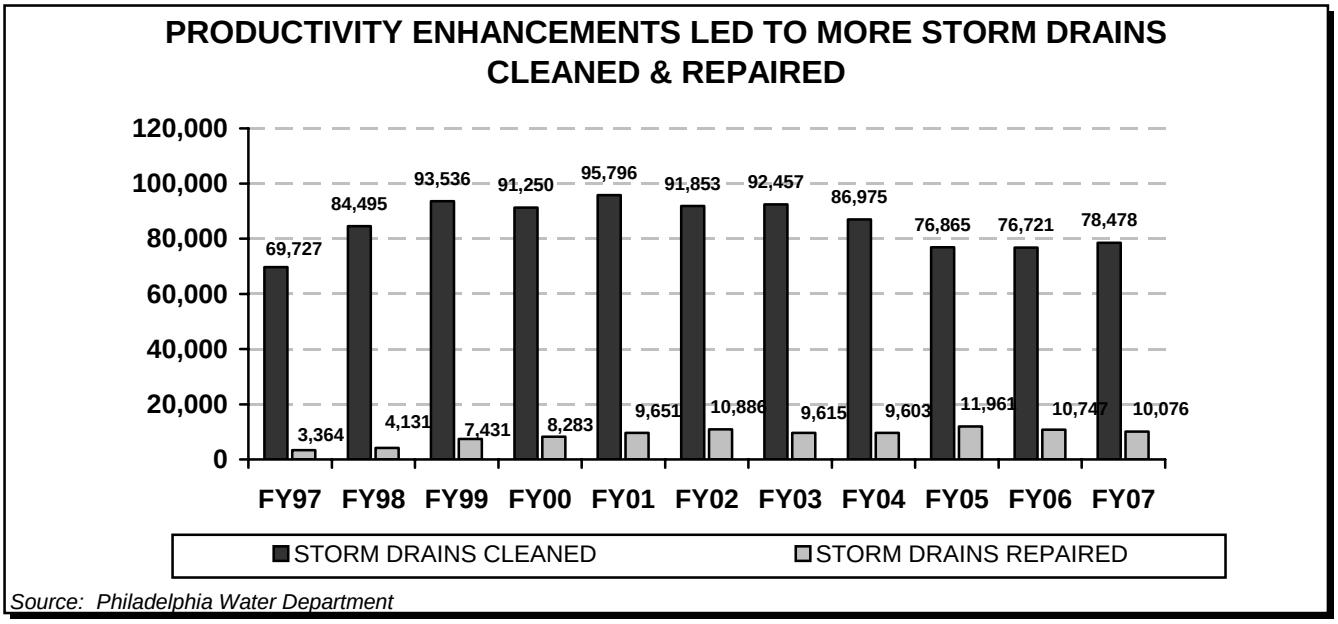


Reducing unbilled or non-revenue water

PWD maintains programs to reduce uncaptured revenue and loss of treated water from the distribution system. Over the past 13 years, PWD has cut non-revenue water by 35 percent, from 133 million gallons per day (mgd) to 86 mgd at the close of FY07. PWD continued a number of successful loss control initiatives in FY07, including a leak detection and repair program that surveyed over 1,024 miles of pipeline for leaks, and abated 27.6 mgd of leakage, representing a cost savings of over $879,000. PWD successfully constructed field equipment to establish its first permanent District Metered Area (DMA) which includes pressure control features to reduce the occurrence of leakage and water main breaks. The DMA was installed in the Germantown section of Philadelphia at a cost of $335,000. The results of this project have been impressive, saving one million gallons of water loss per day for an annual savings of $55,000 and a payback of 5.5 years. In addition, the PWD's Revenue Protection Program continued to recover uncaptured revenue from billing errors, lost customer accounts, and unauthorized consumption. This program has recovered over $18 million since its inception in 2000.

Improved storm-water flood control

PWD's management of the storm water system is an important multi-faceted service for both flood control and environmental protection. With approximately 90,000 storm drains to maintain, the Department focuses on keeping them in good condition to prevent blockage of storm water flow and creation of hazardous conditions for pedestrians. In FY07, PWD cleaned 78,478 storm drains, a 12.5 percent increase over the FY97 level. In addition, the Department reconstructed 10,076 storm drains, tripling the FY97 level.



Source: Philadelphia Water Department

In January 2006, PWD initiated new Storm-water Regulations. The new regulations are an important tool in the City's efforts to reduce flooding and to protect our rivers and streams. Accordingly, all development projects that disturb more than 15,000 square feet of earth must comply with water quality and non-structural site design requirements that are consistent with state and federal storm water best management practices. During FY 07, PWD received 757 conceptual submittals for zoning permits and 548 full Post Construction Technical submittals for building permits. Storm water regulations include four major components: Water quality protection, channel protection, flood control, and non-structural site design (minimizing impervious land cover). The results of this program since inception have been significant. Seventeen million gallons of storm water runoff has been captured, reducing stress on the storm water infrastructure, and treatment plants. The avoided cost of building more conventional storm water storage tanks for this runoff would have exceeded $34 million.

Protecting drinking water supplies

PWD operates the Delaware Valley Early Warning System (EWS) to protect our drinking water supplies from chemical spills and other potential hazards in the Delaware and Schuylkill rivers. The system enables communication among water suppliers and emergency agencies to aid decision-making during source water contamination events. Through the EWS, PWD and other utilities have been provided with advanced warning of significant water quality events, such as the discharge of 100 million gallons of an arsenic-laden fly ash slurry to the Delaware from PP&L in August 2005; a 10,000 gallon leachate discharge into the Delaware from the Tullytown Landfill in March 2006; a cyanide spill into the Wissahickon in June 2006; and numerous other oil, chemical, and sewage spills in PWD's source waters. In FY07 a major redesign of the EWS website and system functionality was accomplished to improve system usability and performance. A user manual was created to provide assistance in using the redesigned EWS, and training was provided to the participants of the EWS Steering Committee as well as to emergency responders and water quality supervisors in Pennsylvania Department of Environmental Protection's (PA DEP's) Northeast, Southeast, and Southcentral regional offices. Outreach to industrial intakes within the EWS coverage area was also initiated during this time. In FY07 steps were also taken to acquire the City's first aquatic biomonitoring system to further protect Philadelphia's drinking water supply from contaminant events.

Long-term Control Plan for Combined Sewer Overflows

During heavy rainstorms, the release of some storm water and sewage over flows from combined sewers (sewers that carry storm water and sanitary waste in one pipe) to the City's rivers and streams, causes pollution to these waterways. Nearly eight years ago PWD began a short-term plan, using industry accepted best practices to operate our sewer system. These efforts successfully

reduced overflow volume by three percent or six billion gallons a year. Our efforts included detecting and eliminating overflows during dry weather, getting the most storage possible in our sewer system, and stepping up inspections and monitoring at sites where overflows occur. Since then, we have begun a long-term control plan that included $48 million in capital improvements so we can capture even more flow in the sewer system. Our plan features a “watershed-based” approach, which involves other regional stakeholders in planning efforts that are more comprehensive and reach far beyond city boundaries.

Waterways Restoration Program

In FY04, the PWD created the Waterways Restoration Team (WRT), which consists of 2 crews devoted to removing trash and large debris from the streams and tributaries that define our neighborhoods. The teams also perform restoration work around PWD’s storm and combined sewer outfalls. In FY07, the teams removed 441 tons of debris, 41 cars, 1201 tires and 84 shopping carts from Philadelphia's streams. A large component of the team’s mission is to work in partnership with the FPC to restore tributaries and streams that have been significantly damaged over decades by the volume and velocity of flows from sewer outfalls and from the forces of storm water runoff. In FY07, the team tackled two restoration projects, providing interim stabilization to sites challenged by storm-water runoff that resulted in projects that were well received by FPC, regulatory agencies and citizens.

AWARDS AND RECOGNITION

In May, 2007 the National Association of Clean Water Agencies (NACWA) issued Gold awards for perfect National Pollutant Discharge Elimination System Permit compliance of the Southwest and Northeast Water Pollution Control Plants in 2006. The Southeast Water Pollution Control Plant achieved the highest Platinum Award for seven continuous years of perfect permit compliance.

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, 2007 AND 2006

(amounts in thousands)

	2007	2006
ASSETS		
Current Assets:		
Cash on Deposit and on Hand	$ 30	$ 30
Equity in Treasurer's Account	52,531	50,253
Due from Other Governments	329	109
Accounts Receivable	174,663	177,360
Allowance for Doubtful Accounts	(75,989)	(78,634)
Inventories	15,184	14,640
Total Current Assets	166,748	163,758
Noncurrent Assets:		
Restricted Assets:		
Equity in Treasurer's Account	350,933	368,675
Sinking Funds and Reserves	174,475	174,332
Grants for Capital Purposes	500	-
Receivables	2,114	2,784
Total Restricted Assets	528,022	545,791
Net Pension Asset	54,069	64,118
Capital Assets:		
Land	5,919	5,919
Infrastructure	1,796,638	1,752,461
Construction in Progress	115,525	146,831
Buildings and Equipment	1,462,116	1,390,699
Accumulated Depreciation	(1,687,615)	(1,597,139)
Total Capital Assets	1,692,583	1,698,771
Total Noncurrent Assets	2,274,674	2,308,680
Total Assets	**2,441,422**	**2,472,438**
LIABILITIES		
Current Liabilities:		
Vouchers Payable	5,077	5,107
Accounts Payable	11,725	7,377
Salaries & Wages Payable	2,406	2,225
Construction Contracts Payable	5,943	7,038
Accrued Expenses	14,985	18,435
Deferred Revenue	7,430	6,923
Funds Held in Escrow	345	-
Current Portion of Long Term Obligations	92,501	84,002
Total Current Liabilities	140,412	131,107
Noncurrent Liabilities:		
Long Term Obligations	1,669,810	1,758,799
Unamortized Discount and Loss	(82,232)	(88,496)
Other Noncurrent Liabilities	20,153	20,485
Total Noncurrent Liabilities	1,607,731	1,690,788
Total Liabilities	**1,748,143**	**1,821,895**
NET ASSETS		
Invested in Capital Assets, Net of Related Debt	86,345	94,958
Restricted For:		
Capital Projects	84,786	51,990
Debt Service	174,475	174,332
Rate Stabilization	185,612	153,910
Unrestricted	162,061	175,353
Total Net Assets	**$ 693,279**	**$ 650,543**

STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET ASSETS
FOR THE FISCAL YEAR ENDED JUNE 30, 2007 AND 2006

(amounts in thousands)

	2007	2006
Operating Revenues:		
Charges for Goods and Services	$ 487,928	$ 465,519
Miscellaneous Operating Revenues	5,641	5,325
Total Operating Revenues	**493,569**	**470,844**
Operating Expenses:		
Personal Services	106,023	98,773
Purchase of Services	77,779	68,469
Materials and Supplies	30,993	27,526
Employee Benefits	66,643	62,852
Indemnities and Taxes	2,889	3,758
Depreciation and Amortization	82,554	78,855
Total Operating Expenses	**366,881**	**340,233**
Operating Income (Loss)	**126,688**	**130,611**
Nonoperating Revenues (Expenses):		
Operating Grants	1,278	569
Interest Income	31,804	23,141
Net Pension Obligation	(10,049)	(7,182)
Debt Service - Interest	(93,069)	(100,682)
Other Expenses	(6,156)	(7,266)
Total Nonoperating Revenues (Expenses)	**(76,192)**	**(91,420)**
Income (loss) before Transfers	50,496	39,191
Transfers Out	(4,994)	(4,994)
Change in Net Assets	45,502	34,197
Net Assets - Beginning of Period	650,543	616,346
Adjustment	(2,766)	-
Net Assets - End of Period	**$ 693,279**	**$ 650,543**

STATEMENT OF CASH FLOWS
June 30, 2007

(amounts in thousands)

	2007	2006
Cash Flows from Operating Activities		
Receipts from Customers	$ 494,254	$ 474,387
Payments to Suppliers	(106,080)	(96,672)
Payments to Employees	(173,323)	(163,124)
Claims Paid	(2,417)	(4,176)
Other Receipts (Payments)	-	-
Net Cash Provided by Operating Activities	**212,434**	**210,415**
Cash Flows from Non-Capital Financing Activities		
Operating Grants Received	744	569
Operating Subsidies and Transfers to Other Funds	(4,994)	(4,994)
Net Cash Provided by Non-Capital Financing Activities	**(4,250)**	**(4,425)**
Cash Flows from Capital & Related Financing Activities		
Proceeds from Capital Debt		
Capital Contributions Received		
Acquisition and Construction of Capital Assets	(80,661)	(85,213)
Interest Paid on Capital Debt	(89,920)	(87,866)
Principal Paid on Capital Debt	(84,003)	(78,550)
Other Receipts (Payments)		
Net Cash Provided (Used)by Non-Capital Financing Activities	**(254,584)**	**(251,629)**
Cash Flows from Investing Activities		
Interest and Dividends	30,936	19,861
Net Cash Provided by Investing Activities	30,936	19,861
Net Increase (Decrease) in Cash & Cash Equivalents	(15,464)	(25,778)
Balances - Beginning of the Year	418,958	444,736
Balances - End of the Year	**$ 403,494**	**$ 418,958**
Reconciliation of Operating Income (Loss) to		
Net Cash Provided (Used) by Operating Activities:		
Operating Income (Loss)	126,688	130,611
Adjustments to Reconcile Operating Income to Net Cash		
Provided (Used) by Operating Activities:		
Depreciation Expense	82,554	78,855
Change in Assets and Liabilities:		
Receivables, Net	177	3,360
Inventories	(544)	(563)
Accounts and Other Payables	6,502	(2,031)
Accrued Expenses	(3,450)	-
Deferred Revenue	507	183
Net Cash Provided by operating activities	**$ 212,434**	**$ 210,415**

BUDGETARY COMPARISON SCHEDULE
Water Operating Fund
For the Fiscal Year Ended June 30, 2007

(amounts in thousands)

Revenues	Budgeted Amounts Original	Budgeted Amounts Final	Actual	Final Budget to Actual Positive (Negative)
Locally Generated Non-Tax Revenue	$ 465,286	$ 477,078	$ 486,917	$ 9,839
Revenue from Other Governments	1,600	1,500	520	(980)
Revenue from Other Funds	63,328	30,272	32,311	2,039
Total Revenues	**$ 530,214**	**$ 508,850**	**$ 519,747**	**$ 10,897**
Expenditures and Encumbrances				
Personal Services	109,721	103,818	101,056	(2,762)
Pension Contributions	34,100	34,513	34,513	-
Other Employee Benefits	31,019	31,138	31,138	-
Sub-Total Employee Compensation	174,840	169,469	166,707	(2,762)
Purchase of Services	97,059	85,617	83,967	(1,650)
Materials and Supplies	38,994	38,557	38,274	(283)
Equipment	4,820	3,658	3,134	(524)
Contributions, Indemnities and Taxes	6,603	6,038	2,445	(3,593)
Debt Service	178,826	176,415	173,923	(2,492)
Debt Service - Interest	-	-	-	-
Short-Term Interest	-	-	-	-
Payments to Other Funds	42,072	63,460	67,879	4,419
Total Expenditures and Encumbrances	**543,214**	**543,214**	**536,329**	**(6,885)**
Operating Surplus (Deficit) for the Year	**$ (13,000)**	**$ (34,364)**	**$ (16,581)**	**$ 17,783**
Fund Balance Available, July 1, 2006	-	-	-	-
Operations in Respect to Prior Fiscal Years				
Commitments Cancelled - Net	13,000	13,000	16,584	3,584
Prior Period Adjustments	-	-	(3)	(3)
Adjusted Fund Balance, July 1, 2006	13,000	13,000	16,581	3,581
Fund Balance Available, June 30, 2007	**$ -**	**$ (21,364)**	**$ -**	**$ 21,364**

CITY OF PHILADELPHIA WATER DEPARTMENT

BONDED DEBT FOR THE FISCAL YEAR ENDED JUNE 30, 2007

(amounts in thousands)

Series	ORIGINAL AUTHORIZATION Date	Issued	Outstanding June 30, 2007	Maturities	Interest Rates	FISCAL YEAR 2008 DEBT Service Interest	Principal Requirements	Outstanding June 30, 2008
Revenue Bonds:								
Fourteenth Series	5/15/89 *	$ 158,265	$47,200	10/2007 to 10/2008	N.A.	$ -	$ 23,600	$ 23,600
Series 1993	8/1/93 *	1,157,585	225,975	6/2008 to 6/2011	5.50 to 7.00	14,671	40,570	185,405
Series 1995	04/15/95	221,630	69,935	8/2007 to 8/2012	5.30 to 6.25	4,061	9,915	60,020
Series 1997 (A)	10/15/97	250,000	5,815	8/2007	5.00 to 5.25	153	5,815	-
Series 1997 (B)	11/25/97	100,000	83,600	8/2007 to 8/2027	Variable	3,033	2,500	81,100
Series 1998	12/25/98	135,185	135,185	12/2011 to 12/2014	5.25	7,097	-	135,185
Series 1999	07/07/99	33,040	-	12/2006	5.00	-	-	-
Series 2001	11/15/01	285,920	137,875	11/2011 to 11/2028	3.800 to 5.500	7,069	-	137,875
Series 2003	04/01/03	381,275	372,270	6/2008 to 6/2023	Variable	16,827	1,095	371,175
Series 2005 (A)	05/04/05	250,000	247,875	7/2007 to 7/2035	3.250 to 5.250	12,167	4,145	243,730
Series 2005 (B)	05/04/05	86,105	84,385	8/2007 to 8/2018	Variable	3,815	350	84,035
Series 2007 (A)	05/04/07	191,440	191,440	8/2007 to 8/2027	4.00 to 5.00	6,577	2,815	188,625
Series 2007 (B)	05/04/07	153,595	153,595	11/2007 to 11/2031	4.00 to 5.00	6,826	90	153,505
Pennvest	04/30/00	6,700	1,373	7/2007 to 4/2019	1.41 to 2.73	32	431	942
Total Revenue Bonds		**3,410,740**	**$1,756,523**			**82,328**	**91,326**	**1,665,197**
General Obligation Bonds:								
Pennvest	06/15/93	20,000	5,787	07/2007 to 04/2012	1.00	52	1,174	4,613
Total Bonded Debt			**$1,762,310**			**82,380**	**92,501**	**1,669,810**

* Partially Refunded

ANNUAL BONDED DEBT SERVICE REQUIREMENT:

Fiscal Year	Interest	Principal	Total
2008	82,380	92,501	174,881
2009	81,456	91,534	172,990
2010	77,829	95,164	172,992
2011	71,718	100,849	172,567
2012	64,128	107,908	172,036

The First Series through the Thirteenth were refunded.

Capitalized Interest added to Construction in Progress in Fiscal 2007 was $4,572,134
Interest Expense was reduced by the same amount.

SUPPLEMENTAL SCHEDULE OF RATE COVENANT COMPLIANCE FOR FISCAL YEAR ENDED JUNE 30, 2007 (Legally Enacted Basis)

(amounts in millions)

LINE NO.		2007
1.	Total Revenue and Beginning Fund Balance	$536,329
2.	Net Operating Expense	-303,135
3.	Transfer (To) From Rate Stabilization Fund	-25,959
4.	**Net Revenues**	**207,235**
5.	Revenue Bonds Outstanding	-172,696
6.	General Obligation Bonds Outstanding	0
7.	Pennvest Loan	-1,227
8.	**Total Debt Service**	**-173,923**
9.	**Net Revenue after Debt Service**	**33,312**
10.	Transfer to General Fund	-4,994
11.	Transfer to Capital Fund	-16,988
12.	Transfer to Residual Fund	-11,330
13.	**Total Transfers**	**-33,312**
14.	**Net Operating Balance for Current Year**	**0**

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 is such fiscal year; (ii) amounts required to be deposited of Subordinated Bonds) payable in such fiscal year; (ii) amounts required to be deposited into the Debt Reserve Account during such fiscal year; (iii)debt service on all General Obligations Bonds issued for the Water and Wastewater Systems payable is such fiscal year; (iv) debt service payable on Interim Debt in such fiscal year; and (v) 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	**$207,235**
/ Line 5	**$172,696**
= COVERAGE A:	**1.20**

COVERAGE B:	
Line 4	**$207,235**
/ Line 8 + Line 11	**$190,911**
= COVERAGE B:	**1.08**

COVERAGE C:	
Line 4 - Line 3	**$233,194**
/ Line 5	**$172,696**
= COVERAGE C:	**1.35**

1. THE GOVERNMENT OF PHILADELPHIA

The City of Philadelphia was founded in 1682 and was merged with the county in 1854. 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.

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.

The Department of Revenue of the City has performed for the Water Department all functions relating to meter reading, billing and collections. 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 function for the City, including the Water Department, is 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.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The financial statements of the Philadelphia Water Department have been prepared in conformity with Generally Accepted Accounting Principles (GAAP) as applied to governmental units. The Governmental Accounting Standards Board (GASB) 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 the 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 amendment 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 6/30/07	$ ---0----
Assets omitted from the legal basis:	
(1) Receivables from Other Governments or Funds	$ 33,837
(2) Fixed Assets-Net of Depreciation	1,692,583
(3) Restricted Assets	528,022
(4) Proprietary Portion of Net Pension Obligation	54,068
	$ 2,308,510
Liabilities omitted from the legal basis:	
(5) Construction Contracts Payable	$ (5,943)
(6) Other Current Liabilities	(117,355)
(7) Bonds Payable and Other Long-Term Debt	(1,607,731)
	$(1,731,029)
Fund Balance accounts included in the legal basis:	
(8) Reserve for Collectible Receivables	$ 64,814
(9) Reserve for Inventories	15,184
(10) Reserve for Purchase Commitments	35,800
	$ 115,798
Equity accounts omitted from the legal basis:	
(11) Invested in Capital Assets, Net of Related Debt	(86,345)
(12) Restricted for Capital Projects	(84,786)
(13) Restricted for Debt Service	(174,475)
(14) Restricted for Rate Stabilization	(185,612)
	$ (531,218)
Unrestricted Net Assets – GAAP Basis – 6/30/2007	$ 162,061

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 ordinance of 1989, amended 1993, which authorized the issuance of Water and Sewer Revenue Bonds, hereby 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 etal. 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:

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

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 2007 was $4,572,134.

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, 2007 are included in accounts receivable. In addition an amount for services rendered through June 30, 2007, 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. 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.

M. 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.

N. 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.

O. 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 2007, excess interest earnings of $4,994,000 were transferred to the General Fund of the City.

P. Prior Period Adjustment

Business-Type net assets beginning balance was decreased by $2.8 million which represents the net effect of corrections made to Buildings & Equipment and Depreciation in the Water and sewer fund.

3. ACCOUNTS RECEIVABLE

Balances consisted of the Following:

FISCAL YEAR ENDED JUNE 30, 2007

Accounts Receivable:	
Billed in the Last Twelve Months	$ 86,119,749
Billed in 15-year Cycle Billing	47,607,358
Penalties on Receivables	24,614,487
Other Receivables	16,321,080
Total	**$174,662,674**
Bad Debts Written Off	$ 8,403,718

ALLOWANCE FOR DOUBTFUL ACCOUNTS:

Billed in the Last Twelve Months	$ 0
Billed in 15-year Cycle Billing	43,683,227
Penalties on Receivables	20,751,628
Other Receivables	11,554,577
Total	**$75,989,431**

FISCAL YEAR ENDED JUNE 30, 2006

Accounts Receivable:	
Billed in the Last Twelve Months	$ 86,042,036
Billed in 15-year Cycle Billing	49,448,573
Penalties on Receivables	25,744,039
Other Receivables	16,124,893
Total	**$177,359,541**
Bad Debts Written Off	$ 25,976,583

ALLOWANCE FOR DOUBTFUL ACCOUNTS:

Billed in the Last Twelve Months	$ 0
Billed in 15-year Cycle Billing	45,884,017
Penalties on Receivables	21,960,171
Other Receivables	10,790,077
Total	**$78,634,265**

4. THE TEN LARGEST RETAIL CUSTOMERS OF THE PHILADELPHIA WATER DEPARTMENT DURING FISCAL YEAR 2007

Customer	Billings (millions)	% of total Billings	Consumption (MGD)	% of total Consumption
City of Philadelphia	**$19.78**	**4.47%**	**12.59**	**8.36%**
Philadelphia housing Authority	**10.07**	**2.27**	**4.19**	**2.78**
Philadelphia school District	**5.97**	**1.35**	**1.55**	**1.03**
University of Penna.	**5.19**	**1.17**	**2.77**	**1.84**
Trigen Corporation	**3.15**	**0.71**	**2.02**	**1.34**
Temple University	**2.46**	**0.55**	**1.29**	**0.86**
Sunoco	**2.34**	**0.53**	**2.22**	**1.48**
SEPTA	**1.56**	**0.35**	**0.99**	**0.66**
Altivity Packaging LLC	**1.41**	**0.32**	**1.52**	**1.01**
US Government	**1.32**	**0.30**	**1.54**	**1.02**
Total top ten	**$53.23**	**12.02%**	**30.68**	**20.37%**
Total retail billings	**$442.85**		**150.6**	

5. PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment at June 30, 2007 and 2006 consisted of the following:

Fiscal Years Ended	**June 30, 2007**	**June 30, 2006**
Land	$ 5,919,160	$ 5,919,160
Buildings and related improvements	1,403,157,790	1,342,281,174
Meters and other improvements	80,461,201	79,574,255
Equipment	58,958,365	48,418,422
Transmission and distribution lines	1,716,176,413	1,672,887,106
Construction in progress	115,524,780	146,831,322
Total	$3,380,197,709	$3,295,911,439
Less: Accumulated Depreciation	(1,687,615,071)	(1,597,138,725)
Total	**$1,692,582,637**	**$1,698,772,714**

6. 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 1990's, the grit, scum and screenings incinerators and related handling equipment at our waster water plants which were abandoned due to clean air permit 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. Processing of the remaining compost material on the site will actually continue until approximately October of this year. A permanent solution for sludge processing that does not involve composting is still in the 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.

7. 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 2007 was $9,487,527 and in 2006 was $9,339,210. The expense for vacation pay is recognized in the year earned.

8. 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 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.

9. CAPTALIZED LEASES

Leases consist of $2,300,662 in photocopier and computer equipment in Fiscal 2007. Capital leases are defined by the Financial Accounting Standard Board in Statement 13, Accounting for Leases.

10. 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 2007 the fund had the following activity:

Balance at July 1, 2006	$153,909,810
Deposit from Operating Fund	25,958,616
Transfer to Operating Fund	0
Interest Earnings	5,743,282
Balance at June 30, 2007	$185,611,708

11. 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 2007 the fund had the following activity:

Balance at July 1, 2006	$ 6,866,582
Interest income	323
Deposit from Operating Fund	16,324,405
Transfer to General Fund	(4,994,000)
Transfer to Capital Projects Fund	(16,500,000)
Balance at June 30, 2007	$ 1,697,310

12. 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.

13. 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. In Fiscal 2005, $30,077 was paid. As of June 30, 2005 there was no arbitrage liability. There was no Arbitrage liability incurred during FY 2006. There was no Arbitrage liability incurred during FY 2007.

14. 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. At year end, $364.4 million of bonds outstanding was considered defeased.

In May 2007, the City issued $191.4 million of Water & Wastewater Revenue refunding Series 2007A and $153.6 million Water & Wastewater Revenue refunding Series 2007B bonds. The proceeds of the bonds were used to refund a portion of the 1997A Series Water and Wastewater Revenue Bonds maturing from 2008 through 2031 in the amount of $341.5 million. The refunding structure of the bonds generated approximately $14.5 million in net present value savings or 4.22% of the principal amount of the refunded bonds. This early extinguishing of debt resulted in an accounting loss of approximately $17.1 million representing the difference between the reacquisition price of $353.7 million and the amount of debt extinguished of $341.5 million (less $4.9 million unamortized discount). The resulting loss attributed to the Series 1997A and Series 2001A bonds, $17.1 million, will be amortized over the life of the refunded bonds at a rate of $66,238.95 monthly through November 2031.

Interest Rate Swaption

City of Philadelphia 1993 Water and Sewer Swaption/2003 Water and Sewer Swap

Objective of swaption: In December 2002, the City entered into a swaption that provided the City with an up-front payment of $24,989,926. As a synthetic refunding of

its 1993 Bonds, this payment represents the present value savings, as of December 2002 of a refunding on March 18, 2003, without issuing refunding bonds as of December 2002. The swaption gave Citigroup (formerly Salomon Brothers Holding Company, Inc.) the option to enter into an interest rate swap to receive fixed amounts and pay variable amounts. The option was exercised on March 18, 2003 and the City issued variable-rate refunding bonds and started making payments under the terms of the swap.

Terms: Citigroup exercised its option to enter into a swap on March 18, 2003 – the City's 1993 water and sewer bonds' first call date. The swap also commenced on the exercise date of March 18, 2003. Under the swap, the City pays a fixed payment of 4.52% and receives a variable payment computed as the actual bond rate through March 1, 2005 and thereafter computed as the actual bond rate or alternately, 68.5% of the USD-London Interbank Offered Rate (LIBOR)-BBA with a designated maturity of one month ("one month LIBOR"), in the event the average rate on the Bonds as a percentage of the one month as a percentage LIBOR has exceeded 68.5% for a period of more than 180 days. The rates are based on an amortizing notional schedule (with an initial notional amount of $381.2 million) and when added to an assumption for remarketing, liquidity costs and cost of issuance will approximate the debt service of the "refunded bonds."

As of June 30, 2007, the swap had a notional amount of $372.2 million and the associated variable-rate bond has a $372.2 million principal amount. The bonds' variable-rate coupons are not based on an index but on market conditions. The bonds and the related swap agreement mature on June 15, 2023. As of June 30, 2007 rates were as follows:

	Terms	Rates
Interest Rate Swap		
Fixed payment to Citigroup	Fixed	4.52%
Variable payment from Citigroup	Actual Bond Rate	(3.73%)
Net Interest Rate Swap payments		0.79%
Variable Rate bond coupon payments	Market Driven	3.73%
Synthetic interest rate on bonds		4.52%

Fair Value: As of June 30, 2007, the swap had a negative fair value of $18.0 million. Since the coupons on the City's variable rate bonds adjust to changing interest rates, the bonds do not have a corresponding fair value increase. The fair value was estimated using the zero-coupon method. This method calculates the future net settlement payments required by the swap, assuming that the current forward rates implied by the yield curve correctly anticipate future spot interest rates. The payments are then discounted using the spot rates implied by the current yield curve for hypothetical zero-coupon bonds due on the date of each future net settlement of the swap.

Risk: As of June 30, 2007 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. Should the variable-rate received on the swap change from the actual bond rate to the alternative floating rate of 68.5% of one month LIBOR, the City would be 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, where the City is exposed to a potential interest cost in the event that changes in the structure of the federal tax system or in the marginal rates causes the rate paid on the outstanding to be greater then the 68.5% of LIBOR received on the swap. The swap uses the International Swap Dealers Association Master Agreement, which includes standard termination events. The swap uses the International Swap Dealers Association Master Agreement, which includes standard termination events. The Schedule to the Master Agreement includes an "additional termination event." That is, the swap may be terminated if Citigroup's or its Credit Support Provider, or the City has one or more outstanding issues of rated unsecured, unenhanced senior debt and none of such issues has a rating of at least (i) Baa3 or higher as determined by Moody's Investors Service, Inc., or (ii) BBB- or higher as determined by Standard & Poor's Ratings Service, A Division of the McGraw-Hill Companies, Inc. Or (iii) an equivalent investment grade rating determined by a nationally- recognized rating service acceptable to both parties.

Swap payments and associated debt: As of June 30, 2007, 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	Variable Rate Bonds		Interest Rate	
June 30	Principal	Interest	Swaps Net	Total Interest
2008	1,095,000	13,883,969	2,940,573	16,824,542
2009	1,145,000	13,843,048	2,931,906	16,774,954
2010	1,205,000	13,800,246	2,922,840	16,723,087
2011	1,260,000	13,755,214	2,913,303	16,668,517
2012	41,195,000	13,646,151	2,890,203	16,536,354
2013 - 2017	245,585,000	41,760,046	8,844,621	50,604,668
2018 - 2022	65,620,000	10,316,465	2,184,989	12,501,454
2023 - 2027	15,165,000	542,086	114,812	656,897
	$372,270,000	$121,547,225	$25,743,246	$147,290,471

As rates vary, variable rate bond interest payments and net swap payments will vary.

City of Philadelphia, 1995 Water & Sewer Swaption

Objective of Swaption: In December, 2002, the City entered into a swaption that provided the City with an up-front payment of $4,000,000. As a synthetic refunding of its 1995 Bonds, this payment represents the present value savings, as of December 2002, of a refunding on May 4, 2005, without issuing refunding bonds as of December, 2002. The

swaption gives 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. If the option is exercised, the City would then expect to issue variable-rate refunding bonds.

Terms: Citigroup has the option to exercise the agreement on May 4, 2005 – the City's 1995 water and sewer bonds' first call date. The swap also commence on the exercise date of May 4, 2005. Under the swap, the City pays a fixed payment of 4.53% and receives a variable payment computed as the actual bond rate or alternately, 68.5% of the USD- London Interbank Offered Rate (LIBOR)-BBA with a designated maturity of one month ("one month LIBOR"), in the event the average rate on the Bonds as a percentage of the one month as a percentage LIBOR has exceeded 68.5% for a period of more than 180 days. The rates 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 will approximate the debt service of the "refunded bonds." As of June 30, 2007 the swap had a notional amount of $84.4 million and the associated variable-rate bond has an $84.4 principal amount. The bonds variable-rate coupons are not based on an index but on market conditions. The bonds, and the related swap agreement mature on August 1, 2018. As of June 30, 2007, the rates were as follows:

	Terms	Rates
Interest Rate Swap		
Fixed payment to Citigroup	Fixed	4.53%
Variable payment from Citigroup	Actual Bond Rate	(3.73%)
Net Interest Rate Swap payments		0.80%
Variable Rate bond coupon payments	Market Driven	3.73%
Synthetic interest rate on bonds		4.53%

Fair value: As of June30, 2007, the swap had a negative fair value of $4.3 million. Its fair value was estimated using the BDT option pricing model. This model takes into consideration probabilities, volatilities, time and underlying prices.

Market access risk and interest rate risk: As of June 30, 2007 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. Should the variable rate received on the swap change from the actual bond rate to the alternative floating rate 68.5% of one month LIBOR, the City would be 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 structure of the federal tax system or in the marginal tax rates causes the rate paid on the outstanding bonds to be greater than the 68.5% of LIBOR received on the swap. The swap uses the International Swap Dealers Association Master Agreement, which includes standard termination events. The Schedule to the Master Agreement includes an "additional termination event." That is, the swap may be terminated if Citigroup's or its Credit Support Provider, or the City has one or more outstanding issues of rated unsecured, unenhanced senior debt and none of

such issues has a rating of at least (i) Baa3 or higher as determined by Moody's Investors Service, Inc., or (ii) BBB- or higher as determined by Standard & Poor's Ratings Service, A Division of the McGraw-Hill Companies, Inc. Or (iii) an equivalent investment grade rating determined by a nationally- recognized rating service acceptable to both parties.

Swap payments and associated debt: As of June 30, 2007, 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. As rates vary, variable rate bond interest payments and net swap payments will vary.

Fiscal Year Ending	Variable Rate Bonds		Interest Rate	
June 30	Principal	Interest	Swaps Net	Total Interest
2008	$ 350,000	$ 3,135,593	$ 672,513	$ 3,808,107
2009	370,000	3,121,855	669,567	3,791,421
2010	390,000	3,107,370	666,460	3,773,830
2011	405,000	3,092,310	663,230	3,755,540
2012	425,000	3,076,520	659,843	3,736,363
2013 - 2017	82,280,000	9,747,858	2,090,693	11,838,551
2018 - 2022	165,000	513	110	623
	84,385,000	25,282,018	5,422,417	30,704,434

Rate Lock (Swap) Agreement: The eleventh supplemental ordinance authorizes the City to issue up to $325,000,000 in aggregate principal amount (exclusive of original issue discount) of additional Water and Wastewater Revenue Bonds (the "2008 New money bonds") under the general ordinance to finance certain capital projects of the Water department. The City originally anticipated issuing such bonds during Fiscal year 2008 and has entered into the 2007 Swap agreements (as described below) relating to $180,000,000 aggregate principal amount of such bonds.

In connection with the anticipated issuance of the 2008 New money bonds, on February 21, 2007, the City entered into two separate forward starting interest rate swap transactions, each evidenced by an ISDA Master agreement, schedule and confirmation (collectively the "2007 Swap agreements", and together with the 2002 Swap agreement, the "Swap agreements) between the City and each of Merrill Lynch Capital Services, Inc. and Wachovia Bank, National Association (the "2007 Swap providers"). The 2007 Swap agreements are intended to hedge the interest rate risk on $180,000,000 aggregate principal amount of the 2008 New money bonds, split equally between the 2007 Swap providers. Under the 2007 Swap agreements, commencing on February 1, 2008, the City will pay interest to the 2007 Swap providers on the notional amount thereof at a fixed rate of 3.999% and the 2007 Swap providers will pay interest to the City on such notional amount at a variable interest rate equal to the Bond Market Association Rate (BMA) or the Securities Industry and Financial Markets Association Rate, each as defined therein.

The City's regularly scheduled payments under the Swap agreements are secured on a parity basis by a lien and a security interest in all Project Revenues for the benefit of each

of the Swap Providers, as the Swap provider, and with respect to the 2002 Swap agreement, Financial Security Assurance Inc., as the bond insurer. All other obligations of the City under each of the Swap agreements, including payments due upon early termination of a Swap agreement, are secured by a lien on and security interest on all Project Revenues subordinate to the lien prescribed in the previous sentence.

Under certain conditions, each of the Swap agreements may be terminated prior to its stated termination date in which case the City may be obligated to make a substantial payment to, or may be entitled to receive a substantial payment from the applicable Swap provider. There can be no assurance that a Swap provider will pay or perform its obligations under the applicable Swap agreement in accordance with the terms thereof, or that Swap provider will be able to pay any termination payment which may be required to pay upon the occurrence of certain events of default or termination under the applicable Swap agreement.

The City recently extended the 2007 Rate Lock agreement until February 17, 2009. Plans to issue all or part of the planned 2008 New Money issue in February 2008 as originally planned have been delayed until sometime during the second half of FY 2009.

Subsequent events: In November, 2007 the Water Department purchased a surety bond to replace cash reserves in accordance with the water general ordinance. This transaction allowed the Water Department to transfer $64 million from the Sinking Fund Reserve to be used for Water/Sewer projects.

15. 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 maintains 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. Both of these two plans have multiple divisions.

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 that 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, 2006 was as follows:

Employee Group	Number
Retirees and beneficiaries	
Currently receiving benefits	35,554
Terminated members entitled to	
Benefits but not yet receiving them	809
Active members	28,017
Total Members	**64,380**

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 of the unfunded actuarial accrued liability determined as of July 1, 1985. The portion of that liability attributable to a class action lawsuit by pension fund beneficiaries (the Dombrowski suit) is amortized in level installments, including interest, over 40 years through June 30, 2009. The remainder of the liability is amortized over 34 years with increasing payments expected to be level as a percentage of each year's aggregate payroll;

- 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 $477.5 million or 34.9 % of covered payroll of $1,367.4 million.

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

Annual Pension Cost and Net Pension Obligation

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

(Amounts in Thousands of USD)

Annual Required Contribution (ARC)	597,925
Interest on Net Pension Obligation (NPO)	(71,541)
Adjustment to ARC	99,953
Annual Pension Cost	556,337
Contributions Made	419,241
Increase in NPO	137,096
NPO at beginning of year	(817,614)
NPO at end of year	(680,518)
Interest Rate	8.75 %
15 Year amortization Factor (EOY)	8.18 %

The actuarial valuation that was used to compute the current year's required contribution was performed as of July 1, 2006. Methods and assumptions used for that valuation include:

- The individual entry age actuarial cost method
- A five-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 8.75%
- Projected annual salary increases of 5% (including inflation)
- Annual inflation of 2.75%
- No post-retirement benefit increases

Under the City's funding policy, the recommended contribution for the City for the current year amounted to $477.5 million. The City's actual contribution was $419.2 million. The City's contribution did meet the Minimum Municipal Obligation (MMO) as required by the Commonwealth of Pennsylvania's Acts 205 and 189. The Annual Pension Cost and related percentage contributed for the three most recent fiscal years are as follows:

Fiscal Year Ended June 30	Annual Pension Cost	Percentage Contributed	Net Pension Obligation
	(In Millions)		(In Millions)
2005	392.3	76.27%	(911.9)
2006	426.0	77.88%	(817.6)
2007	556.3	75.36%	(680.5)

(c) 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. Investments are valued as described in Footnote M.

16. POST EMPLOYMENT BENEFITS

In addition to providing pension benefits, the City provides certain post employment health care and life insurance benefits for retired employees, dependents and/or beneficiaries through provisions of City ordinances, civil service regulations and agreements with its various employee bargaining units. The City provides these benefits from one to five years after retirement depending upon the classification of the employee at his or her retirement. Substantially all of the City's employees may become eligible for those benefits if they reach normal retirement age while working for the City. These and similar benefits for active employees are provided through a combination of a self-insurance program and insurance companies whose premiums are based on the benefits paid during the year. The cost of providing these health benefits and life insurance for approximately 5,225 eligible retirees amounted to $49.0 million and $4.2 million respectively.

17. 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 $1.5 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 $3.2 million.

18. ENHANCED SECURITY

In light of the events of September 11, 2002, when terrorists struck the United States, the Water Department has taken steps to improve the security of the City's water supply and all other major Water Department facilities and assets. These steps have been taken in close coordination with the City's Managing Director's Office and all other appropriate city agencies and departments. On October 11, 2002, the City of Philadelphia reopened the Emergency Operations Center, designed to permit city emergency personnel to respond quickly to any major event through specialized computer and communications equipment. This center is staffed around the clock by officials from the Police, Fire, and Health Departments, as well as the Water Department and additional city agencies. The Center has a backup 911 system, in addition to computer terminals that are able to communicate with all City enforcement and emergency personnel. Details of the enhanced security measures already taken and those presently under consideration cannot be presently disclosed.

It should be noted that the Water Department had an extensive water quality protection and security plan in place prior to the events of September 11, 2002. All finished water basins are completely covered; all plants are fenced in and topped by barbed wire; gates are secured; and the Water Department continues to draw and conduct nearly one thousand tests on water samples from various locations each day.

Over the last several years the Department has completed the initiative to convert it's disinfection facilities from liquid chlorine to sodium hypochlorite. This conversion was done for safety and security reasons and to eliminate certain costs and complications associated with the operation of these facilities.

APPENDIX II

ENGINEERING REPORT

April 30, 2009

Mr. Rob Dubow
Director of Finance
City of Philadelphia
1300 Municipal Services Building
1401 J.F. Kennedy Boulevard, 13th Floor
Philadelphia, PA 19102

Dear Mr. Dubow:

In accordance with the requirements of The First Class City Revenue Bond Act (the Act), the Restated General Water and Wastewater Revenue Bond Ordinance of 1989, and the amendments and supplements thereto as set forth in the First, Second, Third, Fourth, Fifth, Sixth, Seventh, Eighth, Ninth, Tenth, and Eleventh Supplemental Ordinances (together the General Ordinance), we are submitting herewith our Engineering Report prepared in connection with the remarketing of Water and Wastewater Revenue Refunding Bonds, Variable Rate Series 2005B (the "2005B Bonds"), the issuance of Water and Wastewater Revenue Bonds, Series 2009A (the "2009A Bonds" and together with the 2005B Bonds, the "Bonds"), and the issuance of Water and Wastewater Revenue Bonds, Series 2009B (the "2009 Pennvest Loans"). This report summarizes findings of engineering and financial studies related to the Water and Wastewater Systems of the City. We have made such investigation and review of the books, records, capital improvement programs, and water and wastewater facilities of the Water Department and such other investigations as we deemed necessary. Unless otherwise indicated, capitalized terms used but not defined herein shall have the same meanings assigned to such terms in the General Ordinance.

Projections of revenues and revenue requirements for the Water Department for the seven-year period of fiscal years 2009 through 2015 are shown in this report. In the preparation of this report, we conducted on-site inspections of the major water and wastewater facilities and personal interviews with key Water Department operating, engineering, and financial staff during the months of December 2008 and January 2009. The general physical condition of the Water and Wastewater Systems has been evaluated using three rating categories – good, adequate, and poor – as described below.

- *Good:* The facility is in condition to provide reliable operation in accordance with design parameters and requires only routine maintenance or minor improvements.
- *Adequate:* The facility is operating at or near design levels, however, non-routine renovation, upgrading, and repairs are needed to ensure continued reliable operation.
- *Poor:* The facility is not being operated within design parameters. Major renovations are required to restore the facility and assure reliable operation. Major expenditures for these improvements may be required.

Subject to the limitations set forth herein, this report was prepared for the City of Philadelphia by Black & Veatch Corporation (Black & Veatch) and is based on information not within the control of Black &

Veatch. Black & Veatch has not been requested to make an independent analysis, to verify the information provided to it, or to render an independent judgment of the validity of the information provided by others. As such, Black & Veatch cannot, and does not, guarantee the accuracy thereof.

In conducting our analyses and in forming an opinion of the projection of future operations summarized in this report, Black & Veatch has made certain assumptions with respect to conditions, events, and circumstances that may occur in the future. The methodology utilized by Black & Veatch in performing the analysis follows generally accepted practices for such projections. While Black & Veatch believes the assumptions are reasonable and appropriate, and the projection methodology valid, actual results may differ materially from those projected, as influenced by the conditions, events, and circumstances that actually occur that are unknown at this time and/or which are beyond the control of Black & Veatch.

The City may only distribute the complete report to third parties, including the above statements and not parts thereof. Any distribution of this report or any excerpt thereof to third parties shall be at the City's sole risk. The City's duty to distribute only the complete report, including the above statements, shall not apply to internal City documents derived from the report, that come within the scope of applicable records laws and are requested under such laws by interested citizens.

Based on these studies we offer the following statements and conclusions to indicate the City's conformance with specific requirements which must be met for the remarketing of the 2005B Bonds and issuance of the 2009A Bonds and 2009 Pennvest Loans, as stipulated in the Act and the General Ordinance:

1. Based on onsite physical inspections and investigations of major system facilities, conducted in December 2008 and January 2009, combined with discussions with key Water Department staff at that time, it is our opinion that the Water and Wastewater Systems are in good operating condition or adequate steps are being taken to return them to good operating condition. The proposed six-year capital program for fiscal years 2010 through 2015 should provide adequate funds to sustain the systems in good operating condition.

2. Proceeds from the 2005B Bonds were to be applied to refund a portion of the City of Philadelphia, Pennsylvania, Water and Wastewater Revenue Bonds, Series 1995 Bonds. Proceeds from the 2009A Bonds are to be applied to: (i) to finance major portions of the Water Department's capital improvement program for fiscal years 2010 through fiscal year 2015 and (ii) pay the issuance costs of the 2009A Bonds. Proceeds from the 2009 Pennvest Loans are to be applied to finance major portions of the Water Department's capital improvement program for fiscal years 2010 through fiscal year 2015

3. Project Revenues pledged to secure the Bonds and the 2009 Pennvest Loans are to be derived from the following sources: all rents, rates, fees, and charges imposed or charged for the connection to, or use or product of or services generated by the Water and Wastewater Systems to the ultimate users or customers thereof, all payments under bulk

contracts with municipalities, governmental instrumentalities or other bulk users, all subsidies or payments payable by Federal, State or local governments or governmental agencies on account of the cost of operation of, or the payment of the principal of or interest on moneys borrowed to finance costs chargeable to the Water and Wastewater Systems, all grants, payments, and contributions made in aid or on account of the Water and Wastewater Systems exclusive of grants and similar payments and contributions solely in aid of construction and all accounts, contract rights, and general intangibles representing the foregoing.

4. Based on actual and estimated future annual financial operations of the Water and Wastewater Systems, it is our opinion that the Water and Wastewater Systems will yield pledged Project Revenues (including projected revenue increases indicated in this report resulting from rate increases which may be imposed after an administrative process of the Water Department without further legislative action by City Council) over the amortization period of the Bonds and 2009 Pennvest Loans sufficient to meet the payment or deposit requirements of:

    a. All expenses of operation, maintenance, repair and replacement of the Water and Wastewater Systems;

    b. All reserve funds required to be established out of such Project Revenues;

    c. The principal or redemption price of and interest on all Existing Bonds and all Bonds issued under the General Ordinance, as the same become due and payable, for which such Project Revenues are pledged; and

    d. The Rate Covenant set forth in Section 5.01 of the General Ordinance.

    The Project Revenues forming the basis for this projection comply with the requirements of the definition of “Project Revenues” contained in Section 2 of the Act.

5. The Net Revenues are currently sufficient to comply with the Rate Covenant and are projected to be sufficient (including projected revenue increases indicated in the report resulting from rate increases which may be imposed after an administrative process of the Water Department without further legislative action by City Council) to comply with the Rate Covenant for each of two fiscal years following the fiscal year in which the Bonds are issued.

6. In our opinion, water and wastewater rents, rates and charges, including projected increases (which may be imposed after an administrative process of the Water Department without further legislative action by City Council) are within generally acceptable ranges for such services and are collectible.

In accordance with the Water Department’s agreements with Financial Guaranty Insurance Company (FGIC) and Financial Security Assurance, Inc. (FSA), rates and charges for use by the Water &

Wastewater Systems shall be 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 90 percent of the Debt Service Requirements (excluding debt service due on Subordinated Bonds) in such fiscal year. Further, any calculation by a consulting engineer of projected rate covenant compliance in connection with the proposed issuance of additional Bonds for each fiscal year ending on or after June 30, 2000, must state that Net Revenues (excluding amounts transferred from the Rate Stabilization Fund into the Revenue Fund during, or as of the end of, such fiscal year) in each fiscal year included in the projection period covering fiscal years 2009 to 2015 are projected to be at least 90 percent of the Debt Service Requirements (excluding debt service due on Subordinated Bonds) in each fiscal year. The levels of additional service revenue projected for the study period are anticipated to provide for the debt service coverage and requirements of the FGIC and FSA agreements.

Very truly yours,

BLACK & VEATCH CORPORATION

Peggy L. Howe
Vice President

I. Introduction

A. Purpose

The purpose of this report is to summarize findings of engineering studies performed by Black & Veatch Corporation (Black & Veatch) related to the water and wastewater systems of the City of Philadelphia (City). The Restated General Water and Wastewater Revenue Bonds Ordinance of 1989 and the amendments thereto as set forth in the First, Second, Third, Fourth, Fifth, Sixth, Seventh, Eighth, Ninth, Tenth and Eleventh Supplemental Ordinances (together the General Ordinance) require the preparation of such an Engineering Report as a condition to be met prior to the issuance of bonds under the General Ordinance.

In the preparation of this report, we performed site visits of major water and wastewater facilities and conducted personal interviews with key Water Department operating, engineering, and financial staff during the months of December 2008 and January 2009. Financial projections summarized in the report encompass the seven-year period of fiscal years 2009 through 2015.

Subject to the limitations set forth herein, this report was prepared for the City by Black & Veatch and is based on information not within the control of Black & Veatch. Black & Veatch has not been requested to make an independent analysis, to verify the information provided to it, or to render any independent judgment of the validity of the information provided by others. As such Black & Veatch cannot, and does not, guarantee the accuracy thereof.

In conducting our analysis and in forming an opinion of the projection of future operations summarized in this report, Black & Veatch has made certain assumptions with respect to conditions, events, and circumstances that may occur in the future. The methodology utilized by Black & Veatch in performing the analysis follows generally accepted practices for such projections. While Black & Veatch believes the assumptions are reasonable and appropriate, and the projection methodology valid, actual results may differ materially from those projected, as influenced by the conditions, events, and circumstances that actually occur that are unknown at this time and/or which are beyond the control of Black & Veatch.

The City may only distribute the complete report to third parties, including the above statements and not parts thereof. Any distribution of this report or any excerpt thereof to third parties shall be at the City’s sole risk. The City's duty to distribute only the complete report, including the above statements, shall not apply to internal City documents derived from the report, that come within the scope of applicable records laws and are requested under such laws by interested citizens.

B. Scope

This report addresses the organization and management, physical condition, adequacy of system capacity, operation and maintenance practices, and staffing levels of the water and wastewater systems. It provides a review of the proposed capital improvement program of the Water Department. The report also includes the results of studies regarding the financial requirements of the water and wastewater systems, which are based on a review of the Water Department's books, records, and other information.

This report has been prepared in conjunction with the remarketing of the Water and Wastewater Revenue Refunding Bonds, Variable Rate Series 2005B Bonds (the "2005B Bonds"), the issuance of Water and Wastewater Revenue Bonds, Series 2009A (the "2009A Bonds" and together with the 2005B Bonds, the "Bonds"), and the issuance of Water and Wastewater Revenue Bonds, Series 2009B (the "2009 Pennvest Loans"). Net bond proceeds of the original Series 2005B Bonds were used to refund a portion of the Water and Wastewater Revenue Bonds, Series 1995. The remarketing of the Series 2005B Bonds will include the transition of the insurance and liquidity responsibilities for the Bonds to the Bank of America. It is anticipated that the Water Department will realize a significant savings in annual interest costs as a result of this transition to Bank of America as the insurance and liquidity agent for the Bonds. Net bond proceeds of the 2009A Bonds, along with other sources of capital funds, are to be used to finance a portion of the Water Department's capital improvement program for fiscal years 2010 through 2015 and to pay the costs of issuance of the 2009A Bonds. Proceeds of the 2009 Pennvest Loans, along with other sources of capital funds, are to be used to finance a portion of the Water Department's capital improvement program for fiscal years 2010 through 2015.

C. Black & Veatch Qualifications

Black & Veatch is one of the largest and most experienced engineering, construction and consulting firms in the United States specializing in utility engineering. Experience includes the planning, design, operation analysis, and construction of water, wastewater, and energy generation and transmission systems. In addition, the firm has extensive experience in assisting utilities with management and financial aspects of their operations. The firm has been engaged in more than 40,000 projects for over 7,000 clients, including utilities owned by municipalities ranging in size from small villages to large metropolitan regions, investor-owned utilities, industrial and commercial businesses, and agencies of the United States and international government agencies.

The physical evaluation of the Water Department's water and wastewater systems has been performed by experienced personnel of the firm's Water Sector Business which provides study, design, and construction services in all facets of the water and wastewater fields. Water

system engineering experience of this business unit includes the design of a broad variety of facilities such as source of supply, pumping stations, treatment plants, and transmission and distribution systems. Wastewater system engineering experience includes design of collection, interceptor, and trunk sewers; pumping stations; treatment systems; and sludge disposal facilities. The Water Sector Business also has extensive experience in operator training, plant management studies, and preparation of operation and maintenance manuals for both water and wastewater systems.

In performing our engineering assessment of the Water Department, Black & Veatch reviewed the current condition and operation and maintenance of the water and wastewater systems. We conducted inspections of the Water Department's major water and wastewater facilities in December 2008 and January 2009, including the three wastewater treatment plants, the three water treatment plants, and the Biosolids Recycling Center (BRC). As a result of our facility inspections, we find the overall condition of these facilities to be good. This indicates that the facilities are in a condition to provide reliable operation in accordance with design parameters and require only routine maintenance or minor capital improvements. We also met with key Water Department staff during this period to discuss other facilities, regulatory compliance, staffing, and the overall mission of the Water Department. Staff interviewed during our studies included representatives from each of the six various divisions of the Water Department: Finance and Administration; Operations; Planning and Engineering; Public Affairs; Human Resources; and, Information, Science and Technology.

The financial feasibility review has been performed by professionals from Black & Veatch's Enterprise Management Solutions Division which provides services in such areas as utility rate studies, property valuation, depreciation rate studies, financial analysis and planning, nonaudit accounting, management and operations analysis, and the preparation of consulting engineering reports for official statements. Having performed various financial studies for the City of Philadelphia Water Department on a continuous basis since 1972, including the preparation of the engineering reports for the Water and Sewer Revenue Bonds, issued under the General Water and Sewer Revenue Bond Ordinance of 1974, as amended and supplemented, and the Water and Wastewater Revenue Bonds, Series 1993, 1995, 1997A, 1997B, 1998 and 1999, 2001, 2003, 2005 and 2007 issued under the General Ordinance, personnel of the Division are quite familiar with the Water Department's financial affairs as they relate to revenues, expenses, rates, and other financing matters. Professionals from this Division were also involved in the water and wastewater rate hearings for which the first phase, related to the overall level of increases for fiscal years 2009 through 2012, was completed in October 2008, and the second phase, related to stormwater rate revisions, are currently nearing completion. As a result of these rate hearings, schedules of water and wastewater rates for retail service have been approved for

fiscal years 2009 through 2012, and are in place. Rates applicable to wholesale water and wastewater rates are also adopted for this same four-year period.

II. Organization and Management

A. Overview

The water and wastewater systems serving the City of Philadelphia (City) are owned by the City and are operated as a self-supporting enterprise fund utility. The Water Department was established by the Philadelphia Home Rule Charter, approved April 17, 1951 as one of the City's ten operating departments. The Water Department is responsible for the planning, construction, operation, and maintenance of the two systems; rate setting; budgeting and detailed cost accounting; and preparation of financial statements for the water and wastewater systems. The Water Revenue Bureau is responsible for customer meter reading, billing, collection, and customer accounting for the water and wastewater systems and is currently overseen by the City's Revenue Commissioner. The City's Finance Director has top level oversight of the Water Revenue Bureau. The data from the Water Department's annual statements are included in the City's combined Comprehensive Annual Financial Report. The audit function for the City is the responsibility of the Office of City Controller. Other services are provided to the Water Department by other City departments. Legal matters affecting the Water Department are the responsibility of the City Solicitor's office, although the Water Department does have a Divisional Deputy City Solicitor assigned directly to the Water Department under the direction of the City Solicitor's office.

The Water Department has continued implementing its vision and strategic plan that focus on increasing the operational efficiency of the water and wastewater systems and providing satisfactory service to its customers. The results of this strategy have allowed the Water Department to achieve significant productivity gains and positive reports from its customers. In administering this strategy, a monthly performance measurement system, called the Monthly Manager's Report, is utilized. This report enables managers to receive up-to-date feedback on the performance of their units relative to strategic plan goals and objectives.

The Water Department senior management positions are staffed with highly qualified and trained personnel that collectively possess an average of 29 years of experience. This high level of experience exists despite the high number of retirements that have occurred over the past five years as a result of the Deferred Retirement Option Plan (DROP) created by the City in 1999 and through normal retirements and other staff turnover. Through the DROP program, approximately 338 Water Department staff retired between fiscal years 2004 and 2009. These positions have been filled from within the ranks of the Department's staff, thus maintaining a high level of institutional knowledge and dedication to the City.

While succession planning is difficult within a civil service structured organization such as the City's, the Water Department is preparing for these retirements by reviewing personnel needs at the section and unit level. The Water Department is also conducting a review of its organizational structure and is actively considering consolidating and streamlining positions and units to better focus organizational inter-relationships and accountability, as they have evolved through the present day in the execution of the Water Department's mission.

The Water Department continues to focus on filling unfilled positions. With the contracting out of the operation of the Department’s Biosolids Recycling Center (BRC) in 2008, the Department transferred most of the remaining BRC staff, numbering approximately 60 positions, to other operating units, thus filling much of the backlog of vacancies from the extended hiring freeze initiated under the previous City administration. The Department is absorbing approximately 20 City employees whose positions have been eliminated from other agencies as part of major cut-backs in General Fund positions. The Department has also been successful in hiring new staff in recent years. Through these three vehicles, the Department has successfully reduced their vacancies to a reasonable level, with most units reporting vacancy levels of less then 10 percent. Recognizing the need to be proactive in growing their work force, the Department launched an Apprentice Program in 2006. The Department has already filled some vacancies through this program, and managers currently working with participants of the program view it as being highly successful.

The Water Department is headed by the Water Commissioner who is appointed by the City's Managing Director with approval of the Mayor. The Commissioner is assisted in management of the Water Department by three Deputy Water Commissioners. The Water Department is currently organized into six divisions: (1) Operations, (2) Planning and Engineering, (3) Finance, (4) Human Resources, (5) Public Affairs, and (6) Information Science and Technology. There is also an Office of Environmental Policy and Planning. Each division is divided into units and subunits responsible for carrying out specific functions. An Organization Chart of the Water Department is shown on Figure II-1.

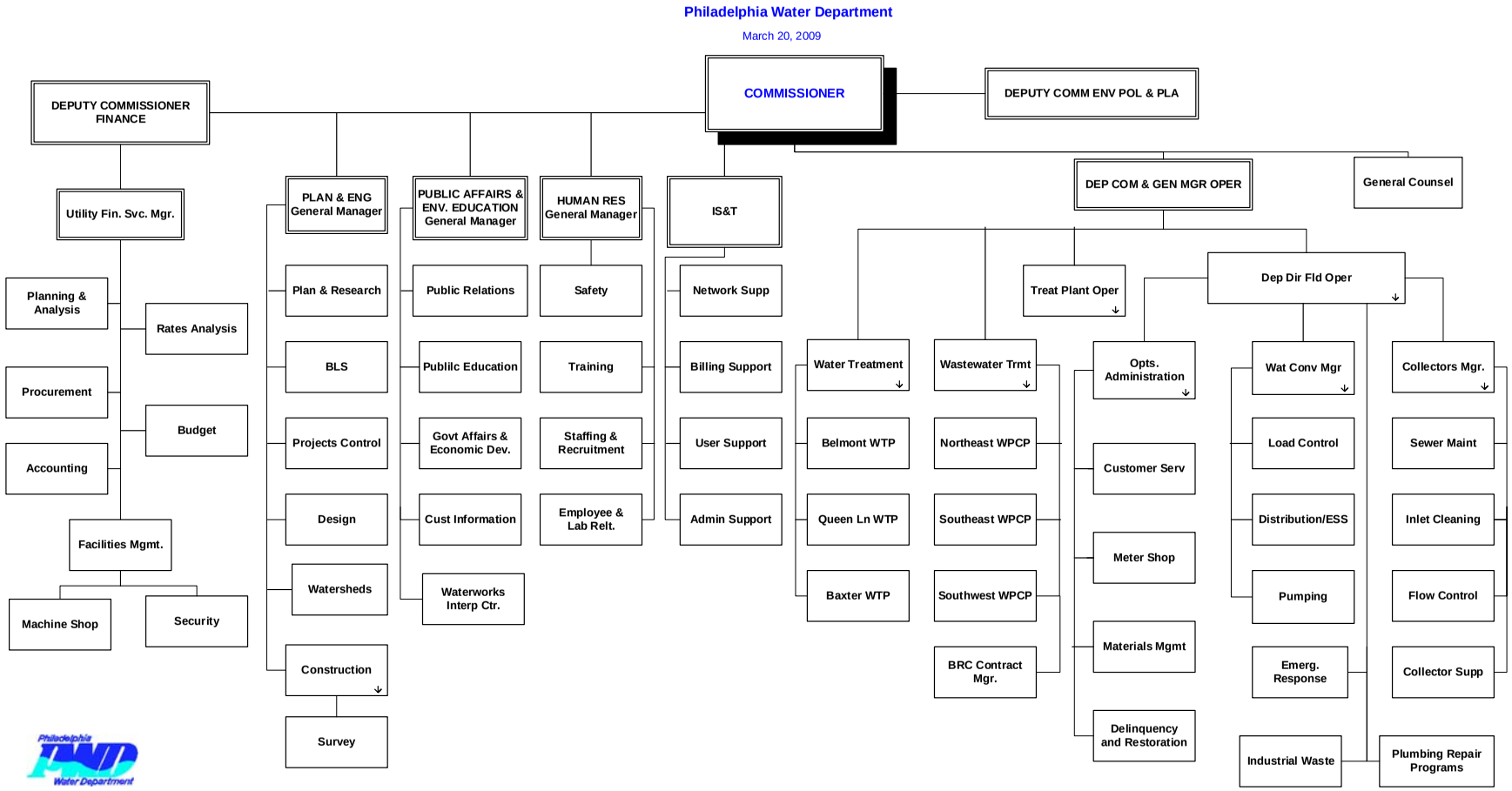


Figure II-1 – Organization Chart

As of June 2008, the Water Department had a total of approximately 1939 employees. Of these, 1464 are represented by District Council 33, and 208 are represented by District Council 47 of the American Federation of State, County, and Municipal Employees Union. The Department's 267 upper management, supervisory, and senior engineering personnel are not eligible for union membership. In addition there are 228 employees in the Water Revenue Bureau whose positions are funded by the Water Department. Present labor agreements are an extension to the previous contract which expired June 30, 2008. The extension agreements will expire on June 30, 2009.

The Water Department has always maintained security at their facilities using hardware and a uniformed security force that inspects remote unmanned facilities daily and on a random 24-hour basis. However, the events of September 11, 2001, have identified the need to improve its existing security systems. Prior to September 11, 2001, the Water Department had begun implementing additional monitoring and controls at its wastewater treatment plants, Biosolids Recycling Center and its remote facilities. Since that date there has been continued efforts to complete the implementation of these systems and other security measures to "harden" all facilities. For example, the Water Department has increased the size of its uniformed security force, prepared vulnerability assessments, limited access of personal vehicles on plant property, implemented access ID card systems at all facilities, implemented a new chemical delivery security system, and eliminated the use of chlorine gas at their treatment facilities.

The Water Department continues to implement operational recommendations of the Vulnerability Assessment report, and budget for any Capital Improvements required to upgrade the facilities to meet the recommended upgrades or improvements. In the coming years the department will purchase emergency generators for all plants and pump stations and continue to enhance physical security via fencing, lighting, camera systems and alarm systems. In addition, the Department is a recipient of a Contamination Warning System Demonstration Pilot grant from the United States Environmental Protection Agency (EPA). As discussed in more detail in Chapter III, this funding will be used to develop a comprehensive water contamination identification and response strategy.

The Water Department maintains their commitment to energy efficiency in all of their operations, and is re-invigorating this commitment in response to a series of internal and external factors including: the pending deregulation of power utilities in Pennsylvania in 2011, volatile energy markets, global and industry-wide emphasis on energy reduction and carbon footprint analysis, and the potential for energy intensive pumping or treatment

requirements in the future. Previous or on-going efforts in energy conservation and optimization include: optimization of pumping strategies, multiple efforts to utilize co-generation facilities and implementation of lighting system evaluations and upgrades.

A new initiative starting in fiscal year 2009 is the development of a Utility Wide Energy Plan. The Department has contracted with a consultant for assistance in developing the plan, which will include rate projections in light of deregulation to occur in 2011, energy inventories and conservation management strategies and preliminary evaluations of various renewable energy sources. In addition, the Department initiated the design of a 4 megawatt biomethane cogeneration facility at its Northeast Water Pollution Control Plant (WPCP) that is planned for construction in fiscal year 2010. Once operational, the Department expects this project will reduce electricity usage by 10% Department-wide and save an estimated $2 million in annual electricity costs. The Department was also awarded a $30,000 grant to examine solar energy opportunities at its facilities to offset and reduce energy costs, and continues to evaluate opportunities for use of non-traditional alternative energy sources.

B. Operations Division

Over the years, the Philadelphia water and wastewater systems have grown and today are among the most complex large municipal systems of their kind in the country. Operation and maintenance of these systems require continuous attention for the following reasons:

- The public drinking water must be safe and comply with both the Safe Drinking Water Act (SDWA) regulations of the U.S. Environmental Protection Agency (EPA) and state requirements by the Pennsylvania Department of Environmental Protection (PaDEP).
- The effluents from the wastewater treatment plants discharged to the Delaware River must meet the limits set forth in the plants' National Pollutant Discharge Elimination System (NPDES) permits.
- The water and wastewater treatment plants, the sewerage and water conveyance systems and the pumping facilities must be maintained and operated in an acceptable manner that assures cost-effective and continuous performance with minimal adverse impacts to the public and the environment.
- Sewage sludge and other residuals must be properly treated, disposed of and distributed in accordance with Water Department policy and governing federal and state regulations.

Additionally, the Water Department must provide sufficient forward-looking engineering and planning to ascertain future operating requirements likely to emerge from upcoming environmental regulations. Because of the many new regulations that have been and continue to be promulgated, prudent advanced planning and engineering is essential in order to comply with strict timetables and to minimize costly expenditures to the Water Department resulting from these regulations. Due to the continued need for future regulatory compliance, the Operations Division interacts and works closely with both the Planning and Engineering Division and the Office of Environmental Policy and Planning.

The Operations Division's current organizational structure includes a Deputy Commissioner of Operations, who reports to the Water Commissioner. This Division includes the following operating units:

- Water Treatment
- Wastewater Treatment
- Water Conveyance
- Wastewater Collection
- Operations Administration
- Industrial Waste.

A recent change in the Operations Division was the retention of a private operator for the Biosolids Recycling Center effective in October 2008. Discussion of this change in operations is further discussed in this report in Section IV, Wastewater System.

This Division, responsible for the day-to-day operations and maintenance of the water and wastewater systems, relies on the support of the other five divisions to accomplish its mission and, maintains an especially close relationship with the Planning and Engineering Division in the following areas:

- Undertaking long-range planning and engineering.
- Coordinating regulatory agency requirements.
- Producing analytical results required to demonstrate permit and regulatory compliance.
- Preparing construction documents and coordinating design consultants.
- Coordinating construction projects.
- Establishing capital budgets and maintaining the current capital improvement program.

Based upon our interviews and investigations, we believe that the organization of the Operations Division is well suited to respond to issues affecting operations and maintenance. The structure provides for a smooth flow of communication to and from the division level and section levels. Management places great emphasis on holding regularly scheduled meetings with superintendents and technical group leaders to communicate plans and receive important feedback.

Based upon our observations and discussions with key staff, we find that the Operations Division coordinates effectively with the Planning and Engineering Division. Operations related planning and design projects are typically identified by the Operations Division and then developed by the Planning and Engineering Division. The Planning and Engineering Division is also responsible for including these projects in the Capital Improvement Program.

In order to provide for more effective decision making ability, the Operations Division has implemented procedures focused on identifying all capital improvements and replacement/rehabilitation project needs at each of its major facilities. The projects are identified on a master list by facility and projected for a six-year capital planning period. The projects are prioritized in order of importance and are current through regular review and communication. The project listing provides the Operations Division with a comprehensive budget program enabling it to maintain continuity of service while tracking corresponding budget requirements.

The management of the Operations Division and the Planning and Engineering Division has responded capably to the needs of the water and wastewater systems and are well positioned to meet projected needs in the coming years. Key management personnel have qualifications and experience commensurate with their responsibilities which enables them to deliver reliable, cost-effective water and wastewater services to the system's users.

The Operations Division has attracted a strong technical staff to supervise its operations and maintenance program. Similarly, the Planning and Engineering Division is also staffed by highly skilled scientists, engineers, planners, and technicians. In our opinion the Operations Division is adequately staffed to meet current system requirements.

C. Planning and Engineering Division

The Planning and Engineering Division is organized into six specialty related sections designed to support the needs of the Water Department. This Division had 191 budgeted

positions with 22 vacancies as of the end of Calendar Year 2008. Descriptions of the sections are provided below:

(1) Planning and Research Section - This group provides services in such areas as applied research, feasibility studies, strategic planning, financial planning, energy management, and distribution and conveyance systems planning and rehabilitation. The section has three units (Asset Management and Planning, Planning and Technical Services and Environmental Engineering).

The Asset Management and Planning Unit includes the Water and Sewer Systems Planning and Stormwater Plan Review programs. The Water and Sewer Systems Planning program provides valuable services regarding the upgrading and rehabilitation of the water main and sewer infrastructure. Water main and sewer replacement is driven by a point system which considers factors such as age, materials and number of breaks. Sewer replacement is driven by the Sewer Assessment Program (SAP).

The recently completed complete sewer assessment program used video cameras to inspect the entire collection system, and the results were used to establish an asset database and a point system. Ongoing inspections will insure that the infrastructure is inspected regularly, the database is current and deficiencies are identified. All video sewer inspections are electronically stored and points assessed based on uniform evaluation criteria and Operations and Maintenance (O&M) considerations.

All water and sewer infrastructure are catalogued in the Department's GIS database, which will serve as the foundation of the street-side asset management program to be implemented in 2009. This program will consolidate all existing databases and work order management programs and allow for ready access to all historical information and facilitate asset management practices.

The Stormwater Plan Review program is responsible for reviewing and approving the stormwater plans for proposed development greater than 15,000 square feet and insuring compliance with the City stormwater regulations adopted in January 2006. In the three years since its

inception, this program has reduced stormwater runoff by three percent and will result in future savings of an estimated $425 million in capital costs and $80 million in O&M expenses.

The Planning and Technical Services and Environmental Engineering units provide services in areas such as applied research, feasibility studies, strategic planning, financial planning, and energy management. A sampling of the units' activities are described as follows:

- Water treatment and distribution system research and plant pilot studies to optimize treatment processes, assure future regulatory standards can be attained and evaluate new technologies.
- Wastewater treatment research such as supporting the Department's initiative to evaluate the limits of the wastewater treatment capacity and identify alternative strategies for increasing capacity or otherwise effectively handling storm flows.
- Computer modeling to evaluate the hydraulics of the unit processes within the water and wastewater plants. This was utilized in evaluating the feasibility post-filter chlorine contact the Baxter WTP and in profiling and optimizing the flow into the primary tanks at the Northeast WPCP.
- Energy management programs including the Utility-Wide Energy Plan, consultation on the co-generation initiative under development at the Northeast plant, administration of the solar energy grant and on-going investigations into alternative energy initiatives.
- Department interface with the Delaware River Basin Commission.

(2) Office of Watersheds – The Office of Watersheds (OOW) is charged with integrating the traditionally separate but inherently related Combined Sewer Overflow (CSO) program, the Storm Water Management program and the Source Water Protection program, to maximize the effectiveness of resources allocated to these programs and to ensure the comprehensive achievement of each program's goals. The Office of Watersheds is responsible for implementing planning and management strategies that foster practical and cost effective scientifically based solutions with effective public involvement.

From 1999 to 2008, OOW has implemented a comprehensive watershed assessment strategy, integrating biological, chemical and physical assessments to provide both quantitative and qualitative information regarding the aquatic integrity of the Philadelphia regional watersheds. OOW uses this information to develop a Watershed Management Plan for each watershed. Taking a collaborative approach OOW uses the planning process as a vehicle for stakeholder input in the Management Plans. Ultimately, the Plans identify and prioritize water quality concerns, sources of pollution and treatment or restoration recommendations in each watershed.

The recommendations of these plans are incorporated into the CSO, Stormwater and Source Water program goals as appropriate. It is a goal of the OOW to achieve viable and measurable improvements to the region's waterways and to meet regulatory requirements, while enhancing the health and aesthetics of the environment and being affordable to the customer base.

The Office of Watersheds organization is composed of engineers, aquatic biologists, environmental specialists, urban planners, GIS specialists and community and education outreach staff, which facilitates the necessary interdisciplinary approach to achieve watershed protection. Some of the more unique programs and projects being conducted by or in collaboration with the Office of Watersheds are briefly identified below:

- CSO Program - The Combined Sewer Overflow (CSO) program is a significant responsibility of the OOW. The fundamental goal of the CSO 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. The present NDPES permits held by the Water Department require the implementation of a combined sewer overflow program.

The strategy to attain these goals has three phases: aggressive implementation of a comprehensive program for Nine Minimum Controls; planning, design and construction of 17 capital projects that further enhance system performance and reduce CSO volume and frequency; and commitment of up to $4 million in services and resources toward comprehensive watershed-based planning and analyses that will identify additional, priority actions to further improve water quality in Philadelphia area water bodies (Cobbs Creek and Tookany/Tacony-Frankford Watershed Management Plans).

The current Long Term Control Plan (LTCP) includes significant capital expenditures to address capture and treatment requirements. Capital projects in the construction or design phase include: enhancements to the real-time control system, Dobsons Run project, Venice Island (R-20) storage tank and State Road (PC-30) relief sewer. These projects are in the Capital Budget for fiscal years 2009 and 2010 with an estimated total expenditure of $105 million dollars. In addition the Department is evaluating alternatives for the expansion of the wastewater treatment plants primary and secondary treatment capacities to increase wet weather capacity.

The three phases of the CSO program strategy successively provide more comprehensive programs that follow the direction of the EPA CSO Policy and its guidance documents and are consistent with the requirements of the Clean Water Act. The Phase I Nine Minimum Controls and the Phase II capital improvement program should result in implementation of the highest level of cost-effective, technology-based improvements. The Department believes that these programs will provide a substantial reduction in CSO volume and frequency and a significantly greater percentage of combined sewer flow transported and treated at the Water Department's three wastewater plants.

Phase II of the LTCP also includes operation, maintenance and monitoring improvements, in addition to capital projects. Maintenance and operations of the CSO structures includes ongoing inspections, minor maintenance and comprehensive maintenance activities. Comprehensive maintenance provides complete mechanical, instrument and electrical servicing (as required).

In contrast to Phases I and II, the Water Department's LTCP Phase III is water quality-based. Its emphasis on the completion of watershed planning for each basin is geared to ensure cost effective solutions based upon a solid foundation of in stream research. Each integrated watershed management plan seeks to identify: sources of instream pollution; the relative impact of each source on the attainment of water quality standards; the measures needed to control various sources in addition to CSOs; and, the ultimate ability to attain water quality standards. These plans are created through a stakeholder-driven process, one in which the Partnership members prioritize the goals of the plans to ensure that they include hefty components of community education, stewardship, overall environmental quality, and regional coordination.

The Department's NPDES permits were renewed in September 2007 and require submittal of an updated LTCP in September of 2009. The overall timeframe for the completion of the LTCP will be subject to negotiation and is anticipated to range between 20 and 30 years. OOW is working collaboratively with other divisions to develop a LTCP that is watershed based, integrating both "green" (land based) and "gray" (traditional tanks, tunnels and treatment) solutions. The Department continues to demonstrate the value of utilizing a watershed based approach to addressing CSOs while at the same time improving water quality and offering benefits to the community. This approach is supported by the regulatory community as a means to obtain tangible water quality improvement, while reducing capital expenditures for large CSO

capture and treatment projects. The Department's commitment to and demonstrated success with their program, should reduce the probability that the Federal Government will invoke a Consent Order Agreement to force compliance with CSO objectives, and could ultimately save the Department billions of dollars while offering social and environmental benefits beyond those achieved through traditional solutions.

- Stormwater Program - The stormwater program is responsible for maintaining compliance with the City's NPDES Stormwater Management Permit. PaDEP issued the City its initial storm water permit on September 29, 1995, effective for five years. The permit requires the City to implement four management programs to reduce the discharge of pollutants from its municipal separate storm sewer systems. The management programs require the City to reduce pollution from (1) commercial and residential areas; (2) illicit connections; (3) industrial facilities; and (4) construction sites.

  The initial 5-year NPDES Phase I storm water permit issued in 1995 expired in September, 2000. The Water Department applied for a new permit in March, 2000 as required, and the then existing permit remained in effect until the new permit was issued in September 2005. The program focuses on areas of the city serviced by separate storm sewers but is managed closely with the CSO Program and Source Water Protection program to effectively reduce stormwater flows, enhance stormwater quality and improve stream quality.

  The program applies the watershed based approach using land-based solutions to retain, reduce and treat stormwater runoff or discharges. In recent years the program has focused on: the Wissahickon Creek Total Maximum Daily Limit (TMDL) (conducting a feasibility study, developing a monitoring program and identifying best management practices (BMPs) to meet sediment load reduction requirements), the Delaware River TMDL (monitoring and abatement of polychlorinated biphenyls (PCBs) in

the storm system), continuance of the defective laterals program, pollutant source identification, and an overall discharge management, characterization and management program.

Through these initiatives the Department will identify and prioritize BMPs for implementation. The Department currently has over 10 million dollars budgeted over the next five years for stormwater BMPs including: stream restoration, stream bank stabilization and stormwater wetland creation projects.

The program has developed partnerships within the watersheds that enable leveraging of grant funding and resources to achieve results. The Water Department has been a municipal partner in the state sponsored Act 167 Stormwater Management Plan for the Darby-Cobbs Watershed (completed in 2006) and was the sponsor for the Tookany/Tacony-Frankford Watershed Act 167 Plan (completed in 2008). The Water Department has recently contracted with the PaDEP to conduct a county-wide Act 167 Plan, focusing on the Pennypack (fall 2008), Poquessing (fall 2009) and Wissahickon (fall 2011) watersheds over the next five years.

- Storm Flood Relief – The OOW modeling group is conducting hydraulic modeling in support of the Department's efforts to identify solutions for storm flow related basement flooding which has occurred in certain areas of the City in recent years. The Department's Capital Budget for the next five years includes over 200 million dollars dedicated to storm flood relief projects in Northern Liberties, South Philadelphia and Washington Square West.

- Source Water Protection Program – This program is charged with protecting Philadelphia's drinking water supply. The initial focus was the completion of the Source Water Assessments for over 50 surface water intakes on the Schuylkill and Delaware Rivers with the goal of assessing risks and prioritizing measures to protect the Water Department's source water. The effort relied upon establishing partnerships with other water utilities along the watersheds of both

rivers. The program built upon the Assessments and the partnerships and is currently focusing on implementing protective measures.

Through a partnership with federal, state and local interests the Department helped to secure a 1.5 million dollar EPA Targeted Watersheds Grant dedicated to implementing protection measures throughout the Schuylkill River Watershed. Other initiatives include the Delaware Valley Early Warning System, the Schuylkill RiverCast recreational water quality forecasting system, climate change research, investigation of microbial source tracking as a means to identify sources of pollution and piloting of pharmaceutical take-back programs to reduce the flushing and ultimate discharge of used pharmaceutical products to rivers.

- Green City Program - This program emphasizes the use of sustainable locally based greening projects, such as street tree plantings, lot conversions to green space, and community gardens and recognizes that reduced infrastructure costs are possible through practical and environmentally friendly programs, even in urbanized neighborhoods.

- Partnerships - The Water Department's successful watersheds program has been made possible through the creation of watershed partnerships and regional partnerships, recognizing the linkage of all users both upstream and downstream.

- Fairmont Fish Ladder - In partnership with the Army Corps of Engineers, rehabilitation is nearing completion on the fish ladder on the Schuylkill River, which is intended to increase the number of fish above the dam.

- Source Water Protection Early Warning System - Through an initial $750,000 grant from PaDEP, the Water Department in concert with other regional water utilities, developed an early warning communications and notification system for water suppliers on the Delaware and Schuylkill Rivers. This innovative system allows automated notifications of water quality events, provides for remote access to real-time and historical water quality data along both rivers,

and serves as a forum for information sharing via an interactive web-site. The system is used by water utilities and regulatory agencies throughout the region to share information about routine and emergency water quality events. The system as been effective in improving communication and fostering cooperation among the regional drinking water community.

- Waterways Restoration Team – This recently formed unit, operates under the Sewer Maintenance unit with the Operations Division and works closely with OOW to implement watershed restoration projects in-house. The Water Department recognized that this new team was needed to help implement the extensive watershed assessment initiatives required as part of the Long-term CSO Control Plan, Stormwater Management Phase I permit, and Source Water Protection program. This team enables the Water Department to better coordinate its infrastructure improvement projects with ecologic improvement goals to help it meet permit requirements while incorporating watershed-based management into maintenance strategies. This team inventories problem areas along City streams, develops monthly maintenance tasks, helps to restore aquatic habitat through removal of debris and obstructions, implements stream restorations and coordinates natural and constructed drainage channel and right-of-way work with the Fairmount Park Commission.

- TMDL development - 77 of the 78 streams in Philadelphia are impaired and will eventually require the development of Total Maximum Daily Limits (TMDLs). A TMDL for polychlorinated biphenyls (PCBs) was established for the Delaware River in 2003 and a TMDL for nutrients and sediment was finalized for the Wissahickon Creek in 2006. The Water Department was active in the development of these TMDLs and has been proactive in meeting their requirements.

The Office of Watersheds' watershed management program has been recognized by both the PaDEP and the US EPA as a success. The EPA has highlighted the program as a national model. The comprehensive work of the Office of Watersheds in the areas of source water protection,

stormwater and combined sewer overflows has enabled the Water Department to receive a number of significant awards and recognition.

(3) Bureau of Laboratory Services (BLS) – BLS is the Department's environmental laboratory responsible for providing analytical services to meet water and wastewater regulatory requirements and in support of various Department research initiatives. BLS operates a state-of-the-art laboratory facility and is comprised of the following groups: (1) Administrative Branch, (2) Inorganic Laboratory, (3) Materials Engineering Laboratory, (4) Organic Laboratory, (5) Aquatic Biology Laboratory and (6) Scientific and Regulatory Affairs.

BLS is responsible for the development of standard operating procedures and the quality assurance program at the water and wastewater laboratories. They are directly responsible for wastewater laboratories and support the water treatment laboratories which are under the direct supervision of each plant's manager. BLS is responsible for administering compliance with the water quality monitoring requirements under both the federal Safe Drinking Water Acts (SDWA) and state regulations. Approximately 1000 sets of drinking water samples are collected each month from the water treatment plants, reservoirs and distribution system. These samples are tested for chemical and bacteriological parameters to assure product quality.

BLS is responsible for monitoring and maintaining distribution system water quality and administering the Department's Cross Connection Control Program. To this end, BLS operates and maintains real-time water quality monitoring stations at 18 locations throughout the distribution system. BLS developed a Cross Connection Control Manual for the City which provides standards for the prevention of water contamination. They are also responsible for certifying plumbers with regard to proper installation and testing of Department-required backflow preventing valves.

BLS is involved in monitoring the water quality in Philadelphia's urban streams. In this capacity, BLS maintains a staff of scientists focused on

stream water quality monitoring and aquatic life assessments. These scientists work closely with the Office of Watersheds in the development of Watershed Management Plans and collecting of data required for the annual reports required under the Stormwater Management Program and Combined Stormwater Overflow (CSO) Program permits.

BLS also performs materials and investigative testing in support of construction activities and in response to emergency or problematic conditions. Another important aspect of their work is conducting vendor surveillance prior to installation of materials and equipment on various Water Department projects.

The work performed by BLS is important from a water quality and regulatory reporting standpoint and, based on their proactive approach, in minimizing construction related problems, thereby facilitating overall water and wastewater operations.

(4) Projects Control Section - This group is responsible for developing, maintaining, tracking, and coordinating the capital improvement program. Projects are developed by the facility manager, approved by the section manager and Deputy Commissioner of Operations then submitted to Projects Control where they are prioritized and placed in a timeline to allow budget development for a six-year horizon. Longer-term projects are placed in a year 2050 file for incorporation into future budgets. The Water Department began preparation of its capital budget for fiscal year 2009 though 2014 in October 2007, when all divisions were supplied with documentation to complete and return to the Projects Control Section reflecting their budgetary requests for the next fiscal year. The Water Department has developed and installed a computerized budgeting system to enable each division to prepare budget requests based on historical and current experience. The Water Commissioner reviewed all budget proposals with the assistance of the Projects Control's staff and submitted the Water Department's proposed fiscal year 2009 budget to the City's Planning Commission in December 2007. The Mayor approved the Water Department's Capital

Budget and included it as part of his proposed budget to City Council in February, 2008 and it was approved in May, 2008.

(5) Design Section - This group performs all engineering functions associated with design and construction. A representative list of the group's activities follows:

- Evaluates and designs new and rehabilitation projects.
- Provides input into maintenance, renovation, and reconstruction issues.
- Reviews and coordinates designs prepared by consultants.
- Reviews shop drawings and reviews requests by contractors for deviations from plans and specifications.
- Maintains record plans.
- Provides engineering assistance to Operations Division during disruptions in water and wastewater service.
- Coordinates with other agencies such as the Pennsylvania Department of Transportation (PADOT), Philadelphia Streets and Department and Redevelopment Authority, SEPTA and private utilities.
- Assists in public education of various issues associated with the water and wastewater systems.
- Reviews plans prepared by private developers for adherence to Water Department standards.

The Design unit has two large groups (Plant Design and Water and Sewer Design. The section maintains its service levels by employing outside consultants to supplement the in-house staff, as necessary.

(6) Construction Section - This group assumes responsibility for projects upon issuance of the construction notice-to-proceed. Responsibilities include assurance of contractor compliance with design contract documents, processing change orders if necessary, responding to request for information and handling payment requests from contractors. Construction unit also provides surveying services which assists the contractors in construction stake out at the site, complies with surveying procedures.

D. Finance and Administration Division

The Finance and Administration Division is responsible for the development of water and wastewater revenue requirements and rates, the preparation and control of the operating budgets, the management of capital financing programs, the conduct of internal audits, the administration of customer revenue and rate programs and the general accounting of operating and capital funds. In addition, the Division handles the maintenance of the inventory control, functionalized cost, and fixed asset accounting systems, procurement, and preparation and follow-up on documentation of federal and state grants. Further, the Division provides support services in the areas of office and facilities management. This Division also oversees the Department's Facilities Management, Machine Shop and Security units.

In accomplishing the responsibilities identified above, the Division's major objectives include compliance with all legal reporting requirements, securing goods and services needed to continue operations from vendors, determining a fair and equitable water and wastewater rate structure to provide sufficient funds for both operating and capital programs, monitoring of all budgetary expenditures, promoting performance management measurement and reporting, and developing special accounting systems.

The Finance Division organizational structure includes a Deputy Commissioner, who reports directly to the Water Commissioner. The division has nine units (Procurement, Administrative Services, Planning and Analysis, Rate Analysis, Accounting/Accounts Payable, Budget, Facilities Management, Machine Shop, and Security). The authorized staffing level for the division is 174. There are also about 8 positions (7 filled) in the capital payments unit budgeted in the capital fund. When the current budget was prepared, 148 of the 166 operating budget positions were filled. The majority of these vacancies are in the Facilities Management unit.

(1) Core financial services are provided by the Planning and Analysis, Administrative Services, Rate Analysis, Procurement, Budget, and Accounting/Accounts Payable units.

(2) The Facilities Management unit is responsible for all building maintenance work (concrete, electrical, HVAC) for all Department structures except the three water and three wastewater facilities. The Security unit and the Machine Shop unit both report directly to the head of the Facilities Management unit.

Key management positions within the Finance Division are staffed with highly capable individuals, most of whom are long-term Water Department employees. In our opinion, the Finance Division is organized to efficiently respond to financial needs from other divisions of the Water Department as well as with other City of Philadelphia departments and other entities outside of the City government, as necessary.

E. Human Resources Division

This Division provides administrative and human resources planning services to the various divisions and their respective units. Some of the key objectives of this division include: coordination of traditional personnel functions with initiatives in manpower and management training; insuring that personnel recruitment, placement, training, career development and safety programs are consistent with the Water Department's long-term human resources needs and affirmative action goals; initiating policy development related to administration and human resources management and insuring effective communication within the Water Department of policies and procedures generated by management; coordination of labor management initiatives and employee relations programs with the Water Department's long range operational plans. The three units in this Division are Personnel, Training, and Safety and Health. Authorized staff for these units is 32. The division currently has 5 vacancies.

Through its Human Resources Division, the Water Department maintains an active training program for all employees. Each job has training courses tailored to improving the employees' knowledge and performance. A new training center was opened in fiscal year 2003 on the grounds of the Belmont Water Treatment Plant, with trainers coming from both within the Water Department and outside contractors.

The Training unit oversees close to fifty course offerings covering a broad range of topics, and is engaging in new initiatives. The Training Unit also led the development of the Department's Apprentice Program, which started in 2006. Under this program the Department seeks out motivated high school students interested in applicable trades (science, electrical, mechanical, etc…) and hires these students as apprentices. The students work part-time as an apprentice until they graduate, they are then hired full-time under the apprentice program. Once they complete the required training they will be hired as full-time civil service employees. Managers and mentors working with apprentices and graduates of the program speak highly of the program. Future training initiatives include:

- Providing training in fundamental skills, such as reading and mathematics.
- Increasing the variety and availability of safety and skilled trades training.

The Safety and Health unit utilizes a team of industrial hygienists to build training programs and support Water Department safety committees in their goal to assure a safe work environment. As noted in Table II-1, long term efforts have shown a general downward trend to leveling off of paid days lost.

Table II-1 – Safety Record	
Fiscal Year	**Paid Days Lost**
1993	4,821
1994	3,884
1995	2,278
1996	1,499
1997	982
1998	1,053
1999	1,155
2000	772
2001	1,217
2002	1,028
2003	959
2004	1,163
2005	1,452
2006	1,873
2007	1,430
2008	1,757

F. Public Affairs Division

The Public Affairs Division supports and enhances the services performed by the Water Department's five other divisions to provide better service to the public. The Public Affairs Division consists of four units. These units, together with their primary areas of focus, are presented below.

(1) Public Education Unit - As its name implies, this unit is responsible for carrying out the Water Department's public education programs. Public education targets school children, neighborhood groups and the individual water customer. During calendar year 2008, more than 49,100 people toured Department facilities or were touched by the Department's outreach programs. The Public Affairs Division has been responsible for the Water Department's strong publications and extended outreach programs. It has been actively involved in developing public outreach programs for better understanding of urban watersheds, and the part

each citizen and industry plays in protecting these valuable resources. It has secured significant financial assistance from various organizations in the Delaware Valley in support of their efforts, including the US EPA, the Delaware River Port Authority, and the Pennsylvania Departments of Environmental Protection and Conservation and Natural Resources.

Among the many projects developed and being implemented by the Public Affairs Division is the Fairmount Water Works Interpretive Center, which was opened in October 2004. The Center traces the history of the Schuylkill River and illustrates the complicated relationship between human civilization and the river. The Center is staffed by four environmental educators, and features interactive exhibits on the urban watershed; a Water Laboratory; a classroom/media center; and interpretive displays. In 2008, the Center attracted 34,422 visitors consisting of school children, adult groups, professional groups and the general public. The Center has formed strategic partnerships with partners such as the School District of Philadelphia, the Partnership for the Delaware Estuary, the University of Pennsylvania Institute for Environmental Studies, and the Academy of Natural Sciences. A grant from the Claneil Foundation, received in 2008, will create a new exhibit, *Seeing is Believing*, which will link scientists at the Department's Bureau of Laboratory Services with visitors to the Interpretive Center for real-time investigations of aquatic biology and chemistry.

The Public Affairs Division utilizes a Water Quality Council (WQC), comprised of 40 representatives from various civic, environmental, industrial, and academic organizations, including Water Department staff. The WQC meets quarterly to discuss policy and strategy for public education, and provides advice and support of the Water Department's public education programs.

(2) Public Relations Unit - This unit ensures that the Department's communications with the press are effectively delivered. The Water Department takes a proactive approach to informing the press about its mission. In 2008, there were 59 press releases and materials covering general topics and water main and sewer rehabilitation. Topical press kits are routinely sent to the media to address subjects such as illegal use of fire hydrants, drought, and seasonal variations in the frequency of water main breaks.

In fiscal year 2008, the Water Department participated in a story with the Associated Press on the subject of pharmaceuticals in drinking water. The story received national attention and the Water Department included a section in the annual Consumer Confidence Report as part of efforts to inform the public on this subject. Information on pharmaceuticals in drinking water was posted on the Department's website, along with other advisories and copies of brochures and bill stuffers created for the public.

(3) Government Affairs Unit - This unit ensures that the Water Department interfaces on a continual basis with City Council, the Mayor's Office, and the State Capital. Legislation, at all levels of government, is monitored and routed to the appropriate Department staff for their review.

(4) Customer Information Unit – The Water Department is very customer service oriented. Although billing complaints are currently primarily handled by the Water Revenue Bureau, the Customer Information Unit assists in this important function. All operational complaints are handled by the Water Department Call Center. Operational complaints are tracked using a computer system. In addition to operational complaints, the unit has received an increasing number of calls transferred from the Water Revenue Bureau.

During calendar year 2008 the unit received 213,652 calls, with an average wait time of only 15 seconds. A great deal of emphasis is placed on obtaining input from customers and using their input to continuously improve service. Merging of the Water Revenue and Water Department Call Centers to allow better coordination of customer service efforts has been completed. The representatives at each center are cross-trained to reduce the need to transfer customer calls between units, which has significantly improved customer service satisfaction.

G. Information Science and Technology

The Information Science & Technology (IS&T) Division centralizes all computer operations and application support and manages the hardware and software computer systems for the Water Department. The IS&T Division is divided into four units:

(1) Systems Management Support provides desktop support, installs software on servers and desktops.

(2) Billing Support provides support for the processing of customer water and wastewater bills. Their efforts are coordinated with the Water Revenue Bureau which has the primary responsibility for support for the billing and billing system.

(3) User Support oversees and provides application development, manages and supports IT projects within the Department.

(4) Administrative Support provides contact administration, timekeeping, procurement and other related administrative functions.

The IS&T Division has an authorized staff level of 54 and has 9 vacancies.

Several projects in which the IS&T group is currently involved include:

- Upgrading of the capital management program (CAPIT)
- Upgrading of the plant side work order management system, MAXIMO.
- Creating a database to store and retrieve all sewer assessment video inspection records and linking these records to GIS; and
- Unifying street side work orders into CityWorks (Inlet Cleaning, Sewer Maintenance, distribution, Call Center complaints).

The Division of Technology (DOT) has been given the responsibility to review and approve all computer hardware and software acquisitions, and may consolidate appropriate City information processing activities. Some examples of consolidation efforts are:

- Centralized firewalls to protect all City systems;
- City-wide Customer Information Work Order Management System;
- Imaging system; and
- Help desk and desk top support.

The Water Department works closely with DOT and the Managing Director's Office to integrate existing applications, where appropriate, into the consolidation effort. Recent department efforts include:

- Linking the Department's customer information system (CityWorks) to the City-wide Customer Information Work Order Management System and 311;
- Sharing GIS files with all users;

- Upgrading the Department's Human Resources application to link with the City's new Oracle ERP HR.

H. The Office of Environmental Policy and Planning

The Office of Environmental Policy and Planning was created in June 2001 and is responsible for proactively managing and addressing the various environmental issues applicable to the operation of the Water and Wastewater System. These responsibilities include:

- Negotiating and challenging, as necessary, all permits including NPDES, Stormwater, Clean Air Act, TMDLs, etc.
- Developing an overall strategy for the Water Department for the handling of new emerging challenges, such as the TMDLs for Volatile Organic Compounds (VOCs), PCBs and sediment loads, Combined Sewer Overflow (CSO) implementation, Separated Sewer Overflow (SSO) implementation, etc.
- Reviewing, commenting on, and challenging, as necessary, any new laws and regulations affecting the Water Department.
- Testifying before applicable government agencies and commissions to advance and advocate the Water Department's position.
- Responding effectively to any potential environmental problems or issues should they arise.
- Developing environmental policies that guide decision-making on operating and capital budget issues.
- Ensuring that all environmental reporting to governmental agencies is timely and accurate.
- Negotiating and resolving any environmental violations alleged by any regulatory agency.
- Negotiating and entering into contracts with PWD's suburban customers related to PWD's environmental initiatives or the customer's violations of the terms of its contract.
- Responding to both formal and informal requests for information as requested by any regulatory agency.

I. Water Revenue Bureau

Established under the City Charter, the Water Revenue Bureau (WRB), which directly reports to the Revenue Commissioner and ultimately to the Office of the Director of

Finance, has the responsibility for meter reading, billing, and collection of water and wastewater revenue for services provided by the Water Department. WRB responsibilities also include enforcement of payments and customer relations. 228 of the 260 budgeted positions are currently filled.

Since 1992, the WRB and the Water Department have increased their level of coordination of activities. In accordance with a 1992 agreement, both the Office of the Director of Finance and the Water Commissioner monitor collection of water and wastewater revenues. The cooperation between these two City agencies has improved reporting on revenue collections, implementation of monthly billing, collection of aged receivables by private collection agencies, and enforcement actions. Monthly meetings with the WRB and the Water Department executive staffs, and meetings between the Office of the Director of Finance, Water Commissioner, and other key personnel, serve to maintain communications and enable prompt and direct response to issues involving both the WRB and the Water Department.

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. The AMR Program is the largest and most significant water automatic meter reading endeavor to be implemented in the country. Installation commenced September 11, 1997, on schedule. As of December 2008, more than 487,000 new meters had been installed**.** This program has greatly improved the accuracy of billing, which 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.

The Department recently collaborated with the Water Revenue Bureau in the implementation of a new billing system. The new Basis2 Customer Billing System was implemented in fiscal year 2008 and replaces the twenty-five (25) year old application previously supporting WRB. The new billing system is generating bills and operating as anticipated, while the Department and WRB continue to work together to optimize and customize the new system and work on generating appropriate reports.

J. Conclusions

It is our opinion that the Water Department is organized in a manner which provides for efficient system operations and maintenance, and that the divisional and subdivisional structure provides for delegation of management authority and responsibility through various levels and work units. A good working internal relationship has developed among divisions to facilitate execution of all phases of the Water Department's responsibilities.

Despite the fact that a number of senior level staff are retiring, senior management positions are staffed with highly qualified and trained personnel. Recent senior staff retirements have been filled with experienced Department professionals and succession planning for future retirements is in place. The Department maintains a seasoned group of management professionals with a current average of 29 years of experience.

III. Water System

A. Introduction

The Philadelphia Water Department began service in 1801 with the dedication of two pumping stations that raised water from the Schuylkill River to two elevated tanks located where City Hall now stands. From there the water flowed to the homes of early Philadelphia through wooden pipes. The Water Department has continued to serve the City's growing needs without interruption since this beginning, through continual adaptation of the latest technological advancements in water service.

Today, the major elements of the water system include three river supply intakes, three treatment plants, storage facilities and a conveyance network. The water system service areas and major facilities are shown in Figure III-1 on the following page.

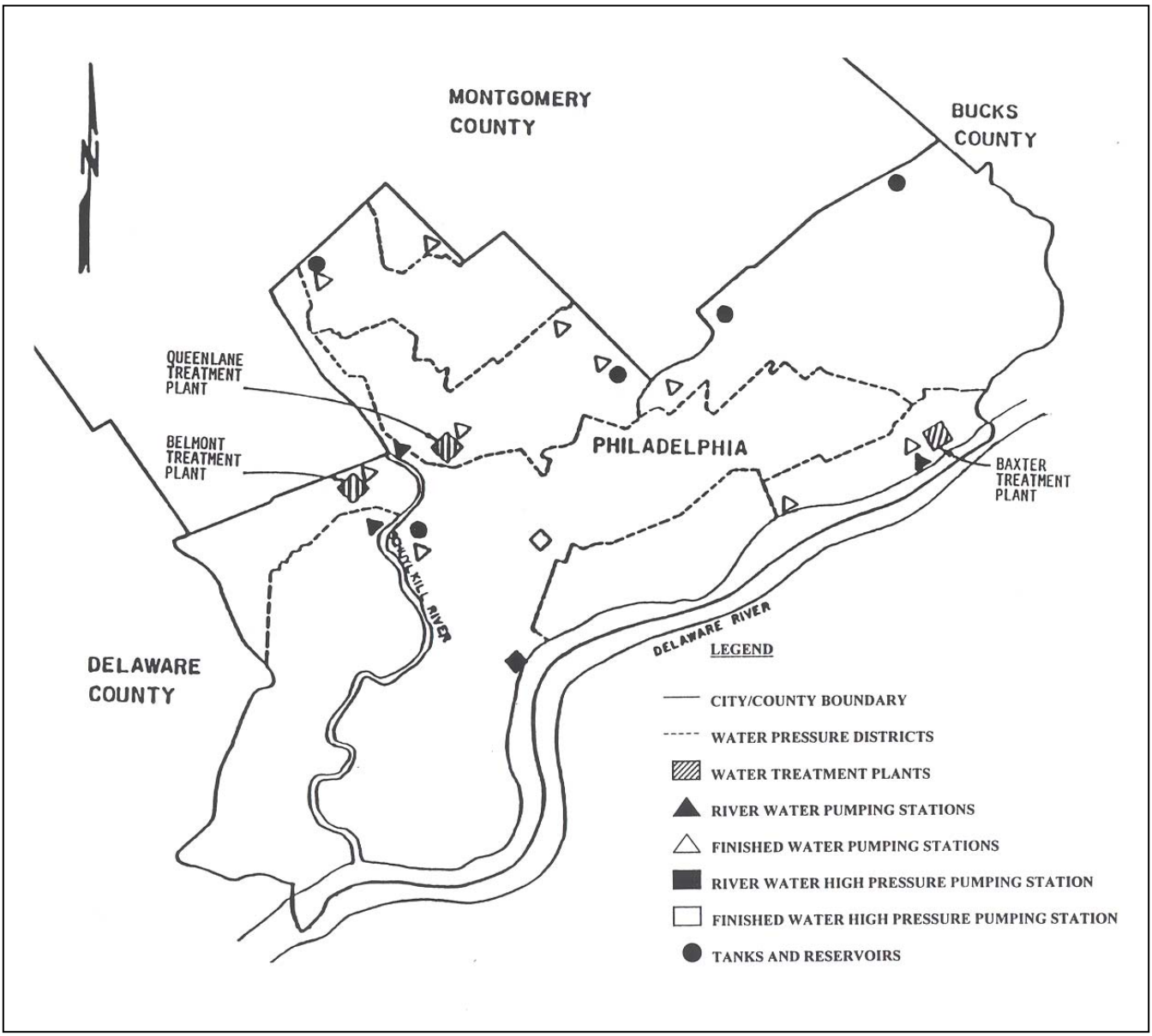
B. Water Supply

The Water Department presently supplies water to Philadelphia and portions of Bucks County, Montgomery County and Delaware County. The service to Bucks County is provided under a wholesale contract with the Bucks County Water and Sewer Authority. This contract provides for the sale of treated water to Bucks County at a maximum rate of up to 35 million gallons per day (mgd). The service to Montgomery and Delaware Counties is provided under an agreement signed in fiscal year 2000 with Aqua Pennsylvania, a subsidiary of Aqua America (formerly known as Philadelphia Suburban Water Company), which provides for the sale of treated water at a rate of up to 9.5 mgd.

The City obtains approximately 58 percent of the water supply from the Delaware River and 42 percent from the Schuylkill River. These withdrawals are authorized under water entitlements granted to the City of Philadelphia by the Pennsylvania Department of Environmental Protection (PaDEP) and the Delaware River Basin Commission (DRBC). The DRBC is an interstate agency responsible for regulation of water resources in the Delaware River Basin. It is accountable to the states of Delaware, New Jersey, New York and Pennsylvania, and to the federal government.

The Water Department participates with the DRBC on drought and flow management planning and is adequately prepared to address future drought conditions should they occur. A 1984 Agreement among the states dependent on the Delaware River established patterns of division for the Basin's resources during formally declared drought periods. This agreement

Figure III-1 – Water System Facilities



Note: In January 2005, both the River Water High Pressure Pumping Station and the Finished Water High Pressure Pumping Station were decommissioned. These facilities are those shown above and remain in place, but have been taken out of service. The standard pressure fire protection system, which has been utilized for the provision of fire protection service to Center City for many years, replaces the decommissioned non-potable water high pressure fire system.

and resulting drought management plans have been used to effectively manage drought emergencies declared in the past and are expected to adequately address future drought emergencies. The Water Department is currently participating in flow management planning with the Delaware River Basin Commission as an advisor to Pennsylvania on the Supreme Court Consent Decree Parties Flow Working Group for the Delaware River.

The Water Department's ability to draw water supply from both the Schuylkill and the Delaware Rivers provides flexibility and additional drought protection as they are not dependent on a single source of supply. Currently, the City of Philadelphia and State of Pennsylvania are not under a drought watch or warning.

1. System Capacity

The Water Department delivers water through an integrated system that reflects the PaDEP and DRBC entitlements, and contains raw water intake capability, treated water capacity, and storage capacity commensurate with those entitlements. The total rated capacity of the three water treatment plants is 536 mgd. The capacities of other elements within the water supply system appear in Table III-1. Compared with these capacities, the average annual daily treated water delivery in fiscal years 2005, 2006, 2007 and 2008 was 260.3 mgd, 253.7 mgd, 255.3 mgd and 250.7 mgd, respectively.

2. Population

The population served by the Water System was approximately 1,728,900 as of the 2000 Census, of which 1,518,000 were located in the City, 154,000 were in Bucks County, and approximately 56,900 were in Delaware and Montgomery Counties. Population growth for the service area is expected to be flat out to 2030, with the City declining slightly over the next few years and stabilizing and the suburban population growing slowly and then stabilizing. Declining average customer consumption and reduced leakage in the water distribution system are accounting for lower water delivery from the treatment plants. This value stood at 250.7 mgd for the fiscal year ending June 30, 2008. It is projected that water delivery will decline to 239 mgd by 2015 due to continued reductions in these components of water demand. These reductions will impart both a slight reduction in water revenue and reduction in marginal operating costs. In summary, the water treatment, storage, and distribution facilities are of adequate capacity to provide for the present and foreseeable future requirements.

Table III-1 Water System Capacities						
Facility	**Raw Water Pumping Capacity**	**Allocation, max daily withdrawal**	**Hydraulic Treatment Capacity**	**Capacity for Partnership for Safe Water**	**Water Storage Capacity**	
					Raw Water	Treated Water
	mgd	mg	mgd	mgd	mg	mg
Queen Lane Plant	200		150	140	207.2	85
Belmont Plant	170		110	86	83.3	42.1
Schuylkill Supply		258				
Baxter Plant	480		423	310	170	206.8
Delaware Supply		423 DEP 390 DRBC				
Distribution System*					---------	200
System Totals	850	681 DEP 648 DRBC	683	536	460.5	604.9

mg – million gallons

mgd – million gallons per day

* Includes treated water stored at East Park Reservoir, Roxborough Basins and Standpipes, Somerton Standpipes, Foxchase Tank. Excludes Oak Lane Reservoir which was taken out of service in February 2009.

C. Water Quality

1. Historical Water Quality

The Philadelphia Water Department has continuously maintained 100 percent compliance with all drinking water regulations in effect at the time. The United States Environmental Protection Agency (EPA) promulgated two new regulations in 2005 and the Water Department is well positioned to meet these additional requirements in 2012 as prescribed. This section describes the Water Department's water quality initiatives, compliance with present regulations and actions being taken to meet the recently promulgated regulations.

2. Partnership for Safe Water

Since January 1996, when the Water Department signed a voluntary agreement with the EPA to participate in the Partnership for Safe Water Program (the Partnership), the Department has been committed to reducing "turbidity," an industry standard measure of water purity. The purpose of the Partnership is to provide a format for drinking water utilities around the country to survey their facilities, treatment systems, operations, maintenance, and management procedures in order to identify opportunities and implement practices that will enhance the water system's potential to prevent the entry of *Cryptosporidium, Giardia,* and other parasitic organisms into the treated water. The Water Department joined approximately 300 water utilities in evaluating and assessing their water treatment procedures against extremely stringent performance goals. The self-assessments and other reviews have focused on improvements that can be made without incurring substantial capital or operating expenditures. Through these efforts, the turbidity of Philadelphia's drinking water in 2008 was about five times lower than required by state and federal requirements.

In fiscal year 1999, Philadelphia became the first major city in the U.S. with multiple drinking water plants to receive an EPA Director's Award for meeting certain additional requirements of the Partnership for Safe Water (Phase III of the program), including completion of a self-assessment and peer review. This year the Water Department was awarded the prestigious 10 Year Director's Award for meeting the stringent criteria of the Phase III for ten consecutive years. This represents a tremendous accomplishment and is a tribute to the Department's dedication to providing the best possible service to their customers. The Water Department's association with the Partnership has resulted in overall lower turbidity of its finished drinking water thus enhancing public health protection. Their efforts have also enabled the Water Department to meet the requirements of the Interim Enhanced Surface Water Treatment Rule and positioned them for compliance with the Long Term 2 Enhanced Surface Water Treatment Rule.

3. Regulatory Requirements

The water operations of the Water Department are subject to the requirements of the Safe Drinking Water Act (the "SDWA") of 1974, as amended in 1986 and 1996. The 1986 Amendments extended the regulatory agenda of the EPA to include, among other things, the development of drinking water standards for 83 contaminants, criteria by which surface water supplies would be required to utilize filtration performance standards for disinfection, and the banning of lead-containing materials from distribution and home plumbing systems. The 1996 Amendments changed the emphasis of developing rules only slightly, but these latest Amendments did stress some new issues such as the protection of source waters,

annual reports to consumers on the quality of their drinking water, regulation of filter backwash water within treatment facilities, and the establishment of a state revolving loan fund. Since 1998, several new rules have been implemented.

The Interim Enhanced Surface Water Treatment Rule (ESWTR) and the Stage 1 Disinfectants and Disinfection Byproducts Rule (Stage 1 D/DBPR) were both promulgated in December 1999 and became effective in January 2002. The Filter Backwash Recycling Rule was promulgated in May 2001 and became effective in December 2003. The Radionuclides Rule was promulgated in December 2000 and also became effective in December 2003. The Arsenic Rule was promulgated in March 2001 and became effective in January 2006. The Long Term 2 Enhanced Surface Water Treatment Rule and the Stage 2 Disinfectants/Disinfection Byproducts Rule where promulgated in January 2006 and became effective in March 2006. The Groundwater Disinfection Rule (GWR) was promulgated in November 2006 and became effective January 2007, but is not relevant to the Water Department who relies exclusively on surface water. Several of these key regulations are discussed below.

The Water Department has conducted an extensive water quality monitoring program to assess the potential impacts of the SDWA regulations. The Water Department's Bureau of Laboratory Services (BLS) analyzes approximately 1000 drinking water samples each month collected from the water treatment plants, reservoirs and distribution system. The Water Department's Planning and Engineering Division staff tracks the development of regulations, and provides input into the formulation of the regulations. The Water Department’s Planning and Engineer Division and Operations Division conduct research (laboratory, pilot and plant scale) to insure the Department is positioned to meet future regulations.

Philadelphia treated water quality meets all existing drinking water regulations. It also anticipates meeting all recently promulgated and future regulations for microbial and turbidity parameters, disinfection byproducts, synthetic organic compounds, volatile organic compounds, inorganic compounds, radionuclides, and aesthetic parameters such as taste and odor.

a. Lead and Copper Rule

The Lead and Copper Rule was promulgated in June 1991. It addresses the control of copper and lead that may leach from home plumbing systems. Compliance with the rule is based upon treatment technique requirements that are triggered by exceedances of the lead action level of 0.015 mg/l or the copper action level of 1.3 mg/l measured at 90 percent of the consumers’ taps sampled.

Compliance Status: The Water Department is in full compliance with the regulation. The Water Department has taken steps to further optimize its treatment process including an aggressive public outreach effort to inform customers how they can minimize leaching of lead from home plumbing. The Water Department has a uniform treatment approach at all three water treatment plants, using optimized pH and a zinc orthophosphate corrosion inhibitor. The Water Department achieved a 90th percentile lead level of 0.006 mg/L and a 90th percentile copper level of 0.3 mg/L based on 2008 monitoring results. The Water Department is also in compliance with the associated Optimized Corrosion Control Treatment (OCCT) guidelines, which require finished water levels of phosphate to be greater than 0.2 mg/L as phosphorus and finished water pH to be between 6.8 and 7.8.

The Philadelphia Water Department is planning to optimize the corrosion control strategy based on the 2008 compliance results and will decrease their zinc orthophosphate dose to 1.4 parts per million from the current dosage of 1.5 parts per million. The Water Department adds phosphate to water to control the rate of metal loss by corrosion in the water supply network, which includes the internal piping in residences and commercial or industrial facilities. This optimization will balance water quality goals and treatment chemical costs and increase treatment efficiency.

b. Total Coliform Rule (TCR)

The TCR requires water systems to monitor for total and fecal coliform at specific locations throughout the distribution system. The rule allows up to 5 percent total coliform positive samples.

The TCR is currently under revision. It is anticipated that the new rule will be promulgated in late 2010. The Water Department is actively participating in the rule development and associated regulatory negotiations and is well positioned to comply with the new regulation.

Compliance Status: The Water Department is in full compliance with the TCR and its performance has been exceptional. During the past four fiscal years, the Water Department has not had any total coliform violations from its 80 monitoring locations.

c. Disinfectants/Disinfection By-products Rule (D/DBPR)

This rule regulates levels of disinfectants and disinfection by-products. Stage 1 of the rule was promulgated in December 1998 and became effective on January 1, 2002. Stage 2 of this Rule was promulgated in January 2006 and became effective on March 6, 2006. These rules contain maximum residual disinfectants levels (MRDLs), maximum contaminant levels (MCLs) for disinfection by-products and a treatment technique for total organic carbon (TOC) removal. The Stage 1 Rule reduced the MCL for total trihalomethanes (TTHM) from

100 µg/L to 80 µg/L and established an MCL of 60 µg/L for the sum of five haloacetic acids (HAA5), another group of disinfectant by-products. In addition, MRDLs were established for chlorine (4 mg/L), chloramines (4 mg/L), chlorine dioxide (0.8 mg/L), chlorite (1.0 mg/L), and bromate (0.010 mg/L).

Compliance Status with Stage 1: The Water Department is in full compliance with the Stage 1 MCLs and treatment technique. The annual average level of TTHMs in 2007 for the Department's three water treatment plants ranged from 36 - 46 µg/L, and for HAA5s ranged from 26 – 31 µg/L. All three water treatment plants are being operated in an enhanced coagulation mode and, as a result, are consistently exceeding the required monthly removals of TOC. The Department is in compliance with the 4.0 mg/L MRDL for chloramines, with the highest individual sample measuring 2.88 mg/L.

Compliance Status with Stage 2: The Stage 2 phase of the D/DBPR was promulgated in January 2006 and became effective on March 6, 2006 with compliance monitoring to begin in April 2012. This rule maintains the TTHM and HHA_5 MCLs at 80 µg/L and 60 µg/L, respectively, but changes the method of calculating the system annual average from running annual averages (RAAs) to locational running annual averages (LRAAs). Under this regulation the Water Department was required to conduct an Initial Distribution System Evaluation (IDSE) to identify sample locations for future compliance monitoring. The Water Department has completed this evaluation and submitted the resulting report to EPA. Based on this monitoring effort, the Water Department expects to be in full compliance with the Stage 2 D/DBPR when compliance monitoring begins in 2012.

d. Interim Enhanced Surface Water Treatment Rule (ESWTR)

This rule was promulgated in December 1998 and became effective on January 1, 2002. This Rule lowered the turbidity treatment technique level to 0.3 NTU in 95 percent of the samples from the previous level of 0.5 NTU. It also set a maximum turbidity of 1.0 NTU in the finished water and required installation of continuous turbidity monitors on each filter. The Rule requires that operating procedures be revised and follow-up investigations be conducted if individual filters are found to exceed specific monitoring criteria.

Compliance Status: The Water Department is in full compliance with all requirements of this Rule. Through its participation in the Partnership program, the Water Department maintained filtered effluent turbidity at levels less than or equal to 0.1 NTU more than 99.9 percent of the time during fiscal years 2007 and 2008.

e. Long-Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR)

The LT2ESWTR was promulgated in January 2006 and became effective on March 6, 2006 with compliance monitoring to begin in April 2012. Regulatory requirements under the LT2ESWTR are based upon concentration of *Cryptosporidium* or *E. coli* in the source

water of individual treatment plants. The Rule requires microbial monitoring (2 years of monthly *Cryptosporidium* and *E. coli* monitoring) to determine each drinking water treatment plants average source water *Cryptosporidium* level. Based on this level the treatment plants are placed in different "bins" with varying removal and/or inactivation credit requirements, with higher influent *Cryptosporidium* levels requiring greater removal or inactivation. Utilities meet their resulting requirements by implementing enhanced treatment practices as defined in the "microbial toolbox." The microbial toolbox defines a range of treatment, prevention or optimization options that utilities can implement in order to obtain the additional removal and/or inactivation credits required to meet the treatment technique of this Rule.

The Department, utilizing the analytical services of the Bureau of Laboratory Services (BLS), completed the microbial monitoring prior to the rule becoming effective. This monitoring was accepted by the EPA as meeting the requirements of the regulation. Based on the monitoring results the Belmont and Baxter Treatment Plants had average *Cryptosporidium* levels less than 0.075 oocysts/L and qualify for Bin 1, meaning that no additional treatment will be required. The Queen Lane Plant's average *Cryptosporidium* level exceeded 0.075 oocysts/L but was less than 1.0 oocysts/L, putting the Queen Lane Plant into Bin 2. Bin 2 plants are required to achieve 1.0 log removal/inactivation credit through implementation of microbial toolbox components. The Water Department intends to meet their 1 log requirement by developing and implementing a Watershed Control Program (an extension of their existing Source Water Protection Plan) and by continuing to maintain the very low levels of turbidity in the combined and individual filters effluents.

f. Consumer Confidence Reports Rule

The 1996 SDWA Amendments require the Water Department to issue an annual report on treated water quality to its consumers, called the, Consumer Confidence Report (CCR). The Department has done this annually in the format required by the Rule. The Water Department's CCR goes beyond the requirements and provides educational information regarding the source water protection and the water treatment process, along with information about research and public outreach initiatives.

g. Filter Backwash Recycling Rule (FBRR)

The FBRR became effective in December 2003. The recycle streams regulated by the FBRR are filter backwash water, sludge thickener supernatant and liquids from dewatering processes. The rule requires recycle flows to pass through all processes of the treatment plant in order to maintain removal credit for *Cryptosporidium.* In the case of conventional treatment facilities like those of the PWD, this requires the return of recycle streams prior to

or concurrent with the point of primary coagulant addition. The rule also requires the Department to maintain records related to the wastewater streams generated at each treatment plant.

Compliance Status: The Water Department currently discharges all of its filter backwash and settling basin waste streams to the sewer system for treatment at the wastewater treatment plants, with the exception of the spent backwash water at the Baxter water treatment plant. The Baxter filter backwash water is recycled to the raw water basin, ahead of the point of coagulant addition, for reprocessing through the complete treatment process. Therefore, the Department is in compliance with the requirements of the FBRR.

h. Source Water Assessment Program

The 1996 SDWA Amendments required each state to develop a Source Water Assessment Program, designed to stress protection of the source water prior to treatment. The Water Department was selected by PaDEP to lead a joint effort with Aqua Pennsylvania and Pennsylvania-American Water Company to perform a source water assessment of water intakes along the Schuylkill River and its tributaries during fiscal years 2001 and 2002. A similar effort was undertaken with utilities that utilize the Delaware River as a source of supply. In all, the program involved 50 surface water intakes on the Schuylkill and Delaware Rivers.

More recently the focus of this effort has been to utilize the knowledge gained from the Assessments to develop and implement source water protection plans and programs. The Water Department completed Source Water Protection Plans for the Schuylkill and Delaware Rivers in 2006 and 2007, respectively. The Water Department is utilizing a partnership approach involving regulatory agencies, utilities and watershed groups; the Water Department has developed an innovative and broad-based program that will yield far-reaching environmental and source water protection benefits. The program has earned a number of national recognitions awards and stands as a model for other communities to emulate.

i. Arsenic Rule

The Arsenic Rule became effective on March 3, 2001 and established an MCL of 0.01 mg/L for total arsenic. The compliance date for systems with arsenic levels that exceed the MCL is January 23, 2006.

Compliance Status: The Water Department is in compliance with the Arsenic Rule. Arsenic levels in the finished water supply are below method detection limits.

j. Radionuclides Rule

The Radionuclides Rule became effective on December 8, 2003. It retained the MCLs for combined radium-226 and 228 (5 pCi/L) and gross alpha (15 pCi/L) and established a new MCL for uranium of 30 µg/L.

Compliance Status: The Water Department is in compliance with the Radionuclides Rule. Radium-226 and uranium levels in the finished water supply are below method detection limits. Detectable levels of Radium-228 and gross alpha have been recorded but were in all cases less than one-half of the MCL.

4. Water Security

The Philadelphia Water Department continues to implement the recommendations of the Vulnerability Assessments conducted water system wide in 2003. The recommendations ranged from physical security measures such as limiting facility access and installing fencing and alarm systems, to cyber security measures, acquiring of emergency generators, installation of real-time water quality monitors at key locations in the treatment process, conversion from gaseous chlorine to liquid sodium hypochlorite and employing of security guards at each facility. In the coming years the Department will expend in excess of 15 million dollars toward additional security initiatives.

In 2008 the Water Department was one of four cities nationwide to receive an EPA Water Security Initiative Contamination Warning System Demonstration Pilot grant (WSI grant). Through this program the Department will develop a comprehensive and integrated system to detect, confirm, respond to and remediate contamination of the distribution system. The Department's original proposal outlined a program that was awarded nearly 10 million dollars over a three year period with a 20 percent match required of the Department. The level of funding is currently uncertain at this point, however the EPA has committed 2 million dollars for fiscal year 2009 and it is likely that the Department will receive similar or greater funding for fiscal years 2010 and 2011. The Department is currently revising the project scope to design a program that can be implemented in phases to insure that valuable work is derived each year based on funding limitations.

The Department is developing this program as an extension of existing security initiatives. Among other things, it will build upon and utilize the existing distribution system water quality monitoring network which is comprised of 18 real-time water quality monitoring stations at fixed locations in the distribution system along with two raw water stations and two portable monitoring panels. Each distribution system station has a pH probe, turbidimeter, chlorine analyzer and a conductivity probe. These stations transmit water quality data to the central laboratory via radio signal on a real-time basis. The network

allows for continuous monitoring of the water quality in the distribution system. Alarm set-points have been established to alert staff if water quality deviates from a defined range. Protocols have been established for response to these alarms and will likely be developed further as part of the WSI grant program.

The Water Department is a founding member of the EPA Region 3 Laboratory Response Plan for Drinking Water. Through this plan the Department has access to federal, state and local laboratories for analytical support during a water quality contamination event. The Plan defines the roles of various agencies that might be involved in a response, includes protocols for initiation of the laboratory network, and details sample transport, QA/QC and data reporting requirements. Utilization of this program will be incorporated to any plan developed under the WSI grant.

D. Water Treatment Plants

The water system is served by the Baxter, Queen Lane, and Belmont Water Treatment Plants. The Baxter plant treats water from the Delaware River; the Queen Lane and Belmont plants are supplied by the Schuylkill River. All three plants provide similar treatment, consisting of raw water sedimentation, coagulation, flocculation, clarification, rapid sand or dual media filtration, disinfection and fluoridation. Finished water can be stored at the treatment site for later distribution, or discharged directly to the distribution system. Portions of each treatment facility date from the early 1900s. Major improvements and additions were completed at the Belmont plant in 1965 and at the Queen Lane plant in 1960. The Baxter plant went on line as a new rapid sand filtration plant in 1959. Other major improvements including automation and new chemical feed systems were made in the past decade.

A centralized preventive maintenance program serves common components of the three water treatment plants. Components that require either periodic repair or rehabilitation are placed on a master schedule that includes both preventive and corrective maintenance activities. Priorities for actions are defined using this schedule and reviewed at periodic intervals. Each plant maintains a preventive maintenance program for equipment components that require inspection and lubrication on a more frequent basis than the components covered by the centralized program's master schedule.

A program at all three plants to convert the single media rapid sand filters to sand and anthracite dual media filters is almost complete. All single media rapid sand filters have been converted to sand and anthracite dual media filters at Belmont and Queen Lane. The

remaining 28 rapid sand filters at Baxter are being converted under a current contract. The conversions are anticipated to be complete in spring 2010. Conversion to dual media increases filter capacity and provides attendant benefits by reducing the required backwash frequencies. Reduced backwash frequencies, in turn, yield energy savings.

The Water Department continues to conduct pilot scale investigations to respond to upcoming regulations and to investigate effects of proposed process changes. The initial phases of the pilot plant studies investigated the impact of changing coagulant dosages, the pH of coagulation, and the point of chlorination. These studies demonstrated the potential reduction in disinfection by-products that can be achieved by reducing coagulation pH and delaying the addition of chlorine. This work was completed and integrated into the current water treatment process. This work precipitated the current initiative to investigate various alternatives for reducing or eliminating pre-chlorine application including: evaluations of post-filter chlorination at the Belmont and Baxter Water Treatment Plants and preliminary evaluations of alternative pre-oxidants (chlorine dioxide or hydrogen peroxide).

The pilot plant research continued with the investigation of the practicality of using ozone to inactivate *Cryptosporidium oocysts*. The conclusions from this extensive phase indicate that ozonation for inactivation is very expensive. The capital related cost is estimated at $100 million, plus $40 million in contingency for re-pumping. With the completion of *Cryptosporidium* monitoring under LT2ESWTR, the Department determined that they will be able to meet regulatory requirements without installing ozone or ultraviolet disinfection.

More recently, the pilot plant studies focused on the effectiveness of coagulants other than ferric chloride, the benefits of a new technology for organics removal and the effectiveness and limitations of oxide coated media for manganese (Mn) control. The Water Department has predominantly used ferric chloride; however, with changes in the coagulant market place and escalating chemical costs, it is imperative that they evaluate alternative coagulants in comparison to ferric chloride on the basis of performance and cost. The Department also investigated the use of a new technology for the removal of organic compounds prior to coagulation. The benefit of this technology is the removal of DBP precursors prior to application of chlorine and a resulting reduction in DBP production.

The research emphasis on manganese removal is the result of full-plant trials in which delaying the addition of chlorine resulted in poor filter performance, likely related to incomplete Mn oxidation within the filters. The Water Department has participated in two AwwaRF research efforts on this topic. The first was an international multi-utility study to

further the understanding of the occurrence of Mn in drinking water. This work is complete with a report published in 2006. The current study focuses on Mn removal through biological filtration and is to be completed by 2010. Although Mn is currently undetectable in Philadelphia's drinking water, proposed changes in the treatment process may produce a level of Mn that could be of aesthetic concern, producing what is called, “black water.” The pilot plant studies will help the PWD avoid manganese problems that may result from treatment modifications that are under consideration.

Other research initiatives are on-going and include: participation in multiple AwwaRF studies on Endocrine Disrupting Compounds and Personal Care Products in drinking water; investigations of the biostability of the treated water; and, computational fluid dynamic (CFD) modeling to investigate post-filter chlorine contact alternatives at the Baxter WTP. These projects will help the Water Department optimize their treatment processes, prepare for future regulations, protect and educate their customers, and implement new processes as needed.

1. Baxter Water Treatment Plant

The Baxter Water Treatment Plant became operational as a new rapid sand filtration plant in 1959. The Baxter plant draws water from the Delaware River and, after treatment, it flows to the Torresdale Treated Water Pumping Station for distribution to the northern and central parts of the City and to Bucks County. The Baxter plant is the largest of the three water plants, with a design capacity of 320 mgd and a peak hydraulic rate of 420 mgd. Filter production information for the past four years are shown on Table III-2.

Table III-2 Baxter Plant Annual Filter Production

Year	Average Daily Output	Maximum Daily Output
	mgd	mgd
2005	153	196
2006	148	197
2007	151	196
2008	150	189

The Baxter plant is budgeted for a staff of 55, and currently has 3 vacancies. They recently added a new staff position, the Maintenance Supervisor. This position is common within other departments and was added at Baxter to allow the Plant Superintendent to focus more on plant operations and process optimization. The increasingly stringent regulatory

obligations require a more fine tuned treatment process and leave little room for operational error, which in turn requires constant effort on the part of the Plant Superintendent.

Sixty-six of the original 94 rapid sand filters have rebuilt underdrains and have been converted to a dual media configuration. Conversion of the remaining 28 sand filters is underway with an anticipated completion in May 2010. In addition to the conversion and rebuilding of the underdrains, this contract includes repair of the annular space (connection between the effluent pipe and the filter wall). As part of their on-going efforts to optimize the filtration process and meet Partnership and internal turbidity goals, the plant staff continues to evaluate various operational techniques to reduce the magnitude of the post-backwash turbidity spike. The optimized sequence is a three step process that concludes with stepped defluidization which includes an extended terminal subfluidization wash. The plant staff found that the addition of the extended wash was extremely effective in reducing the post backwash peak. The filter is then allowed to stand for 2 hours before being ramped back into service. The plant also has the capability to filter-to-waste, but this is reserved for bringing a filter back into service after a repair or other unusual circumstance.

In an ongoing effort to reduce DBPs the Baxter Plant staff continues to evaluate various disinfection strategies and consider alternatives for removal of DBP precursor materials. The current strategy has been in place since 2006, is very effective and has reduced DBPs to levels well below those required under Stage II of the D/DBP Rule. This strategy involves adding Powdered Activated Carbon (PAC) at the intake and splitting the initial chlorine dose between the rapid mix and flocculation stages. PAC added at the intake adsorbs dissolved organic material and settles in the raw water sedimentation basis. In additional to reducing DBPs, PAC removes taste and order compounds. This allowed Baxter to discontinue adding potassium permanganate, which it previous used for taste and odor control. The Baxter staff conducted research and developed seasonal dosing standards that are used to determine the optimum PAC dose based on a daily basis. Reducing the chlorine dose at the rapid mix and delaying the addition of just a few milligrams per liter is enough to allow remaining organic material to react with the coagulant prior to chlorine addition and thus reduce DBP formation.

The raw water sedimentation basin was dredged in May 2008. About 350,000 cubic yards of sediment were removed to a dredge soils site. This will increase the volume of the sedimentation basin, allowing a longer detention and contact time with the PAC. Removal of the sediments will also prevent resuspension of undesirable compounds into the water column.

Vulnerability Assessments conducted in 2002 identified measures to reduce vulnerability to an emergency situation (intentional or accidental). The measures identified included physical security, cyber security, process control and redundancy. The Water Department has been actively implementing the recommendations of the assessments. To this end the plant has installed fencing, limited access and converted from chlorine gas to sodium hypochlorite. More recently, the Baxter plant installed on-line monitoring panels at the intake, outlet from the courts (finished water tank) and outlet from the clearwell. These panels include pH probes, turbidimeters, chlorine analyzers and conductivity probes, and are used to track water quality real-time to identify changes that could be indicative of a plant upset or contamination of the water supply.

Baxter uses a Supervisory Control and Data Acquisition (SCADA) system program to monitor the treatment process from the intake to the plant effluent. All on-line process data (water quality and operational) is collected and displayed real-time, allowing plant staff to quickly observe and react to changes. Baxter will be replacing their existing Distributed Control System (DCS) in 2011. The new system will be windows based and will pull in data from the SCADA system but will not be utilize the data to initiate process changes.

Other projects either planned or on-going at the Baxter plant are listed below.

- The filter waste header valves are currently being replaced and automated. This will allow for initiation of filter-to-waste via the individual filter's control panels. In the future these valves will be connected to the new DCS to allow remote initiation of filter-to-waste. All valves have been replaced and performance tested.
- A new foam roof has been installed on the pre-treatment building. Installation is complete, currently addressing "punch list" items.
- Baxter will continue to implement the recommendations of the Vulnerability Assessments in the coming years.
    - In FY 2009, Baxter will receive an emergency generator capable of supplying energy for all key process. They currently have several generators that feed individual processes.
    - Two projects to upgrade plant and clearwell security with fencing, lighting and a new plant entrance are scheduled to go out to bid in 2009.
    - A project to enhance security of the finished water basin through the sealing of excess access hatches and capping of vents is planned for fiscal year 2009 or 2010.

- Plant staff plans to conduct a full scale plant trial to evaluate a new technology for air scour for filter backwashing. The new technology will be piloted in one filter and compared to an existing filter's performance. The trial is being conducted in advance of an anticipated need to replace the existing surface water wash system.
- The backwash towers are scheduled for interior lining and exterior painting and welding during the fiscal year 2009 or 2010.
- Upgrades and repair of the sedimentation basins are scheduled for fiscal year 2009 or 2010. This is to include new railings, repair of basin joints, concrete repairs and painting of clarifiers.
- A consultant is currently working on the design and permits for improvements to the raw water basin berm.

2. Queen Lane Treatment Plant

The Queen Lane Water Treatment Plant began service in 1912 as a 70 mgd slow sand filter plant. The plant was improved several times, including a complete renovation in 1960. The Queen Lane plant draws water from the Schuylkill River and serves as the main distribution point for service to center city and northwest Philadelphia, west of Broad Street and east of the Schuylkill River. The plant is rated at 140 mgd. Recent filter production rates are shown on Table III-3.

Table III-3 Queen Lane Annual Filter Production

Year	Average Daily Output	Maximum Daily Output
	mgd	mgd
2005	68.3	85.7
2006	67.3	94.7
2007	67.0	92.3
2008	65.5	88.9

Residuals from the flocculation and sedimentation basins are sent to the Southeast Water Pollution Control Plant (WPCP), as is the filter backwash. The solids load necessitates the addition of phosphate. There is currently a study to determine if the Northeast WPCP can handle Queen Lane's residuals and what piping modifications would need to be completed to achieve transport. An initial trial was unsuccessful, but helpful in identifying piping modifications. If possible this change would reduce the Water Department's chemical costs by eliminating the use of phosphate at Southeast.

Projects recently completed or on-going at the Queen Lane plant are listed below.

- Installation of a chemical storage and delivery system for non-ionic polymer is complete, and the system is in use. The non-ionic polymer is used to enhance filter performance during cold weather by increasing filter run length and reducing post backwash turbidity peaks.
- Replacement and upgrade of the Distributed Control System to a Windows-based system is complete.
- Upgrades to the filter backwash system are complete and include: replacement of the backwash pump switchgear and repair of the washwater tank. Replacement of the backwash valves is currently underway.
- The switchgear for the pre-treatment building has been replaced and the potassium permanganate tanks have been re-lined with new mixers installed.
- Re-pointing of the clearwell and retaining walls was completed in 2007.
- Security initiatives have been implemented throughout the plant in recent years and include: installation of a new security system at the raw water basin (fence alarm and new key pads), closure of an existing raw water basin access tunnel and installation of real-time water quality monitors (pH, turbidity, chlorine and conductivity) at the raw water basin effluent and clearwell effluent.
- Doors and windows in the filter building have been replaced.
- Chemical storage and delivery systems for sodium hydroxide and sulfuric acid have been installed and should be fully operational in 2009. These systems will provide additional flexibility for adjusting pH to meet desired treatment goals at the rapid mix and filter effluent locations.

Projects planned to be implemented in the near-term at the Queen Lane plant are listed below.

- A contract is in place to replace all filter drain valves and upgrade the power supply in the coming year.
- A project to completely rehabilitate the flocculation/sedimentation basins has been designed and is slated to go out to bid in 2009. This will be a four year effort focusing on one basin per year and will include replacement of all equipment as well as some structural repairs.
- Elimination of the raw water basin bypass to the filters is to be designed in early 2009. This project will enhance security by placing a physical

barrier in the existing by-pass that currently would allow direct flow from the raw water basin to the filter building, by-passing pre-treatment and flocculation/sedimentation.

- Significant infrastructure improvements related to the filter influent and effluent conduits are to be designed in 2009. These include: reconnecting the north by-pass to the clearwell, installation of chemical dosing lines in the north conduit, repairs to the center conduit to the clearwell, repairs to the settled water conduit, and repairs to the annular space to the filters.
- Two failed filters are to be rehabilitated (new media, underdrains and surface wash systems).
- Upgrade of the lighting and electrical system in the filter building is planned for 2009.
- Construction of an equipment storage building is still in the planning phase and is likely to be implemented in FY2010.
- Longer range projects include: a new pumping station for Roxborough and the Queen Lane High Service District, installation of an automatic shutdown of the flocculation/sedimentation process to shutdown flow in the event of loss of chemical feed, replacement of the main switchgear, renovation of the pre-treatment building and additional security improvements including purchase of generators capable of powering the entire plant.

Staffing at the Queen Lane Plant recently increased to 55 budgeted positions with the addition of a new graduate engineer position. The plant currently has only 3 vacancies.

3. Belmont Treatment Plant

The Belmont Water Treatment Plant draws water from the Schuylkill River and serves as the source of supply for West Philadelphia. The Belmont plant is rated at 80 mgd. Recent filter production rates are shown on Table III-4.

Table III-4	Belmont Plant Annual Filter Production	
Year	**Average Daily Output**	**Maximum Daily Output**
	mgd	mgd
2005	49.2	57.6
2006	44.6	52.1
2007	42.5	54.2
2008	40.8	51.7

Residuals from the flocculation and sedimentation basins are sent to the Southwest Water Pollution Control Plant (WPCP), as is the filter backwash. An internal discharge permit for the Belmont plant residuals flow was issued by the department's Industrial Waste Unit in July 1994. The permit required that routine discharges to the sewer be monitored weekly. Additional sampling is required during periods of high treatment flow rates and high river turbidity. Although this permit has expired and IWU has not reissued it, the plant continues to operate and monitor under the same conditions as required by the permit.

The Water Department continues to investigate methods for the reduction of DBP production at all three plants. In this vain, the Belmont Plant conducted a full scale trial of post-filter chlorination in August 2008, utilizing part of the existing clearwell as the post-filter chlorine contactor. The planned trial happened to occur at the same time as major source water quality disturbance, thus the results are somewhat difficult to interpret. However, the effort was successful in helping the research team trouble shoot their protocol. They intend to conduct more trials in the coming year to evaluate the feasibility of this process at Belmont.

Other projects recently completed or on-going at the Belmont plant are listed below.

- Solids removal from and concrete repairs to the east and west flocculation/sedimentations basins were completed in 2007 as were the replacement of the pretreatment control valves and the painting of the clarifier.
- Installation of a plant service water supply connection to Belmont Road was completed in 2006.
- Installation of on-line water quality monitors at the raw water basin effluent, high service and gravity sample locations is complete.
- Installation of a feed system for dosing of carbon and potassium permanganate prior to the raw water basin was completed in 2007.

- Replacement of filter surface wash valves, actuators and spool piping is complete.
- Replacement of the drain valves for the filters on the north side of the plant was completed in 2008.
- Replacement of the backwash actuators is complete.
- The low voltage panel board is currently being replaced.
- Two emergency generators are to be purchased, one low voltage to allow emergency shutdown and a second to be acquired as part of the High Service upgrade in 2010.
- Replacement of the existing, oversized polymer feed system is substantially complete.
- Redesign of the sulfuric acid feed system is substantially complete.
- Relining of the sewer within the plant site began in January 2009.
- Installation of redundant backwash control system (second meter and flow control valve) was installed in January 2009.

Future projects at the Belmont plant are listed below.

- Replacement of filter influent valves on all filters is scheduled for 2009. This will be a phased project requiring isolation and shut down of filter quadrants.
- Rehabilitation of the raw water basin is in design and anticipated to be implemented in fall 2009. This will include relining of the basin, replacement of the center flume and the addition of a carbon feed system.
- Other projects that are currently in design:
    - Automation of the flocculation/sedimentation basin blowdown process for the removal of settled solids.
    - Upgrading of the hydrated lime system to replace existing oversized slakers.
    - Replacement of filter effluent valves and installation of a master shutoff capability tied to the emergency generator.
    - Replacement of the existing variable frequency drives (VFDs) on the flocculators.
    - Replacement of the high voltage switchgear and purchase of a high voltage generator.
    - Installation of security lighting and access control.
    - Automation of the filter-to-water process to allow for remote initiation of valves that send filter effluent to a drain after filter start-up.

Staffing at Belmont has a budgeted level of 51 positions, with 3 vacancies. However, in addition to the budgeted positions, there are currently 4 apprentices assigned to Belmont. These trainees are working in the areas of electrical maintenance and science technology.

E. Water Conveyance

The mission of the Water Conveyance Section is to reliably and efficiently transport and distribute water, on demand, preserving quality and providing service focused on overall customer satisfaction. The section is composed of four units, including: Distribution, Pumping, Load Control, and Headquarters. The Division has 352 authorized positions. Currently, there are 18 vacancies.

A major initiative within the Water Department in recent years has been the development an overarching asset management system for all units in Conveyance and Collector Systems to inventory and track the infrastructure associated with the distribution and sewer systems. This program should be in place in 2009. It will utilize the department's existing Geographic Information System and will be a central location for the management of all street-side assets. It will replace the individual systems currently used by each unit for tracking of infrastructure repairs, replacements and related projects, thus streamlining work, consolidating data into one location and reducing duplication of efforts.

Water Conveyance will be involved with the implementation of the recently received Water Security Initiative (WSI) grant. The Department hopes to expand their distribution system water quality monitoring capabilities, integrate hydraulic modeling capabilities into contamination response protocols and enhance cyber security among other things.

1. Distribution Unit

The responsibility of this unit is to provide permanent repairs and maintenance to the water distribution infrastructure, construct service connections, supply twenty-four hour emergency response and provide local control of the water distribution systems, rectify system failure and maintain product control, provide reliable and cost effective water supply, while being responsive to the customers' as well as environmental needs. Major components of the distribution system include: 3,137 total miles of pipeline (393 miles of transmission and 2,744 miles of distribution mains), 25,181 hydrants and 89,529 valves (82,666 valves 12" and smaller and 6,863 valves 16" and larger).

Table III-5 shows the major performance parameters for the unit for the last four fiscal years.

Table III-5 Repair Record				
Service Parameter	FY 05	FY 06	FY 07	FY 08
Breaks Repaired	720	611	826	688
Discontinuance Orders Completed	1392	1264	820	579
Valves Repaired	222	209	198	303
Leak Survey (miles of pipeline)	1,279	1,113	1,024	1,113
Hydrants Repaired	4,432	5,042	5,007	4,447

A preventive maintenance program that involves both field investigations as well as systematic scheduling of repairs and replacements is in place for the pipeline infrastructure. This program has been in place for over ten years and is highly effective. The Department's current level of 231.2 breaks per 1,000 miles is significantly better than the national average of 270 breaks per 1,000 miles. The program consists of: leak surveys, utilization of information obtained from the sewer assessment program, examination of portions of repaired mains to determine extent and depth of corrosion and possible causes of breaks, as well as corrosion control studies. A recent addition to the preventative maintenance program is the use of a new technology used to inspect large diameter transmission mains to identify defects and small leaks. Conventional leak detection technology is generally not effective for larger transmission mains. This new technology allows for in-pipe inspections of active transmission mains, is highly sensitive and has proven quite effective for the Department. The implementation of this technology has evolved into the establishment of a new maintenance crew within the Distribution Unit, which will focus on inspection and repair of transmission mains. The Department is contracting for continued implementation of the inspection technology multiple times each year. Between inspections the Department will focus on addressing defects detected during the previous inspection. This program has allowed the Water Department to identify and address small leaks in major infrastructure prior to the occurrence of major main breaks, thus avoiding the massive response effort, property damage and financial expenditures associated with large main breaks.

In order to assure proper operation of the network's 89,529 valves, a valve tracking program is in place. This program records all valve activities (operation, inspection, repair and replace). Table III-6 summarizes the valve program for fiscal year 2008.

Table III-6 Valve Maintenance (Fiscal Year 2008)			
Valves	Total	Small (12" or smaller)	Large (16" or larger)
Operated	12,533	10,733	1,800
Found defective	270	232	38
Repair/Replace	123	96	27

In fiscal year 2008 hydrant availability was 99.7%. The Water Department attributes this high reliability to the implementation of a new process used to track hydrant information and deploy repair crews. The process was initiated in 2006 and has resulted in hydrant availability above 99% since that time. A preventative maintenance program includes routine inspections, repairs, and painting. During fiscal year 2008 the Water Department partnered with the Fire Department to inspect almost all of the city's 25,181 fire hydrants, leading to 4,777 repairs and 2,672 hydrants painted. In addition, 1,547 tamper-proof hydrant locks were installed. Over 68.9% of the department' hydrants have locking devices, and hydrant abuse has been controlled to levels that had no noticeable effect on the operation of the water system.

Unit maintenance activities are currently tracked using a variety of computer programs. These programs include: distribution (DMIS), valves (VMIS) and hydrants. In the coming year of all these programs will be migrated over to the new asset management system currently under development for Water Conveyance and Collector Systems. This will allow street-side maintenance activities to be tracked uniformly and will provide a more unified customer information system.

2. Pumping Unit

The unit's responsibility is to maintain and repair all raw and potable water pumping systems. Additionally, the unit maintains all raw water intakes, finished water reservoirs, system tanks and standpipes. The unit strives to maximize pump availability, pump efficiency and productive use of all maintenance resources. Table III-7 details the unit's success for these three parameters.

Table III-7 Pumping Unit Activity				
	FY 05	FY 06	FY 07	FY 08
Pump availability	97.1	95.6	95.8	94.5
Station Efficiency (wire to water)	77.3	76.9	77.8	77.2
% planned work (a productivity measurement)	95.6	95.5	94.7	94.8

Pump availability remains at a consistently high level due to the proactive maintenance approach employed. Despite the age of the majority of the pumps, the unit has been able to hold pump efficiencies steady. This is accomplished through good maintenance practices and using techniques such as impeller modification to better suit actual demand. Station efficiency is an overall measure of pumping system efficiency accounting for motor and pump efficiencies across all pump stations and representing the percentage of energy put into the system that is actually used to move water (the ratio of mechanical output to electrical input). The efficiency has been stable at about 77 percent over the past four years, which given the age of the equipment, is considered to be a high level of efficiency. The percent planned work activity is a measure of the productivity of the Pumping Unit staff in terms of time spent on planning maintenance activities as compared to time spent on emergency repairs. This measure reflects the effectiveness of the preventative maintenance program.

The Pumping Unit, with support from Load Control, accomplishes a significant amount of non-routine repairs, maintenance and installation in-house. In recent years this unit optimized several oversized pumps by decreasing the impeller size to allow for more efficient operation. They also installed two 48-inch magnetic flow meters (mag-meters) at the Queen Lane raw water pump station. These in-house retrofits are examples of how the unit is optimizing existing assets and implementing new technology to allow for increased efficiency and accuracy. Future plans call for the continuing efforts of downsizing of additional selected pumps to better match system demand and replacing of additional master meters.

Another in-house initiative led by Load Control is the design of a new High Service pump station for the Queen Lane plant. The new pump station will replace the outdated and oversized existing station. One goal of the design is to downsize the capacity to an extent

that will allow neighboring Oak Lane station to increase pumping and function at a more optimal level.

The Pumping Unit is also in the process of rehabilitating all of their standing storage tanks. The two Somerton Tanks (5 million gallons each) are currently being rehabilitated, with Fox Chase tanks and Roxborough standpipe to follow in 2009 and 2010, respectively. This effort will enhance water quality and increase the security and integrity of the tanks.

The Water Department continues to implement the recommendations of the 2003 Vulnerability Assessments system-wide. To this end the Department is in the process of acquiring emergency generators for all pumping stations. A generator is already installed at Belmont High Service, with the others still in design. All pump stations are also scheduled for switchgear upgrades in the coming years. The first such upgrade is the 6.3 million dollar upgrade at the Torresdale station.

All pump maintenance is currently tracked by a computer program (PUMA). In order to attain uniformity, this computer program will be replaced by the asset management system currently under development and planned for implementation in 2009.

3. Load Control Unit

The mission statement of the Load Control Unit follows: "In order to provide a reliable supply of water to meet all community needs we will operate the water transmission system Load Control Center, maintain the Supervisory Control and Data Acquisition system, conduct hydraulic investigations, develop and utilize a current hydraulic model of the entire water distribution system and assist in long-term planning for responsible management of the City's water supply infrastructure."

The development of a hydraulic model for the entire city is almost complete. Currently, eight of eleven pressure district models are complete, as is a city-wide transmission system model. The final three models are under development and are scheduled to be complete by July 2011. An integrated system-wide model will also be developed. The existing models have already been used to simulate operational changes, size pumps, plan water main relays and investigate water quality issues. Water Department staff will update the models frequently to insure that they are accurate and account for ongoing system changes.

The Load Control Center and water transmission system operate continuously. All pumps are controlled centrally using a SCADA system. It is a priority of the unit to provide

a reliable supply of water in a cost effective manner. This is achieved by using the SCADA system to maximize the use of system storage during peak hours then pumping as much as much as possible to refill lost storage during the less costly off-peak hours. Table III-8 illustrates the unit's ability to control electrical demand (a major cost component of the operation).

Table III-8 Load Control Unit - Electrical Demand

	FY05	FY06	FY07	FY08
Average Daily Delivered Water, mgd	260.3	253.7	255.3	250.7
Total Power Consumption, million kilowatt-hours	127.2	127.0	127.5	127.0
Total Peak Billing Demand, Kilowatts	146,101	145,620	145,000	145,035
Total Expenditures for Power	$6,314,000	$6,400,000	$6,525,000	$6,614,500
Cost per million gallon pumped (raw & treated water)	$66.46	$69.11	$70.02	$72.28

Average daily delivery to the water system has leveled off at approximately 250 mgd after steadily declining from a peak of 378 mgd in 1977. Load Control is challenged to find operational cost savings to match the delivery rate decline, while using pumping systems that were designed for higher demands. At most pumping stations, only the smallest pump runs during on-peak hours. Replacement of the existing pumps with smaller pumps is often cost-prohibitive due to unacceptably long payback periods. However, Load Control engineers have worked with Pumping Unit staff to replace a pump impeller at one station, trim the diameter of three impellers at another station, replace two large pumps with two small pumps at a third station, and design a completely new, correctly sized pumping station at a fourth location where the existing pumping station equipment is nearing the end of its useful life. All these projects were designed, purchased and installed in-house by Load Control engineers and Pumping unit technicians. Load Control and Pumping staff continue to monitor each district for opportunities to improve pumping efficiency and lower overall costs.

The unit provides a variety of water distribution system testing and investigative functions. These functions include fire flow testing, fire system troubleshooting, water quality investigations and investigation of new leak management initiatives. Asset

management support services provided by the unit include: planning and scheduling of capital program water system work, review of all capital program design documents, oversight for the Valve Maintenance Information System and coordination of the Large Valve Management Program. The unit also plays a lead role in the Water Accountability Committee and the Reservoir Team.

4. Water Conveyance Headquarters Unit

The Water Conveyance Headquarters Unit manages water distribution in the City and oversees the Water Accountability Committee, which coordinates the Water Department's on-going Water Loss Control Program with City managers. The Water Accountability Committee of the City of Philadelphia exists to promote a high level of efficiency in the water delivery and billing processes and perform the strategic planning necessary to implement lasting improvements in water and revenue loss reduction. The committee is a multi-functional team including personnel from the Water Department and the Water Revenue Bureau. The Water Loss Control Program strives to reduce the volume of non-revenue water. Major elements of this program are: compilation of the annual water audit, progressive leakage management, customer meter management, revenue protection, reduction of unauthorized consumption, piloting of new technologies and benchmarking. Through these programs the Water Department has reduced non-revenue water by 40% over the past decade.

a. Annual Water Audit

The Water Department has been very active in promoting new auditing methods through the American Water Works Association, and was the first utility in the United States to adopt the best management water audit methodology published in 2000. They have received recognition as an industry leader in this regard. The method accounts for all water as either consumption or losses (apparent or real). Apparent Losses are the paper losses due to customer meter inaccuracies, data handling error and unauthorized consumption. These losses cause water utilities to lose a portion of the revenue to which they are entitled and understate the aggregate consumption of the customer population. Real Losses are physical losses, largely leakage. These losses inflate the marginal water production costs for water utilities. Summary results of the annual audit for fiscal years 2000 to 2008 are presented in Table III-9. It is noted that the Department implemented a new billing system in January 2008. Certain inconsistencies were noted in the fiscal year 2008 audit data and are presumed to be the result of this implementation occurring midway through the year and the Department's continued efforts to customize and refine the new system. The structure of the audit methodology is important in that it fixes a cost impact on both apparent and real losses. It can be seen that, despite a reduction in overall loss volumes, the overall cost impact of

losses continues to increase, largely due to increased costs to supply water and the costs of uncaptured revenue due to apparent losses. Hence, stepped-up water loss control is still a large priority for the Department.

Table III-9 Water Audit Results 2000 – 2008

Component	FY2008*	FY2007	FY2006	FY2005	FY2004	FY2003	FY2002	FY2001	FY2000
Water Supplied, mgd	250.7	255.3	253.8	260.3	263.0	270.2	263.0	267.5	277.7
Billed Consumption, mgd (may include some unmetered consumption)	175.8	169.5	177.0	176.9	176.9	183.4	178.2	181.7	185.8
Non-revenue Water, mgd	74.9	85.8	76.8	83.4	86.1	86.8	84.8	85.8	91.9
Percent Non-revenue Water by volume	32.4	36.3	32.7	34.6	35.4	32.1	32.2	32.1	33.1
Percent Non-revenue Water by cost	15.1	17.5	13.0	12.4	9.0	8.3	8.1	9.2	11.1
Unbilled Authorized Consumption, mgd	2.1	2.3	2.4	2.3	2.4	3.0	2.5	2.4	3.0
Unbilled Authorized Consumption Costs	$717,200	$214,300	$191,000	$155,200	$159,700	$180,400	$145,900	$134,500	$149,000
Apparent Losses, mgd	19.0	21.9	15.2	14.2	11.1	13.3	13.1	14.5	18.6
Apparent Losses costs, million	$27.3	$30.8	$20.3	$19.1	$10.9	$10.0	$9.0	$11.6	$13.7
Real Losses, mgd	53.8	61.6	59.2	66.9	72.6	70.5	69.2	68.9	70.3
Real Losses costs, million	$4.9	$5.1	$4.3	$3.9	$4.1	$3.7	$3.4	$2.5	$2.9
Infrastructure Leakage Index, dimensionless	9.0	10.3	9.9	11.0	12.1	11.9	13.1	12.7	12.3

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The Infrastructure Leakage Index (ILI) gives a measure of leakage control standing and is the ratio of the current level of leakage to the technically low limit believed achievable (unavoidable level) if leakage must be completely minimized due to scarce resource availability, shortages, etc. For systems not confronting such pressures, AWWA recommends targeting an ILI of no more than 8.0. The Water Department's loss control activities have been effective in reducing their ILI over the past decade from a high of 13.1 in 2002 to a low of 9.0 in 2008.

b. Leakage Management

The Department manages leakage via a combination of traditional leak detection and repair activities (find and fix approach) and by advanced technologies such as pressure management (predict and prevent approach). The Leak Detection Survey program has

operated successfully within the Water Conveyance Section for thirty years. Leak detection crews use state-of- the-art technology (leak correlator and correlating leak loggers) to proactively survey the water distribution system for hidden leaks. In fiscal year 2008, 1,113 miles of mains were surveyed with corrective measures abating 36.07 mgd of leakage. Summary results of this proactive program are presented in Table III-10.

Table III-10 Leak Survey

Service Parameter	FY 05	FY 06	FY 07	FY 08
Leak Survey (miles of pipeline)	1,278	1,113	1,024	1,113
Leakage Abated (mgd)	38.08	29.15	27.66	36.07

In 2006 the Water Department extended their leak detection program to transmission mains through the use of new technology designed specifically for large diameter mains. To date this program has inspected 19.78 miles of transmission main and detected 45 leaks.

The Department's use of advanced pressure management as a sustainable leakage control technique is discussed under Section 4e (Piloting New Technology and Benchmarking).

c. Meter Management

The Water Department's water meter management program maintains several dozen production meters and a customer meter population of close to one half million. The Water Department also manages the Automatic Meter Reading (AMR) system that provides routine customer meter readings to the billing process. These programs are discussed below.

(1) Production Metering

The Water Department maintains meters on transmission supply mains at its three water treatment plants, pumping stations, reservoirs, as well as interconnections to Bucks County Water & Sewer Authority and Aqua Pennsylvania. All meters are connected to the Load Control Center SCADA System and are continuously monitored and balanced on a daily basis. Most meters are verified on at least an annual basis by Load Control technicians and an engineering consultant, and the export sales meters are checked quarterly. This structured level of meter management ensures accuracy in the calculation of the total volume of water supplied to the distribution system.

(2) Customer Meter Management

Customer meters are managed by the Water Department's Metering Unit. This group replaces faulty meters and automatic meter reading equipment, investigates suspicious consumption patterns, and performs a host of related duties. The Metering Unit also operates meter test equipment and performs routine meter accuracy testing. The demands on the Metering Unit have grown since the installation of Automatic Meter Reading, since much more reliable customer consumption data now exists, revealing many more problems such as tampering and equipment failure.

The Meter Shop has focused recently on the assessment of large customer meters, particularly the appropriateness of sizing of these meters. Large meters are defined as those greater than one-inch in size. Approximately 3 percent of all meters fall in this category, but these accounts tally almost 50% of the billed consumption total. Highlights of this program are presented below.

- Meters ranging from one to two-inches in diameter are generally replaced every 10 years in order to maintain accurate registration. Those meters from three to six-inches have a 4-year replacement interval, and those from eight to ten-inches are replaced on a 2-year frequency. This increasing frequency for the large meters assures that they will provide a high accuracy and level of performance.
- A concerted look at downsizing oversized large meters in the system has also been undertaken. Approximately 250 meters per year have been downsized on average during the past four years. Large meter management results in benefits to both the customer and the Water Department. Meter downsizing results in a decrease to the customer's monthly water service charge, while replacing misapplied turbine meters with compound meters results in increased registration and related volumetric billings. The Department is investigating the use of single jet meters to further enhance the accuracy of measured volumes. The Metering Unit and the Department's water efficiency consultant began an effort in fiscal year 2008 to obtain customer consumption profiles by data-logging meters at a variety of buildings.

(3) Automatic Meter Reading System

The first installation phase of the Automatic Meter Reading (AMR) System from 1997-1999 included the replacement of all residential water meters, sized 5/8-inch or 3/4-inch, with new meters equipped with radio transmitter meter reading devices (Encoder,

Receiver, Transmitter units or ERTs). Philadelphia's AMR System is the largest and most significant water automatic meter reading endeavor to be fully implemented in the country. This program is substantially complete with over 99 percent (of 471,000 accounts) residential and commercial customers having AMR capability. The second phase of the program to replace large meter commercial and industrial customers with AMR is almost complete at 93% (of 12,900 accounts). Significant improvements in customer service and consumption data integrity have been realized as a result of the AMR System. The system is also being leveraged to gain additional benefits in the areas of leakage management and control of unauthorized consumption. Additional benefits of the system include:

- Reduced intrusion into individual homes, resulting in greater customer convenience and security
- Accurate and reliable meter readings
- Fewer customer complaints due to estimated billing
- Improved ability to detect apparent losses, particularly unauthorized consumption
- Long-term savings and revenue improvements

d. Revenue Protection

The Revenue Protection Program focuses on recovering uncaptured revenue from compromised customer accounts. It has been successful in recovering over $15 million during its life. Each year the program pursues targeted groups of accounts perceived as areas of missed water consumption and billings. For the past three years the major focus of the program has "zero consumption" accounts; the majority of which have occurred due to tampering. Table III-11 summarizes recent program results.

Many of the accounts investigated by Revenue Protection occur due to unauthorized consumption. As in many large urban areas, unauthorized consumption occurs in many ways. The Department provides effort to address the major causes of this missing revenue. Over 30,000 accounts are shutoff for non-payment every year and a notable portion of these accounts illegally restore their service. Up to 3,000 of these are confirmed to have been "illegally restored" and are terminated a second time. The Delinquency & Restoration Unit is piloting new technologies to improve shutoff effectiveness.

Table III-11 Water Revenue Bureau Annual Water Audit Summary		
Fiscal Year	**Water Recovered, mgd**	**Revenue Recovered**
2000	**1.39**	**$2,100,000**
2001	**5.81**	**$2,900,000**
2002	**0.69**	**$1,037,000**
2003	**1.14**	**$1,782,000**
2004	**1.67**	**$2,003,000**
2005	**1.74**	**$2,835,000**
2006	**1.01**	**$1,413,000**
2007	**0.36**	**$531,400**
2008	**N/A***	**$636,300**
Total	**13.45**	**$15,237,700**

* Data not available due to recent implementation to Basis 2 customer billing system

Reduction of unauthorized fire hydrant use is another Department loss control initiative. The Department's recent efforts have focused on installing tamper-proof locks (center compression locks CCL) in those areas most susceptible to fire hydrant abuse. In fiscal year 2008, 1,547 tamper-proof hydrant locks were installed. To date over 68.9% of the department' hydrants have locking devices. It is the department's intent to have tamper-proof locks installed on all hydrants in the future.

e. Piloting New Technology and Benchmarking

Through participation in AwwaRF research studies and internal efforts the Water Department is continuously investigating new and innovative technologies for water loss control. As part of the AwwaRF study "Leakage Management Strategies" the Department isolated a small area of the distribution system to establish a pilot District Management Area (DMA) to evaluate leakage as a function of distribution system water pressure. The research found that the DMA approach is feasible in US water utilities and the Department achieved a significant, sustainable leakage reduction in the DMA and a payback period of less than five years. With the completion of the study, the Department is continuing their efforts to optimize operations of the DMA for further reduction of leakage through the use of flow modulated pressure control. The DMA pressure is controlled to coincide with demand and thus reduce leakage potential. Using pressure reducing valves, system pressure is reduced during the night (low flow) and increased during the day (higher flows). Maintaining optimal pressure is effective in reducing background leaks or seepage, while monitoring

changes in pressure during low flow periods is useful in identifying leaks. The Department will continue to focus on this DMA in the near-term with consideration of additional applications in other parts of the distribution system.

Benchmarking activities provide beneficial information regarding realistic goals for water losses. In order to assure proper comparisons, the Water Department formats all loss control information to conform with the International Water Association (IWA)/AWWA water audit format. This provides the ability to compare department progress with national and international water providers. The Department continues to hold leadership roles in AWWA and other industry organizations and is at the forefront in advancing proactive water loss control methods in the US water industry. This has included outreach to a number of state and regional water regulatory agencies to introduce the water audit methodology. During these activities the Department has had opportunities to share its best practice approaches with many agencies and assist other utilities in compiling water audits to further the use of performance indicators and benchmarking.

Loss control programs are never complete. Ongoing activities continue to build on successful efforts of the past. Future program initiatives include:

- Utilize the full potential of the new billing system to enhance the management of customer account data.
- Increase staff levels to enhance revenue collections.
- Search for opportunities to improve efficiency and timeliness in addressing leakage on customer services connection piping.
- Utilize the new work order management system to better track leak categories and repair times.
- Further reduce time between leak identification and repair.
- Continue to investigate programs to reduce leakage losses through pressure control.
- Pilot the use of a Fixed Network (continuous reading) AMR technology to monitor customer meters remotely at short time intervals. This would provide increased data collection opportunities and create opportunities to pilot an array of new capabilities known as Advanced Metering Infrastructure (AMI) including leak noise loggers on customer piping, automatic shutoff valves, automated backflow detection and other enhancements.

F. System Storage and Pumping

The Water Department provides finished water storage at each treatment plant. In addition, there are seven other treated water storage reservoirs, standpipes, or basins in the system. All finished water storage is covered.

The principal covered storage reservoirs and their approximate capacities are:

East Park (Northeast)	147.2 million gallons
Oak Lane	72.8 million gallons
Roxborough (Upper & Lower)	28.5 million gallons

In addition, the Fox Chase and Somerton tanks and the Roxborough standpipe provide 22.5 million gallons of in-system storage.

The Oak Lane Reservoir was taken out of service on February 24, 2009 immediately after it was discovered that the polypropylene membrane cover was deteriorating and particles from the cover were released into the water. Operations to implement the shutdown were efficient and effective with no negative impact on water supply. The reservoir provided water to the East Oak Lane and West Oak Lane Pumping Stations. These pumping stations are now supplied directly from Lardner's Point Pumping Station while an investigation into the cause of the breakdown is conducted and a plan of action is instituted. It is expected that the reservoir will be out of service for an extended period of time.

The Water Department's Reservoir Team manages the strategic planning, capital program projects, and operations and maintenance functions of the Water Department's reservoirs. Prior to the occurrence at the Oak Lane Reservoir, the Strategic Planning Group had focused on the long-term options for East Park and Oak Lane Reservoirs where the floating covers are into the second half of their useful lives. The long-term plan is to replace the existing East Park Reservoir with up to 5 (five) 30 million gallon concrete storage tanks. The tanks will provide water quality, security and maintenance benefits over the existing reservoir and floating cover. The current plan is to install 3 (three) tanks in the near-term with potential for expansion in the future. A contract for the design was awarded in late 2008. It is anticipated that construction will occur in 2013.

Pumping stations are located at each treatment plant with seven other stations located off-site providing water service pressure in the distribution system. The major pumping stations, divided into Delaware and Schuylkill Divisions, are:

Delaware Division	Schuylkill Division
East Oak Lane	Belmont High Service
Fox Chase Booster	Belmont Raw Water
Lardners Point	Chestnut Hill
Torresdale Low Service	East Park Booster
Torresdale High Service	Queen Lane High Service
Torresdale Raw Water	Queen Lane to Roxborough
West Oak Lane	Queen Lane Raw Water
	Roxborough High Service

By utilizing reservoir storage capacity and pumping capabilities, through the Load Control Center, the Water Department is able to provide water during periods of water shortage in a given service area. A great deal of flexibility is built into the system. With few exceptions water can be provided city wide from any of the three treatment plants.

IV. Wastewater System

A. Introduction

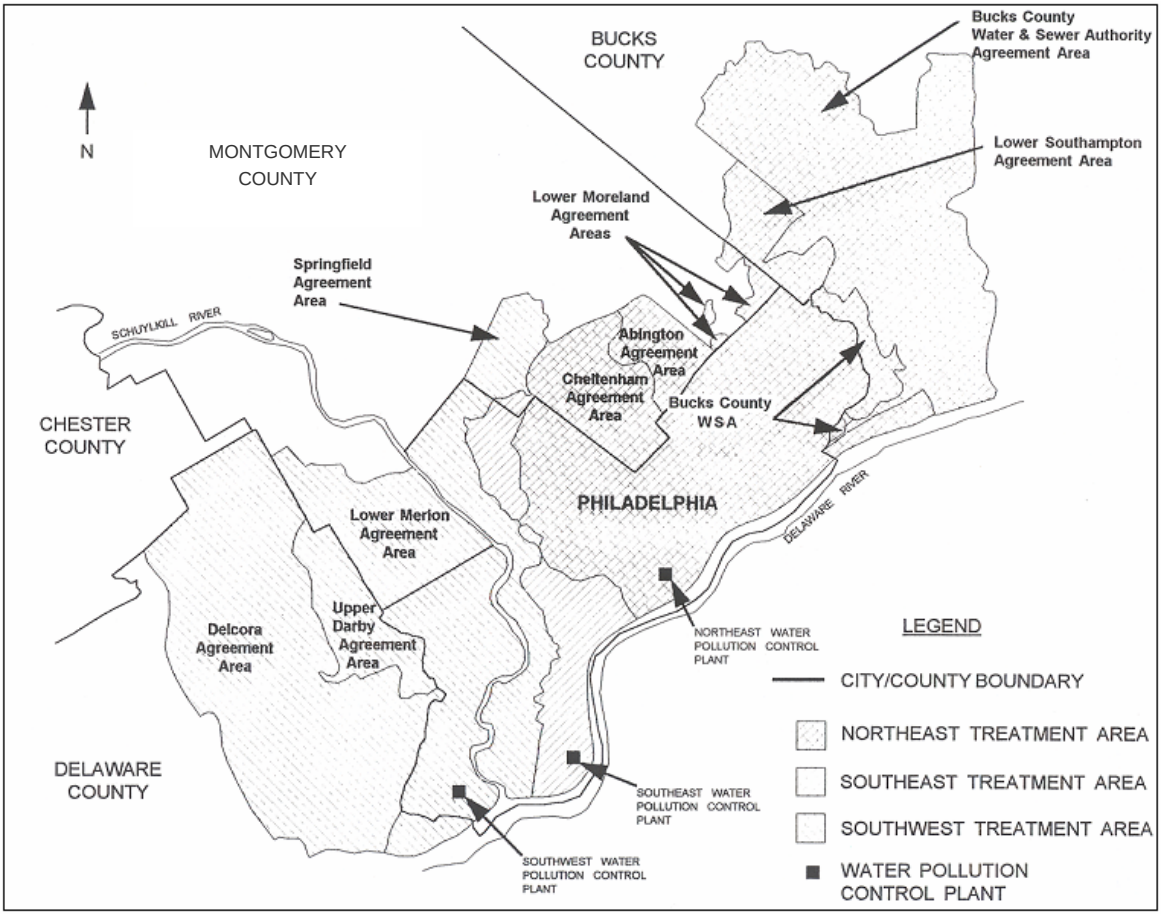
By the end of the Nineteenth Century, Philadelphia had established a Department of Sewerage and had constructed approximately 800 miles of sanitary and storm sewers. In 1923, the Northeast Water Pollution Control Plant (WPCP) went into service with a capacity of 60 million gallons per day (mgd). From that point until the mid-1940s, most expenditures were for collection and transmission facilities rather than for treatment works. It was not until 1946 that wastewater service charges in the City provided the means of financing the modernization of the original Northeast WPCP and the construction of the original Southeast and Southwest plants as primary treatment facilities. All three wastewater treatment plants were upgraded in the 1970s and 1980s to provide secondary treatment. Construction of the Biosolids Recycling Center (BRC), formerly the Sludge Processing and Distribution Center (SPDC) which manages sludge produced from all three treatment plants, was subsequently completed in 1989.

B. Wastewater System Overview

The Philadelphia Water Department's wastewater system currently serves the City of Philadelphia, and parts of Bucks, Montgomery, and Delaware Counties. According to the 2000 census, the total service area population is approximately 2,218,000 including approximately 1,518,000 people within the City and 700,000 residents in outlying municipalities. The service area population is distributed over 360 square miles, with 230 square miles in suburban communities and 130 square miles in the City.

The wastewater collection system consists of approximately 3,652 miles of sewers, 16 pumping stations (13 City Owned and 3 owned by others but operated by the City), 85,000 manholes, 26 storm relief structures, 78,572 stormwater inlets, and 26 metering chambers to monitor flows from surrounding townships. There are 749 miles of sanitary sewer, 717 miles of storm sewer, 1,825 miles of combined sanitary and storm sewer, and 135 miles of major interceptor sewer that convey wastewater to the treatment plants. The sewers range in size from 8-inch diameter to 21 feet by 24 feet arch-shaped conduits and are constructed of brick, vitrified clay or reinforced concrete. The wastewater system is divided into three drainage districts, each served by a treatment plant as indicated in Figure IV-1.

Figure IV-1 – Wastewater Service Areas



Wholesale Suburban Customers

Contracts for wastewater treatment service with nine neighboring municipalities and authorities provide for the billing of charges based on wastewater strength and volume. As illustrated in Figure IV-1, parts of Bucks and Montgomery Counties contribute to the Northeast plant; parts of Montgomery and Delaware Counties contribute to the Southwest plant; and Springfield Township of Montgomery County contributes to the Southeast plant. In 1999, one of the Water Department's wholesale customers, Bensalem Township, consolidated its wastewater contract into the Bucks County Water and Sewer Authority contract.

Table IV-1 summarizes the contract limit flows and actual flows by receiving plant.

Table IV-1 Suburban Flows to WPCPs

	Annual Average Daily Flow Maximum (mgd)	Average Daily Flow in Fiscal Year 2008 (mgd)
Northeast Plant	56.6	37.3
Southeast Plant	1.0	0.5
Southwest Plant	84.7	45.7
Total	142.3	83.5

C. Relevant Regulatory Permits and Consent Decrees

The City's wastewater treatment plants and the collection system are regulated by three permits which include:

- National Pollutant Discharge Elimination System
- Stormwater
- (Title V) Title V Major Source Operating Permits-Clean Air Act

1. NPDES Permits

The National Pollutant Discharge Elimination System (NPDES) permits for the Northeast, Southeast, and Southwest WPCPs all became effective September 1, 2007 and will expire August 31, 2012. These permits provide flexibility to treat potential additional flows resulting from system wide efforts to control combined sewer overflows. NPDES permit limitations are included in Table IV-2. The permits are designed to enable PaDEP to utilize them as a single source document in their review of the wastewater system compliance status. Key components of the permits and several of the more significant changes that have been negotiated with these permits are summarized below.

The NPDES permit is comprised of three major components: Parts A, B and C. Part A regulates the effluent discharges for each plant and provides for monitoring, record keeping, and reporting requirements. Table IV-2 details the key effluent discharge limitations established in the permits. Additionally, Part A outlines monitoring requirements for the plant's stormwater outfall system -- the plant's individual stormwater system -- which were formerly part of a separate permit. Part A also lists all combined sewer outfalls that are tributary to each of the wastewater treatment plants. Specific limitations and programs for the combined sewer outfalls are detailed in the other sections of the permit.

Significant changes to Part A of the permits reflect the inclusion of the plant's stormwater outfall system as a part of the permitted facilities. Each plant's stormwater outfalls at each plant must be monitored for select parameters on an annual basis. The Water Department must prepare a Preparedness, Prevention, and Contingency Plan (PPC) to assure that stormwater outfalls do not pollute the receiving waters and Best Management Practices (BMPs) will be implemented.

Other changes to Part A of the NDPES permit include additional fecal coliform limitations were established in the new permits. In addition to the fecal coliform geometric mean limitation, the instantaneous maximum for the fecal coliform concentration shall not exceed 1,000 per 100 milliliters in more than 10 percent of the samples. This requirement takes effect September 1, 2009 for the Northeast plant and may increase the difficulty in attaining the desired pathogen kill and still meet the total residual chlorine limitation; however, the plant operators will likely be able to comply with this requirement. Similar requirements have been in place since September 2007 for the Southwest and Southeast plants.

Part B of the NPDES permit outlines Management Requirements, Penalties and Liabilities and Other Responsibilities. There have been no significant changes to Part B of the permit from the previous versions.

Table IV-2 Current NPDES Key Effluent Limitations	
Effluent Characteristic	**Discharge Limitation** (Average Monthly)
$CBOD_5$ (mg/l)	25[(1) (2)]
$CBOD_5$ (lbs/d)	36,430[(1)], 19,800[(2)]
$CBOD_5$ (% removal)	86[(1)], 89.25[(2)]
$CBOD_5$ (% removal at flows > MDF)	See footnote 5
BOD_5 (mg/l)	30[(3)]
BOD_5 (lbs/d)	19,650[(3)]
BOD_5 (% removal)	86[(3)]
BOD_5 (% removal at flows > MDF)	See footnote 6
TSS (mg/l)	30
TSS (lbs/d)	52,540[(1)], 50,040[(2)], 28,025[(3)]
TSS (% removal)	85
TSS (% removal at flows > MDF)	See footnote 7
pH	6-9
Fecal Coliform	200/100 ml[(4)]
Total Residual Chlorine (mg/l)	0.5
Average Monthly Flow - AMF (mgd)	monitor/report
Maximum Daily Flow – MDF (mgd)	monitor/report
Maximum Daily Flow – MDF recognized for calculating % removals at high flow day events (mgd)	315[(1)], 300[(2)], 168[(3)]

[(1)] Northeast WPCP
[(2)] Southwest WPCP
[(3)] Southeast WPCP
[(4)] Geometric mean
[(5)] If a calendar month includes one or more days where flows exceed the MDF, a value of 86 % and 89.25 % respectively at the Northeast WPCP and the Southwest WPCP may be used for those days for calculating $CBOD_5$ percent removal.
[(6)] If a calendar month includes one or more days where flows exceed the MDF, a value of 86 % at the Southeast WPCP may be used for those days for calculating BOD_5 percent removal.
[(7)] If a calendar month includes one or more days where flows exceed the MDF, a value of 85% may be used for those days for calculating TSS percent removal.

mg/l milligrams per liter
ppd pounds per day
mgd million gallons per day
$CBOD_5$ Carbonaceous Biological Oxygen Demand (five day)
BOD_5 Biochemical Oxygen Demand (five day)
TSS Total Suspended Solids
AMF Average Monthly Flow
MDF Maximum Daily Flow

Part C of the permits contains 29 "Other Requirements." Some of the key requirements are summarized as follows:

- Standard test methods are referenced for all of the parameters being monitored.
- Requirements are established for stormwater outfalls serving the wastewater plants. This section calls for the preparation of a Preparedness, Prevention and Contingency Plan (PPC) for each facility. Also, an annual comprehensive site compliance evaluation must be performed as well as the implementation of Stormwater Management Best Management Practices (BMPs).
- The Water Department will need to re-evaluate its local limits associated with its pretreatment program. The schedule calls for the local limits re-evaluation to be completed within one year of the permit issuance date.
- Laboratory certification is a new requirement but should have no significant impact on the Department since its laboratory already meets certification requirements.
- There is a new section related to calculating and reporting mass loadings. This section acknowledges the Department's efforts to reduce the frequency and volume of untreated sewage discharges and allows flexibility in calculating and reporting removal levels and mass loadings at the treatment plants during high flows.

- There is another new requirement related to the development of an Operations and Maintenance Plan. It requires that each wastewater treatment facility update its plan whenever a significant revision to the facility occurs. The plan contains the following elements:
  - Process control strategy
  - Monitoring and compliance plan
  - Wet weather operations strategy
  - Emergency operations plan
  - Preventative maintenance plan
  - Emergency maintenance plan
  - Solids management plan

  Each of the wastewater treatment plants already has O& M manuals and Standard Operating Procedures (SOPs) that in total would conform to this requirement.

- A Sludge Dewatering Summary Report is now required. This monthly report is to be filed along with the Discharge Monitoring Reports (DMRs).

- A Polychlorinated Biphenyls (PCBs) Requirements Plan is also required to be prepared. The Department has previously prepared, and the DRBC has accepted, a Pollution Minimization Plan (PMP) related to PCBs. The Department updates this plan annually.
- Development of a Combined Sewer Overflow (CSO) Program is required. This section details a comprehensive program to minimize combined sewer overflows and has three components:
  - Implementation of the Nine Minimum Controls
  - Implementation of the Long Term CSO Control Plan
  - Monitoring and Assessment

  The details and schedules for all components of the CSO Program were developed by PaDEP with substantial input provided by the Department

2. Stormwater Permit

PaDEP has the authority to regulate municipal stormwater through the NPDES Municipal Separate Storm Sewer System (MS4).

Sections of the permit include:

- Sediment Total Maximum Daily Load (TMDL) for Wissahickon Creek
- Pollutant Minimization Plan (PMP) for Polychlorinated Biphenyls (PCBs) in the City's Municipal Separate Storm Sewer System (MS4)
- Storm Water Management Program
  - Source Identification
  - Discharge Management, Characterization, and Watershed-based Assessment and Management Program for three watersheds (Pennypack, Poquessing and Wissahickon)
- Detection, Investigation, and Abatement of Illicit Connections and Improper Disposal
- Monitoring and Control Pollutants from Industrial Sources
- Monitoring and Control Storm Water form Construction Activities
- Best Management Practices (BMPs)

The new stormwater permit contains many of the programs from the Water Department's first stormwater permit and also includes the following new programs: (1) watershed based assessment and management programs for those tributaries receiving stormwater flow; (2) implementation of various innovative stormwater best management

practices; and (3) a pollutant minimization plan for identifying and tracking possible sources of PCB contamination into the storm sewer system. The Water Department has implemented these new requirements of the MS4, and is in full compliance.

3. Title V Major Source Operating Permits

As amended, the Federal Clean Air Act (the "Clean Air Act," CAA) sets forth requirements for the regulation of certain air emissions. In January 1994, the PaDEP published regulations pursuant to the Clean Air Act's mandates for the control of VOC and NOx emissions from major stationary sources. These regulations required, in part, that all sources of VOC and NOx quantify their emissions. The three WPCPs are sources of VOCs and NOx.

The Title V permits require bi-annual reporting for NOx and VOC emissions. Section C, Facility Wide Requirement of the Title V permits, also contains requirements regarding odor emissions. Any detection of a malodorous air contaminant outside the facility property line must be reported. Permit requirements consist of monitoring and reporting. No limitations are stipulated.

In June 2001, Title V Major Source Operating Permits were issued for the Northeast WPCP and the combined site of the Southwest WPCP and the Biosolids Recycling Center (BRC); the Southeast WPCP is considered a minor source and does not have a Title V permit. Both permits have been administratively continued while new permits are being negotiated with the City's Health Department Air Management Services (AMS).

The CAA also required the development of a Risk Management Plan (RMP) for all Water Department facilities where regulated substances (chlorine, ammonia, methane) are stored. The RMPs are designed to minimize the impact of a process accident on the surrounding community. Risk Management Plans were prepared and submitted for each facility. Because of the replacement of gaseous chlorine with liquid sodium hypochlorite as a disinfectant, RMPs are no longer required at the wastewater treatment plants.

During calendar year 2008, no odor violations issued at the SW/BRC facility, however, two violations were issued at the Northeast facility**.** For the Northeast facility, the Water Department has developed a long-term odor control strategy to rectify these issues. The Water Department believes it has identified a major source of the odors and is working with a discharger to correct this problem. The Water Department has worked closely with AMS in developing its Odor Response Plan -- which is part of the permit -- and this plan is

implemented whenever odors are detected. The Water Department continues to operate its facilities in a manner that maximizes treatment while minimizing odors.

With the recent privatization of the BRC in October 2008, as discussed later in this report, future individual permits may be issued for Northeast WPCP, Southwest WPCP, and BRC.

D. Water Pollution Control Plants Overall Performance

The three WPCPs have maintained high levels of treatment such that they have been recognized by the National Association of Clean Water Agencies (NACWA), formerly the Association of Metropolitan Sewerage Agencies ("AMSA"), with either Silver, Gold or Platinum awards over the past decade. The three WPCPs met all permit requirements in calendar year 2007 and have received NACWA platinum and gold awards. In calendar year 2007, all three wastewater treatment plants achieved perfect NPDES compliance. The Southeast and Southwest Plants received platinum awards for 5 or more years of perfect compliance. The Northeast Plant received a gold award. All three plants achieved perfect NPDES compliance in 2008.

E. Northeast WPCP

1. Service Area

The Northeast plant serves northeast Philadelphia and suburban areas in southeast Bucks and eastern Montgomery counties.

2. Capacity and Performance

The plant is sized for a design average flow of 210 mgd and a peak flow of 420 mgd. As indicated in the NPDES permit, specific projects are detailed to further increase the capture and treatment of combined sewage flows. Table IV-3 summarizes these projects.

During fiscal year 2008, the plant treated an average flow of approximately 160 mgd. Plant performance is normally well below permit limits. Effluent concentrations are typically at or below 10 mg/l for $CBOD_5$ and TSS. Total Residual Chlorine (TRC) levels are also below permit requirements. In fiscal year 2008 there were two odor complaints.

Table IV-3 CSO Projects Related to the Northeast WPCP		
Project	Schedule	Status
Real Time Control Center Rehabilitate the monitoring network	9/1/2010	Underway
Improve mixing in mixed liquor channel to secondary clarifiers 9 through 16	Complete by 9/1/2008	Complete
Develop capability to add polymer on Set 1 secondary clarifiers to maintain effluent quality	Complete by 9/1/2008	Complete
Improve step feed modes during wet weather events by converting the manual gate operators to motor driven	Complete by 9/1/2008	Complete
Plan Design and Construct modifications to increase secondary capacity to 435 mgd Modify Set 2 secondary effluent channels to reduce hydraulic restrictions Provide second conduit to Set 2 Primary clarifiers to convey additional flow to Set 2 Primary tanks	9/1/2012	Preliminary engineering Underway
Define requirements to provide primary treatment treat and disinfection for 535 mgd and secondary treatment for 435 mgd	Explore by 3/1/2009	Engineering Investigation underway
In line storage Tacony Creek Park (T-14)	Complete by 9/1/2011	Awaiting Bid
In line storage Rock Run Relief (R-15)	Complete by 9/1/2010	Construction Substantially Complete
In line storage State Road PC 30	Complete by 9/1/2012	Design work complete

3. Liquid Stream Process

The facility consists of a preliminary treatment building providing screening, influent pumping and grit removal; primary clarifiers; aeration basins; final clarifiers and disinfection. Sludge from the Baxter Water Treatment plant is discharged to the Northeast plant. The characteristics of this sludge reduce available phosphorous for the activated sludge process. The plant has the ability to add phosphoric acid (to assure proper nutrient levels), but has not required this chemical addition in the recent past.

Key activities or improvements to the liquid stream process that have recently been made or are currently in progress include the following:

Projects recently completed:

- Five out of seven aeration tanks were drained and inspected
- Rebuilt 5 of the 6 blowers
- Overhauled influent pumps

Projects either planned or ongoing:

- Screenings from conveyance system - nearly complete
- Replacement of hydrogritters - design complete
- New pipes to increase flow between PTB and PST Set 1 - under design
- Replace Valve/Gate Actuators in PST Set I - in design
- Rehab Scum Collection Controls at FST Set I - design complete
- Repair/replace return sludge pipeline serving final tanks 1-8 - in design
- Removal of double deck effluent channel at FST-Set II - in design
- Automate FST Set 1 scum gate operation - under design

4. Sludge Stream Process

Sludge treatment is provided by dissolved air flotation (DAF), thickening of waste activated sludge (WAS), and anaerobic digestion of combined primary and thickened waste activated sludge. Digested sludge is delivered by gravity to two transfer tanks. Approximately once daily, the sludge from these tanks is discharged to barges and transported to the Biosolids Recycling Center (BRC) for final processing. On October 10, 2008 the Department privatized the operation of the BRC. Philadelphia Biosolids Services is now the operator. The transition has been smooth and has not impacted the solids handling and transporting conducted by the Northeast WPCP. Key activities or improvements to the sludge stream process that have recently been made or are currently in progress include the following:

Projects recently completed:

- Increased waste gas burner capacity
- Replaced floated sludge pumps
- Digesters 10 and 12 cleaned
- Gas tank inspection and bladder replacement

Projects either planned or ongoing include:

- Replace existing sludge pumps and valves on barges - bid

5. Facility and Utility Maintenance Projects

Recently completed and planned facility and utility maintenance projects include:

Projects recently completed:

- Testing of electrical and distribution components - plant wide
- Replace electrical switchgear and lighting for blower building - under construction

Projects either planned or ongoing:

- Upgrade SCADA Phase II - in construction
- Replace Emergency Lighting Plant wide - in design
- Rehab phone system - in design
- Replace Front Gate - in design
- Replace Aeration Tank High Voltage Switchgear - in design
- Elimination of street drains to effluent conduit - in design
- Replace Blower Building switchgear - in design
- Rehab Biogas Condensate vaults and meters and Aeration system valves - in design
- Redirect area storm drains at Streets Department facility - in design
- Rehab Plant Water System - in design
- Replace Building Breakers - in design
- Replace 480 V switchgear at FST Set II - in design

6. Operation and Maintenance

A process computer system is currently used for monitoring certain plant processes and for computing various process trends. This system is currently being upgraded. The following unit processes are automated: PTB screen conveyors, influent flow splitting to the

primary tanks, return sludge, hypochlorite disinfection, digester feeding, and dissolved air flotation thickening system. Future plans call for the automation of influent pumping and final settling tank scum collection. Operators are assigned responsibility for key plant facilities with dedicated operator stations. The stations are equipped with computer monitors which assist the operator in making process control decisions. Recent work has made process and lab data more available via web based reporting, and trending and analysis of data has been greatly enhanced. An on-site process control laboratory is also used to check and optimize plant operation.

Maintenance management is facilitated by the computer program (MAXIMO). This Computer Maintenance Management system (CMMS) is a Department-wide initiative. This program is being used to organize all plant maintenance activities and to help staff emphasize predictive and preventive maintenance. Currently, planned maintenance accounts for approximately 75 percent of all the work orders.

The status of plant tankage, conduits, buildings and structures is tracked through the Capital Facilities Assessment Plan (CFAP). The CFAP identifies critical assets within the plant that need to undergo detailed inspection. Inspection work orders are generated through the MAXIMO program. Results of the inspection are used to prioritize repairs and/or replacements via the capital program.

The Northeast WPCP is operated seven days per week, three operating shifts daily. Approximately 115 (132 authorized) total staff, including administrative, operations, and maintenance personnel are employed at the Northeast plant. There are three certified operators. Currently, there are 17 vacant positions. Vacancies in the instrumentation and equipment operator series are considered the most critical.

Other significant Operation and Maintenance programs include:

- The chlorine minimization program continues. This program has resulted in both cost savings and water quality benefits.
- Digester cleaning programs have resulted in gas production increasing from 1.4 to 1.65 million cubic feet (mcf) per day.
- Participation in a Department apprenticeship program has brought in some new talent in the trades area.

7. Odor Issues

The Water Department continues its long standing commitment to managing odor emissions at the Northeast facility. Odor violations by calendar year are presented in Table IV-4. Since 2005, the number of odor violations has decreased significantly.

Table IV-4 Odor Violations						
Calendar Year	2003	2004	2005	2006	2007	2008
Violations	4	3	9	7	2	2

The reduction in odor violations has occurred as the Department has strengthened its odor minimization program. Some highlights of the Department's program include:

- Plant staff continues their proactive approach to minimizing odors and to address odor complaints quickly.
- Plant staff strives to maintain a good rapport with the neighboring community and with AMS staff.
- Periodic Odor Committee meetings are held to review odor data, reports and protocol related to corrective action taken to eliminate off-site odor. Some of the programs resulting from the work of the Odor Committee include:
    - Seasonal adjustments to process control variables to minimize odor.
    - Standard operating procedures that focus on odor control.
    - Continuous use of an odor reducing chemical (sodium permanganate).
- To further reduce odor sources, capital facilities will be built to allow for continual pumping and thickening of the primary sludge. This project will not only eliminate a potential odor source, but will also provide a more uniform feed to the digesters.

8. Cogeneration System

The Cogeneration facility utilizes excess digester gas as fuel to generate electricity. In fiscal year 2008, the facility utilized 6,954,000 standard cubic feet of digester gas and generated 214,476 kilowatt hours of electric energy. However, by the end of fiscal 2008, the cogeneration facility was no longer operational as the facility operator/contractor had closed both the cogeneration facilities at the Northeast and Southwest plants. Future plans call for using similar approaches to capture and use the energy of the excess digester gas. A

consultant is currently entering into the detailed design phase for cogeneration facilities at the Northeast plant, with start-up scheduled for calendar year 2011.

F. Southeast WPCP

1. Service Area

The Southeast WPCP service area includes the eastern portion of Center City, the eastern portion of South Philadelphia, a portion of North Philadelphia, the majority of Kensington/Richmond, and the central portion of Germantown/Chestnut Hill. The Philadelphia Naval Base and a small portion of Springfield Township in Montgomery County are also served by the Southeast WPCP.

2. Capacity and Performance

The plant provides treatment for an average annual design flow of 112 mgd and a peak flow of 224 mgd. The average daily flow to the plant in fiscal year 2008 was 81 mgd. Plant performance meets or exceeds NPDES requirements. Effluent concentrations of less than 10 mg/1 for BOD and TSS are consistently achieved. Total residual chlorine levels are also below permit requirements. In fiscal year 2008, there were no odor complaints.

As indicated in the NPDES permit, specific projects are detailed to further increase the capture and treatment of combined sewage. For the Southeast WPCP, the permit identifies one capital improvement project, Real Time Control (RTC) and Flow Optimization for the Southeast Drainage District, a city wide control system. Projects that reduce the frequency and volume of CSO discharges in the Southeast Drainage District are detailed in the Annual Status Report and submitted to PaDEP.

3. Liquid Stream Process

Liquid stream processes of the plant facilities include: influent pumping, bar screens, grit removal, pre-aeration, primary clarifiers, air activated sludge process in covered aeration basins, final clarifiers, chlorination, and effluent pumping. Screenings and grit removed from the process are trucked to the Southwest WPCP for processing and ultimate disposal to a landfill.

Since 1996, reduced secondary system organic loadings have allowed plant staff to operate the secondary system without the existing cryogenic oxygen generation facility. The system is now operated in an air activated sludge mode, using the mechanical aerators and blowers for aeration.

Sludge from the Queen Lane Water Treatment plant is discharged to the Southeast plant. The characteristics of this sludge reduce available phosphorous for the activated sludge process. Therefore, phosphoric acid is added to assure proper nutrient levels are maintained. In order to reduce chemical costs, the Department may shift some of the water plant sludge to the Northeast WPCP. This is possible because there are points in the collector system where flow can be sent to either plant. Since the water plant sludge contains solids, removal of these solids may impact the percent removal levels for the Southeast WPCP. This will be closely monitored to assure NPDES permit compliance is met.

4. Sludge and Scum Stream Process

Primary sludge is pumped to a wet well in the sludge pumping station by pumps located in sumps at the primary clarifiers. Waste activated sludge is pumped to sludge storage tanks. Separate sludge transfer pumping systems are provided for primary and waste activated sludge. Two eight-inch force mains convey the sludge to the Southwest WPCP for processing. Both systems are located in the pump room of the sludge pumping station.

Scum and grease from the primary and secondary clarifiers are pumped to scum concentration tanks. The scum is collected and trucked to the Southwest WPCP for separate processing and ultimate disposal to a landfill.

5. Facility and Utility Maintenance Projects

Projects recently completed, ongoing or planned at the Southeast plant include the following:

- Grit and Screenings Handling System upgraded - complete
- Removal cryogenic oxygen generation system - complete
- Overhaul of 6 (out of 32) aeration mixer units - complete
- HVAC Improvements to Multiple Buildings Phase I - complete
- Aeration Tank expansion joint repair and gallery wall rehabilitation - complete
- Rehabilitation of primary tanks - complete
- Repairs to Chlorine Mixing Chamber and New Mixers - in construction
- Renew low voltage switchgear Access Buildings 5 & 6 - in construction
- Rehab of Grit Collecting Equipment - in construction
- Overhaul 4 aeration mixer units (32 total units, 6 already rebuilt) - maintenance project Fiscal 2009
- Rebuild influent pump # 2 - maintenance project Fiscal 2009
- Replace influent pumping station bar racks - in design

- Modify scum transport from concentration building - in design
- Replacement of waste activated sludge pumps, sludge grinders and primary sludge pumps - in design
- Conversion of chlorine tank shed to maintenance shops and offices - in design
- Rehab high mast lighting - in design
- Rehabilitate or replace sludge force mains (portion under the river) - in design
- Roof replacement Administration and Maintenance building - in design
- Rehab HVAC system phase II - in design

6. Operation and Maintenance

The plant operates continuously and has an authorized staffing level of 68, including four certified operators. There are two staff vacancies. Control of the plant is performed through the Process Control Center (PCC). The PCC houses a digital computer and operator interface equipment. The PCC operator has unit process CRT graphic displays available at the Central Computer Console. The computer can control the influent and effluent pumping stations, primary sludge pumping, final clarifier scum collection, return and waste activated sludge and disinfection systems.

A maintenance management system, known as MAXIMO, is utilized to plan, schedule and track all maintenance activities for process equipment. Planned maintenance work is averaging 92 percent of the total maintenance work orders. Major equipment uptime is greater than 90 percent. The Southeast plant has a predictive maintenance program that includes equipment vibration testing, oil analysis and infrared testing of electrical equipment.

The status of plant tankage, conduits, buildings and structures is tracked through the Capital Facilities Assessment Plan (CFAP). The CFAP identifies critical assets within the plant that need to undergo detailed inspection. Assets are cataloged, and inspections are programmed over a ten year period. . The MAXIMO system is used to generate inspection work orders. Results of facility inspections are used in the capital planning process.

A number of process and operations programs have been instituted which have resulted in substantial cost reduction and safer operation. Highlights of these modifications include:

- The operation of the secondary treatment process on atmospheric air rather than cryogenic oxygen continues to save electrical power. The program

also reduces the maintenance requirements and the need for specialized technical service contracts.

- Energy Management initiatives such as off-peak operation, load shedding, and energy efficient lighting continue to save energy.
- On line analyzers for return activated sludge and mixed liquor suspended solids allow for more precise process control and reduction of chemicals.
- Participation in a Department apprenticeship program has brought in some new talent in the trades area.

G. Southwest WPCP

1. Service Area

The Southwest WPCP serves the western portions of Philadelphia and areas in eastern Delaware and southeastern Montgomery counties.

2. Capacity and Performance

The Southwest plant was designed to handle an average annual flow of 200 mgd and a peak flow of 400 mgd. Future plans call for the treatment of more flow during storm conditions. In order to accept more flows beyond 400 mgd, a variety of hydraulic bottlenecks will need to be eliminated. The limiting hydraulic factors include, conduits linking the primary clarifiers to the aeration basins, influent pumping station, and the plant effluent conduit.

The NPDES permit for each WPCP calls for the CSO Long Term Control Plan to be updated by September 1, 2009. This updated plan will address hydraulic limitations at the Southwest WPCP and discuss options. In addition the permit specifies capital improvement projects to increase the capture and treatment of combined sewage. Projects that relate to the Southwest WPCP drainage district are summarized in the Table IV-5.

During fiscal year 2008, the plant treated an average of 174 mgd. Plant performance is well below permit limits with effluent concentrations consistently below 10 mg/l for CBOD and TSS. Total Residual Chlorine (TRC) levels are also below permit requirements. In fiscal year 2008 the plant had no odor violations.

Table IV-5 CSO Projects Related to the Southwest WPCP		
Project	Schedule	Status
Real Time Control Center Rehabilitate the monitoring network	9/1/2010	Underway
Real Time Control Center Complete construction of projects designed to improve the capacity of the collector system and reduce the frequency and volume of CSO discharges	Update completed projects as part of the Annual Status Report	Ongoing
Real Time Control Center Main Relief Sewer Storage	Complete construction by 9/1/2008	Complete
Dobsons Run Eliminate CSO	9/1/2010	Underway
Replace caulking in the secondary clarifier launders to improve flow distribution	9/1/2008	Project complete
Main and Shurs Lane Eliminate CSO	9/1/2012	Design nearly complete

3. Liquid Stream Process

The plant liquid stream processes include influent pumping, screening, grit removal, pre-aeration/flocculation, primary clarification, secondary treatment using pure oxygen activated sludge, secondary clarification, effluent pumping, and disinfection.

The Southwest WPCP also receives water plant sludge from the Belmont facility and is the only plant to receive septage. The septage receiving program is monitored by the on-site laboratory and the Industrial Waste unit.

Over the past several years, the Water Department has implemented numerous upgrades and improvements to the Southwest WPCP. Key projects that have recently been completed, are currently in progress, or are planned include the following:

Completed Projects:

- Rebuilt bar screens
- Replaced hydrogritter assemblies
- Aerated influent channel - air diffuser repair
- Motor control center primary tank #1 - install PLC

- Primary settling tanks - repair to upper influent gates
- Rehabilitation of primary tank collection equipment
- Cryogenic Plant Main Air Compressor - inspect/rehabilitate rotating assemblies
- Replace return sludge pumps and flow meters
- Replacement of waste activated sludge line
- Rehabilitate final tank collection equipment

Ongoing Projects:

- Rehabilitate grit tanks
- Rehabilitate primary tank electrical system
- Replace return sludge line
- Replace sludge collection lines
- Rehabilitate piping and controls - LOX storage facilities

Planned Projects:

- Install sluice gate effluent pumping station

4. Sludge Stream Process

Waste activated sludge (WAS) from the Southwest plant is combined with WAS from the Southeast plant in mixing Chamber No. 1 and sent to the dissolved air flotation (DAF) tanks for thickening. The DAF thickened WAS is combined with primary sludge from both the Southwest and Southeast plants in Mixing Chamber No. 2. From there, the blended sludge is delivered to the digesters. After digestion, the sludge overflows into a sump where it is pumped to the Biosolids Recycling Center (BRC) for final processing. As previously noted, the Department privatized the operation of the BRC. The transition has not impacted the solids handling and transporting conducted by the Southwest WPCP.

Key improvements to the sludge stream process at the Southwest WPCP that have recently been completed, are currently in progress, or are planned include:

Completed Projects:

- Digester cleaning - cleaned five in fiscal 2008
- Replaced three mixed sludge pumps

Ongoing Projects:

- Replace sludge gas piping

Planned Projects:

- Digester cleaning - two are planned for fiscal 2009
- Rehabilitation of Waste Gas Burner System

5. Facility and Utility Maintenance Projects

The Water Department has also executed or planned upgrade projects to the general facility of the Southwest WPCP. Key improvements that have recently been completed, are currently in progress, or are planned include the following:

Completed Projects:

- Rehabilitate plant water electrical system

Ongoing Projects:

- Door replacement facility wide
- Replace/repair roadway lighting
- Inspect, test and calibrate electrical power system

Planned Projects:

- Replace switchgear in PTB and compressor buildings
- Replace roofing north and south digester buildings

6. Operation and Maintenance

The plant is continuously operated seven days per week. Approximately 126 total staff, including administrative, operations, and maintenance personnel are employed at the Southwest facility, including four certified operators. Currently, there are 10 vacant positions; however, all shift positions are filled, and there are no critical vacancies. The plant also participates in a Department wide apprenticeship program, and there are four interns currently serving in the program. Participation in a Department apprenticeship program has helped attract talented skilled trade professionals.

Main control of the plant is performed by the operating staff. Operators are assigned responsibility for key plant facilities with dedicated operator stations. The stations are equipped with computer monitors to assist the operators in making decisions regarding process control. The process control computer system has recently been upgraded. The system monitors all unit processes and currently controls the following operation parameters:

- aeration tank oxygen feed
- return sludge pumping
- activated sludge wasting
- secondary scum collection
- effluent hypochlorite dosing
- effluent pumping station
- digester tank feeding
- dissolved air flotation thickening

Future unit processes to be automated will also include the primary scum collection and the primary sludge pumping. An on-site process control laboratory is used to check operating parameters. The process engineering staff analyzes data, determines operating set points, and establishes operating procedures.

The NPDES permit held by the WPCP calls for the development and updating of the Operations and Maintenance Plan, which must include standard operating procedures (SOPs). The plan and the SOPs have undergone review and modifications during fiscal year 2008.

Plant staff is utilizing a computerized maintenance management system (MAXIMO) to plan and schedule all maintenance activities. For calendar year 2008, 90 percent of the maintenance work orders were planned. An aggressive predictive maintenance is also managed by plant staff. In fiscal 2008, vibration checks were made on 200 pieces of equipment, and thermography was performed on another 770 equipment items. All information obtained from the predictive maintenance activities is loaded into MAXIMO to build upon the equipment history database.

The status of major plant infrastructure, including all tanks, conduits and buildings, is tracked through the Capital Facilities Assessment Plan (CFAP). The CFAP identifies critical assets within the plant that need to undergo detailed inspection. Assets are cataloged, and inspections are programmed over a ten year period. The MAXIMO system is also used to generate inspection work orders and results of facility inspections are used in the capital planning process. Four digester tanks were inspected under this program in fiscal 2008.

In addition to maintenance efforts, plant staff has made changes to increase plant efficiency and has continued energy reduction and other saving initiatives. Examples of their efforts include:

- Better utilization of digester gas has allowed the 22 building campus to be heated with only digester gas. No fuel oil is utilized.
- Using respiration studies, it was possible to place 22 mechanical mixers in reserve status with an estimated annual savings of $480,000.
- The facility has a 1 megawatt load shed agreement with PECO. The agreement has been utilized and treatment standards were not compromised. Annual savings are $60,000.
- The operating levels of the Effluent Pumping Station were raised to increase the efficiency of the pumps and reduce pumping requirements.

- Plant staff is reviewing approaches to downsize the oxygen generation equipment and believes the units are currently oversized. With smaller generating units, the demands can be met at reduced energy levels.
- Increasing digester gas production by allowing airport de-icer to be fed directly to the digesters.
- Procurement and use of a special chopper pump to facilitate digester cleaning. Contract costs are reduced and the pounds of return centrate from dewatering are lessened.
- Grit handling and conveying procedures have been streamlined. This has resulted in labor savings and better housekeeping.

7. Digester gas utilization

The Cogeneration facility built in 1993 is no longer operational. The contracted company ceased operation in 2006 and left the site in 2008, and the facility has been demolished. Investigations continue to develop techniques to increase digester gas production, including all digester gas not used for HVAC purposes on site being sent to Philadelphia Biosolids Services for use in their sludge drying facility. This facility is scheduled to come on line in calendar year 2012.

H. Biosolids Recycling Center

1. Introduction

Philadelphia terminated the ocean disposal of biosolids in 1980. The end of ocean dumping meant that the City had to develop alternative methods of biosolids management. The first step taken was to establish an interim biosolids composting facility next to the Southwest WPCP. After completing detailed investigations, the City constructed a centralized biosolids dewatering and composting facility to handle the biosolids processing requirements associated with all three treatment plants. The Biosolids Recycling Center (BRC), formerly known as the Sludge Processing and Distribution Center, was completed in 1989. To facilitate the Water Department's long-term strategy to produce only Class A material at the BRC and reduce capital costs to attain that goal, the facility was privatized in October 2008.

2. Biosolids Process Operations

Digested biosolids pumped from the Southwest plant and digested sludge barged from the Northeast plant is delivered to three, one-million gallon biosolids storage tanks adjacent to the centrifuge dewatering building. The liquefied biosolids are pumped to the dewatering facility and centrifuged. The generated cake is used in a variety of programs,

including composting, landfills, strip-mine reclamation, and farm application. All centrate is returned to the Southwest WPCP.

In preparation for the transition to privatization, the composting operation ended in February 2007, and compost screening ended in October 2007. The Class B biosolids have continued to meet all of the requirements of volatile solids destruction and vector attraction.

For fiscal year 2008 the dewatering processes performed well. Table IV-6 details the dewatering process parameters.

Table IV - 6			
DEWATERING PROCESS PARAMETERS			
Parameter	NE	SW	Total
Cake %TS	27.7	30.4	
Centrate %TS	0.18	0.15	
Feed %TS	2.29	2.28	
% Recovery	93.4	93.6	
Active Polymer Dose (LB/DT)	16.6	13.2	
Actual Polymer Dose (LB/DT)	40.6	32.6	
Centrate to SW (DT/Day)			8.6

3. Product Utilization

In 2008, the compost material and biosolids cake were utilized in a variety of ways. Table IV-7 summarizes product utilization.

Table IV-7		
TOTAL WET TON DISTRIBUTION : JULY 2007 - JUNE 2008 (FY- 08)		
PROGRAM	WET TONS	PERCENTAGE
Landfill	93,516	43.4%
Strip-mine	35,258	16.3%
PA-AGR	33,829	15.7%
MD-AGR	34,870	16.2%
VA-AGR	18,204	8.4%
	215,677	**Total Wet Tons**

a. Landfill Disposal

Disposal of biosolids is confined primarily to the winter season and periods of inclement weather or diminished need for nutrients by landowners. Philadelphia uses landfills that are privately-owned facilities -- contracted by Waste Management -- accepting municipal solid waste and that co-mingle the biosolids with the waste during daily disposal activities.

b. Strip-mine Reclamation

Reclamation of land stripped during coal mining activity with biosolids is one of Philadelphia's longest-standing recycling programs. In the past year, a portion of the biosolids was used in a tree farming application on the strip mined lands. Using a covered trench system, fast growing poplar trees are planted. This application can be accomplished year round, and preliminary results are very encouraging. The project is currently located in Schuylkill County, PA, in the anthracite coal region. The contractor is Waste Management and Processors, Inc., an affiliate of the Reading Anthracite Company.

c. Pennsylvania Agricultural

For over two decades, Philadelphia has made its biosolids available to farmers in southeastern Pennsylvania for fertilizing farmlands growing feed for sale to dairy and poultry operations. The contractor for this program is Mobile Dredging.

d. Maryland Agricultural

In 2001, Philadelphia enlarged its biosolids recycling program by expanding the agricultural use of biosolids nutrients to farms in the Maryland portion of the Delmarva Peninsula. These farms typically grow food for poultry producers that operate in the region. The contractor for this program is Synagro Technologies, Inc.

d. Virginia Agricultural

In early 2008, a program was initiated that expanded biosolids application to agricultural land in Virginia. The Virginia program operates during the winter and summer months when the demand for biosolids in Maryland and Pennsylvania are low. The addition of this program has significantly reduced the seasonal biosolids stockpiles, and has also reduced the amount of biosolids that will need to be taken to landfills. The contractor for this program is Synagro Technologies, Inc.

4. Operation and Maintenance

The BRC operates continuously Monday through Friday utilizing 15 shifts. Many of the unit processes are automated including polymer mixing, centrifuges, centrate system, mixing conveyors, and compost screening.

Preventive maintenance is actively practiced at the BRC. The unit utilizes MAXIMO for preventive maintenance scheduling and tracking work orders. Predictive maintenance is performed by a third party.

Since 2005, there have been only three odor violations, with all three occurring in fiscal year 2006, as noted in Table IV-8. This reduction is due to BRC staff maintaining a proactive approach to minimize odors. BRC odor monitoring is reported as part of the Title V Air Operations Permit that has been granted to the combined site of BRC/Southwest WPCP.

Table IV-8

Fiscal Year	Odor Violations
2005	0
2006	3
2007	0
2008	0

5. Privatization

a. Overview

The Department had been evaluating the privatization of the BRC operations for some time, based on the indicated cost effectiveness of such a change in operations and the decision to provide only Class A biosolids products in the future. In October of 2008, the Department entered into a 25 year contract for the private operations of the BRC. Under the terms of the contract, the Department will lease the BRC land and facilities to the private company, Philadelphia Biosolids Services. The lease encompasses the required land and facilities, and the company will operate the leased facilities and utilize developed sludge outlets at their discretion, build a pelletizing plant to produce class A biosolids within five years, and operate the pelletizing plant for a period of 20 years. At the end of the 25 year contract, all facilities and equipment will be turned over to the Department.

b. Contract Parameters

An outline of the contract schedule, contractor obligation, department obligation and transition assessment is as follows:

Schedule

Approval by City Council	6/19/2008
Service Agreement Date Signed	10/7/08
Commencement Date of Contract Operations	10/11/2008
Transition to Final Class A Pelletization	10/11/2008 - 2011 (fourth quarter)
Class A Operations	2011 (fourth quarter)-2033
Contract Termination	2033

Obligations of the Contractor

- Provide transition plan
- Security plan
- Staff facility
- Submit a comprehensive safety plan
- Emergency spill cleanup plan
- Nuisance mitigation plan
- Site acquisition plan for agricultural utilization sites
- Interim period operation plan
- Operate leased facilities
- Manage the reuse and disposal of the Class B product
- Provide required reports and records of Biosolids Applications
- Return to the Southwest WPCP agreed upon flow and loadings of centrate
- Generate operating reports
- Obtain and maintain site approvals and permits
- Implement a computerized maintenance management system
- Provide all required predictive and preventive maintenance
- Repair/replace equipment as needed
- Maintain all rolling stock
- Maintain the utility infrastructure
- Furnish and install pelletizer facility

- Start up and pass acceptance tests for the pelletizer facility
- Continue to operate the existing facilities and the pelletizer facility

Obligations of the Department

- Review and provide input to all planning documents
- Perform operability processing capacity demonstration for the dewatering equipment
- Provide up to 70,000 dry tons/contract year at an average solids concentration of 2.5% of anaerobically digested sludge
- Complete HVAC modifications to the dewatering facility
- Provide process and potable water to the company
- Receive centrate generated by the company
- Provide required maintenance to the Southwest WPCP pier

Transition Assessment

Philadelphia Biosolids Services assumed operation of the BRC facility in October 2008. Overall, to date the transition in operations of the BRC appears to be going smoothly. The Southwest and Northeast WPCP have experienced no interruption in their ability to send digested sludge to the privatized facility, and centrate quality from the operation has been within contract limits. All Department staff at BRC has been reassigned within the Department, except for a small percentage of the BRC staff which chose to retire from City service. Full time Department staff has been assigned to monitor the contract.

I. Wastewater Collection and Pumping

1. Organization and Responsibility

The Wastewater Collection section of the Water Department presides over an extensive urban sewer network. The section has the operational and maintenance responsibility for the sanitary, storm, combined sewers and storm water inlets within the City limits. The Wastewater Collection section also operates and maintains storm and sanitary pump stations and township wastewater metering chambers. In addition, the field work for many of the programs outlined in NPDES and Stormwater Permits is accomplished by the Wastewater Collection section. The section is sub-divided into four units. The units and their principal areas of responsibility are:

- Sewer Maintenance - responsible for maintenance and repair of sewers (storm, sanitary, combined and the Waterways Restoration Team)
- Inlet Cleaning - responsible for cleaning all storm water inlets

- Flow Control - operates and maintains all system pumping stations, combined sewer regulators, tide gates, rain gauges and township metering chambers. This unit also conducts all sewer television inspections
- Collector System Support - provides administrative and technical support to the other operating units and includes the Defective Lateral Detection and Abatement group

2. Sewer Maintenance Unit

The Sewer Maintenance Unit maintains the City's network of sewers which includes all storm, sanitary and combined sewers. Additionally, the unit is responsible for repairs to storm water inlets, manholes, sewer cleaning, and relieving choked sewers. In July 2003, the responsibility to maintain Drainage Rights of Way was transferred from the Water Department to the Fairmount Park Commission. At the same time, the Sewer Maintenance unit accepted the responsibility of waterways restoration. The Waterways Restoration Team covers all city streams and creeks. Their responsibilities include general inspection, debris removal, culvert cleaning, plunge pool filling, bank stabilization, outfall repair and seasonal operation of the Department's floatable removal boat.

The authorized staff level for the unit is 191. Currently, there are 15 vacancies, including critical vacancies for heavy equipment operators and brick masons. Table IV-9 contains a summary of the Sewer Maintenance Unit work order history.

Table IV -9 Sewer Maintenance Unit Work Order History

Maintenance Category	Fiscal Year			
	2005	2006	2007	2008
Sewers and Laterals Examined	12,385	10,694	11,444	13,261
Waterway Restoration- tons of debris removed	701	424	442	364
Inlets Reset and Reconstructed	11,961	10,837	9,988	11,270

To more effectively provide service, the Sewer Maintenance Unit was reorganized. Crew sizes have been reduced, and the number of crews has increased to 44, enabling the unit to more consistently manage their work order backlog. The reorganization has also allowed the unit to dedicate two crews full time to planned work. These crews perform proactive inspections to uncover and identify problems prior to CCTV video inspections. The inspection crew has recently further increased their diagnostic capabilities by utilizing

quick view cameras. These cameras are lowered in the manhole and provide valuable information without the need for a confined space entry.

The Sewer Maintenance Unit has executed contract work to reduce root intrusion of sewer lines. In fiscal year 2006, two hundred and fifty-three locations (53,000 linear feet) were chemically treated to remove root growth. This work was performed by contract. Results of this chemical treatment are now being evaluated to determine future activities.

3. Inlet Cleaning Unit

The Inlet Cleaning Unit is primarily responsible for the inspection and cleaning of over 78,572 storm water inlets, the maintenance of inlet covers (retrieving, replacing, and locking) and for the relieving choked inlet traps and outlet piping. The Inlet Cleaning Unit has an authorized staff of 108 and a current vacancy level of 19, including critical vacancies for heavy equipment operators. Table IV-10 contains a four year summary of inlet cleaning. The % planned work represents the fact that the vast majority of the work was of a planned or scheduled nature as opposed to being reactive or emergency type activities.

Table IV-10 Inlet Cleaning

Fiscal Year	Inlets Cleaned	% planned work	Response time (days)
2005	76,865	--	--
2006	76,721	88	3.4
2007	78,478	90	3.2
2008	75,804	91	3.8

4. Flow Control Unit

The Flow Control Unit is responsible for the operation and maintenance of the combined sewer overflow system, the remote wastewater and stormwater pumping stations, the remote odor control facilities, the wastewater metering chambers, and the rain gauge network. The unit also performs all CCTV sewer inspections. The Flow Control Unit has an authorized staff 92 and 13 current vacancies, including critical vacancies for instrumentation and electronic technicians.

a. Combined Sewer Overflow Program

As previously mentioned, the Departments Office of Watersheds is responsible for the development of the Combined Sewer Overflow (CSO) Program. The Flow Control Unit

is tasked with a significant amount of operation and maintenance activities to support the CSO Program.

The Flow Control Unit controls 177 CSO points in its collection system (one was recently eliminated as a component of the Department's CSO LTCP). The combined system also consists of 89 tide gates associated with CSOs, 26 storm relief structures (diversion chambers), 5 siphons, related wastewater control devices and a city-wide remote monitoring system.

Combined systems were designed so that during dry weather all wastewater is conveyed to the sewage treatment plant. However, during certain rain events, the additional stormwater exceeds the capacity of the collection system and/or wastewater treatment plant. Therefore, during these rain events, the combined system was designed to discharge, or overflow, the excess storm water/wastewater mix directly to local waterways. This flow condition can also occur during dry weather, and are referred to as dry weather overflow events (DWOs). Eliminating DWOs is a primary objective of the CSO program.

Table IV-11 provides a five year history of DWOs, which have been generally decreasing after reaching a local maximum in 2005.

Table IV-11 DWO Activity

Fiscal Year	2004	2005	2006	2007	2008
Dry weather overflows	8	33	18	13	16

The Flow Control Unit has increased remote monitoring of CSOs over time. Currently, over 220 level and flow monitors are in place at 142 sites. At the end of fiscal year 2008, eighty percent of the CSO monitoring sites were operable.

To further enhance the capture of CSO volume, the Water Department, through the Flow Control Unit, established a Real Time Control (RTC) center at its Fox Street facility, one of the capital programs detailed in the CSO Program LTCP. The RTC will consolidate a variety of existing monitoring/control systems (remote pump stations, CSO structures, rain gauges and inter-district diversions).

Capital projects related to the Flow Control Unit are listed below:

- Manayunk Sewer Basin Project - in design
- Poquessing Interceptor Overflow Storage Tank - in design

- Flow Automation of Cohocksink System - in design
- Tacony Creek Rock Run Relief Sewer Inflatable Gate and Controls - in construction
- Modifications to S-45 Regulator 67th & Essington - bid
- Modifications to Wingohocking Sewer Ramona Avenue T-14 Regulator - bid
- New Metering Chamber 51st& City Line Avenue - in design
- Rehab Odor Control Station Upper Schuylkill East - in design

b. Sewer Assessment Program

The Flow Control Unit currently has seven crews dedicated to CCTV inspection of sewers. The certified (NAASCO Pipeline Assessment Certification Program) crew technicians create a video record for each sewer segment inspected. This video contains their observations regarding any sewer defects in accordance with consistent defect code standards. All inspections for the day are wirelessly downloaded from the truck onto a server. The information is tied to the GIS system and made available to Department staff for design, hydraulic analysis and field troubleshooting purposes. Selected crews have access to the GIS system from truck mounted laptops.

The Flow Control Unit's goal is to perform these inspections in a production mode and inspect 150 miles of sewer annually. A five year inspection history is provided in Table IV-12.

Table IV-12 Sewer Inspection Miles

Fiscal Year	2004	2005	2006	2007	2008
Water Dept. Crews	48.8	60.5	59.3	53.5	56.1
Contractor Crews	110.2	---	---	---	---
Total Miles	159.0	60.5	59.3	53.5	56.1

The use of contractor inspection for sewer inspection was discontinued in 2005. Contractor inspection reporting techniques (raw data, hardware and software) could not be made compatible with the Department's information systems. The Department elected to utilize internal staff for this activity and is reviewing options to increase inspection production.

c. Wastewater/Stormwater Pumping Stations

The wastewater system includes 16 sanitary pumping stations (13 City-owned and 3 owned by others but operated by the City) and 3 stormwater pumping stations that are operated and maintained by the Flow Control Unit. The wastewater pumping stations range in capacity from 0.2 mgd to 195 mgd, and the stormwater pumping stations range in capacity from 6 mgd to 832 mgd. All the pumping stations are automated and remotely monitored. Each station has an emergency standby generator. Preventive and predictive maintenance is routinely practiced, and approximately 85 percent of the maintenance work orders are planned. Main pump equipment availability averaged 99.5 percent in fiscal year 2008. The Pumping Unit is in the process of implementing computerized maintenance management system software to schedule O&M and capital inspections for the 16 pumping stations.

Capital projects planned for the remote pumping stations include rehabilitation of the Belfry Drive and Rennard, Linden Avenue and Central Schuylkill wastewater pumping stations and rehabilitation of the 26th and Vare stormwater pumping station.

d. Odor Control

The Flow Control Unit operates and maintains two remote odor control facilities. Both facilities utilize sodium hypochlorite to eliminate the buildup of hydrogen sulfide, thereby reducing odors and protecting the sewer structure. Facilities are remotely monitored and are routinely inspected. The dosing station located at the Queen Lane Raw Water pumping station injects the solution into the Upper Schuylkill East interceptor. The dosing station at the Totem Road pumping station injects the solution into the Bucks County force main.

e. Wastewater Metering Chambers

The Flow Control Unit maintains 26 chambers for the metering of flows from the surrounding communities. The sites are routinely inspected, and flow meter calibration is done annually. All flow signals are telemetered to the Real Time Control Center (RTC). Operational availability for these metering chambers averaged 99 percent.

f. Rain Gauge Network

The city-wide system is operated and maintained by the Flow Control Unit. There are 24 gauges which are routinely polled by the computer system at Fox Street. Rain gauge information is used to estimate CSO discharge volume for PaDEP reports, modeling sewer hydraulics and analyzing storm sewer capacity. The gauges are routinely serviced and calibrated annually.

5. Collector System Support

The primary function of the Collector System Unit is to provide technical expertise to the operating units through engineering evaluations and studies. The unit investigates complex drainage and flooding problems, and also conducts hydraulic analysis of the collector system through field surveys and computer aided calculations. In addition, the Collector System Support Unit is also responsible for the management of maintenance contracts for collector system equipment and oversees the defective connection program. The unit has 27 positions and 9 vacancies. The Collection System Support Unit's major projects and programs include defective lateral detection and abatement, information and work order management, and manhole identification.

a. Defective Lateral Detection and Abatement Program

The program was initiated in fiscal year 1994 to insure Water Department compliance with the NPDES Stormwater permit. The 17 employee group performs a variety of tasks with the goal of identifying, tracking and eliminating sanitary flow into the storm system. The number of cross connections abated since the inception of the program and in fiscal year 2008 was 837 and 53, respectively. It is estimated that the program has eliminated 117.6 million gallons per year of sewer flow. Through June 2008, the group had tested 35,283 properties, found 995 illicit connections of which 837 have been repaired. Quarterly and annual reports on the program are provided to the PaDEP.

b. Information and Work Order Management

Within the collector system organization there are a variety of systems used to manage complaints and maintenance activities. Examples include Inlet Cleaning ICOIS, Sewer Maintenance SMOIS, and Remote Pump Stations PUMA. It is the Water Department's intent to unify these and other street maintenance systems with the existing customer information system. The Collector system support unit is part of this initiative.

c. Manhole Identification

The Collector System Support Unit recently completed a manhole numbering project. All manholes (approximately 85,000) within the City's drainage basins have been numbered. The numbering system allows for consistency with all TV inspection work and facilitates manhole identification for field crews. The numbering system resides in the Department's Engineering Record Viewer (ERV).

J. Toxics Reductions and Control

Under the National Pollutant Discharge Elimination System, the City is required to regulate industrial waste discharged to the wastewater collection system. The primary function of the Water Department's Industrial Waste Unit is to ensure compliance with federal industrial pretreatment standards. The unit handles a wide variety of additional assignments including:

- monitoring wastewater characteristics from townships
- determining industrial surcharges
- investigating spill incidents
- managing the Department's hazardous chemical storage tanks compliance program
- overseeing the sewer rental factor program
- administering the Department’s hazardous waste removal contracts
- pretreatment support required for the Department’s CSO program efforts
- stormwater sampling services as part of the illicit connection program detailed in the stormwater permit.
- assisting PaDEP to control storm quality from industrial activities - pertains to storm flows from industrial sites discharged to the municipal separate sewer system.
- administering the Department’s polychlorinated biphenyl pollutant minimization plan (PCP PMP)
- issuing septage permits
- overseeing the groundwater discharge program (groundwater contaminated with petroleum products)
- supervising the manhole pump out program (permits are issued to utilities to ensure pump out water is not directed to storm sewers and is not contaminated)

There are seventeen positions budgeted for the unit and four vacancies. The most critical vacancies are for industrial waste control technicians.

The Water Department's pretreatment program dates from 1980 and has grown in scope. A formal permitting system is in place that addresses federal requirements and the impacts of each industrial discharge. Significant industrial users (SIUs) are subject to local limits which take into account the industry's potential for adverse impact to treatment plant performance, permit compliance, and sludge disposal options. Significant industries are distinguished from categorical industries, the latter of which are federally-identified industries in specific categories such as metal finishing and electroplating, which are subject

to published federal categorical pretreatment standards. Local limits are currently being revaluated to assure protection of the water pollution control plants as part of an NPDES permit requirement.

The Water Department has issued final discharge permits to all categorical and significant users, over 140 permits have been issued. The identification of SIUs is an ongoing process. Permitted industries, through their self monitoring and reporting obligations, provide the bulk of data used by the Industrial Waste group to ascertain compliance with effluent standards. The Industrial Waste Unit samples and inspects each permitted user at least once annually.

The Industrial Waste Unit utilizes the self-monitoring and its own monitoring information to assure compliance, and most of the categorical and significant users are complying with their limitations. However, during fiscal year 2008, eight were reported to the EPA as being in significant non-compliance for calendar year 2007. The unit's pretreatment program is computerized including the review of industrial directories to identify candidate SIUs, review of compliance status and generation of compliance letters, and public notices of violation. The PaDEP receives an annual report on this program.

The industrial waste surcharge program assures that treatment costs associated with higher strength wastes -- greater than 250 mg/l BOD or 350 mg/l TSS -- are funded by the customer. In fiscal year 2008, over 750 samples were collected by the Industrial Waste Unit for the surcharge billing of 90 industries. Surcharge revenues for the three years are presented in Table IV-13.

Table IV-13 Surcharge Revenues

Fiscal Year	Surcharge
2004	$4,727,367
2005	$4,793,628
2006	$4,241,421
2007	$4,521,705
2008	$4,263,678

Private septage haulers are licensed in the City and spot-checked randomly to ascertain compliance with discharge standards. The Industrial Waste Unit issues permits to septage haulers to offload at the Southwest WPCP, and all trucks are sampled prior to

discharge. Chemical haulers are prohibited from discharging into the sewer collection system.

Periodic sampling of the wholesale wastewater customers, i.e. outlying townships, is conducted by the Industrial Waste Unit. Wholesale customers are billed on flow and strength of the wastewater, and in some cases, a standard strength is used for selected customers.

The Industrial Waste Unit also receives and processes applications for sewer rental factors (SRF). An SRF gives customers a credit for the amount of water not returning to the sewer system. In some circumstances, customer's flow to the sewer can be less than their intake because of water loss in manufacturing processes or inclusion of water in their final product. Applications are received, reviewed, modified and approved by the unit.

The Industrial Waste Unit's responsibilities also include administration of a polychlorinated-biphenyl pollutant minimization plan (PCB-PMP). The plan was created to address the concerns of the Delaware River Basin Commission (DRBC), and is designed to identify sources of PCBs discharged to the City's WPCPs. Recent activities under this plan included assessing sites in the tributary area that are potential PCB sources and performing analysis in the Southeast drainage district sewer system to identify these sources. Future identification efforts for the Northeast and Southwest drainage districts are planned. This is the third year of a five year program.

The Industrial Waste Unit also responds to all spill incidents, including 203 incidents in 2008. The unit has computerized the data base for spill response and remediation information for more efficient retrieval.

V. Capital Improvement Program

A. Overview

The City of Philadelphia has for many years used a formal capital programming and budgeting process in which the Water Department participates along with all other elements of City government. Under this process, capital programs are projected forward over a six-year period and a detailed budget is adopted for the first year of the period. Both program and budget commitments are reviewed each year and modified as necessary.

The Water Department projects included in the six-year program proposed for fiscal years 2010 through 2015 involve total expenditures of $1,031,002,000 at projected fiscal year 2010 cost levels. These capital expenditures will be used to pay for the Water Department's design, construction and administrative personnel who work on the capital programs, and for improvements related to the renewal or replacement of wastewater treatment and collection facilities, stormwater flood relief programs, water treatment plant and pumping station improvements, water main rehabilitation, and other projects.

Beginning in the mid-1970s, the capital improvement program concentrated heavily on the upgrade and expansion of the City's three wastewater treatment plants, and the Biosolids Recycling Center. Tremendous progress has been made in these areas, and all major capital improvements mandated by consent decrees have been completed. Accordingly, in recent years the Water Department has refocused its energies in the areas of potable water treatment, distribution system rehabilitation, wastewater collection system rehabilitation, the combined sewer overflow Long Term Control Plan (LTCP) implementation and storm flood relief projects. Emphasis is also being placed on addressing the issues and complying with the requirements of the rules associated with the Safe Drinking Water Act Amendments, including the Public Health Security and Bioterrorism Preparedness and Response Act of 2002. The capital improvement program is managed under the Project Controls section of the Planning and Engineering Division.

B. Fiscal Years 2010-2015 Capital Improvement Program

The Water Department has initiated a comprehensive review and update of its six-year, Capital Improvement Program (CIP) for fiscal years 2010 through 2015. The goal is to encourage an organized partnership that promotes an open exchange of knowledge and ideas and engenders a "team" approach to coordination of capital projects. Additionally, the existing CIP Information Management System is being modified to provide flexibility,

communication, and accountability. Finally, an improved multi-year capital budgeting process is being developed based on facility inspections, planning, and priority setting.

In Table V-1 key capital programming areas are summarized. In the sections that follow a brief discussion of each is presented.

Table V-1 Capital Improvement Program for Fiscal Years 2010-2015

Engineering and Administration[1]	$ 134,922,000
Improvements to Treatment Plants	288,000,000
Improvements to Conveyance System	131,760,000
Improvements to Collector System	136,820,000
Storm Flood Relief/ CSO	325,000,000
Vehicles	14,500,000
	$1,031,002,000

Note:
1. Engineering and Administration costs adjusted to exclude allowance for inflation.

1. Engineering and Administration

This program provides for the funding of all Engineering and Administrative personnel within the Department who are involved with the Capital Improvement Program. Fringe benefits are included in the cost projection.

2. Improvements to Treatment Plants

Upcoming improvements to water and wastewater treatment facilities, pumping stations and finished water reservoirs are included in this category. The various improvement projects and rehabilitation/replacement projects are identified in the Water Department's planning documents. Several of the projects which are included have been identified in other chapters of this report.

3. Improvements to the Conveyance System

This category encompasses the replacement of existing water mains throughout the City. It is an ongoing project that replaces aged mains and therefore reduces the likelihood of water main breaks. The preventive nature of this program puts the City in a proactive situation; the City is not left simply to react to the normal consequences of age and use. The Water Department has a goal of replacing approximately 22 miles of water mains (0.8% of all distribution mains) each year.

4. Improvements to the Collector System

The Collector System replacement program is an ongoing project, the purpose of which is to replace old and worn out sewers and entails the construction of new sanitary sewers to serve new or previously un-sewered developments and to relieve existing unsanitary conditions. The benefits of this program include improved hydraulics by eliminating old lines with blockages, and reductions in the likelihood of street collapse. It is also preventive in nature, and generates the same type of benefits as its counterpart in water conveyance. Lastly, this category covers the conversion of old septic tank systems to public sewers, particularly in the northwestern sections of the City.

5. Storm Flood Relief/CSO

These projects, which are ongoing, entail the construction of new storm flood relief sewers or storage tanks in flood-prone areas as well as projects falling under the Combined Sewer Overflow (CSO) Program and Stormwater permitting effort. The CSO Program projects are part of the multi-phase LTCP, aimed at eliminating dry weather overflows and reducing total overflows. Current projects are discussed in Chapters II and IV of this report. The benefits of these programs include controlling excessive erosion, managing the watersheds by capturing and infiltrating or conveying stormwater, reducing combined sewer overflows, reducing unplanned sewer maintenance activity, and minimizing citizen complaints related to chronic flooding. The LTCP is specifically aimed at protecting the overall water environment in the Philadelphia area and fulfilling the City's obligations under the Clean Water Act and the Pennsylvania Clean Streams Act.

6. Vehicles

Included in this line item are expenditures for the purchase of replacement vehicles utilized by the various units throughout the Water Department's operations. This excludes maintenance of vehicles, which is covered under a separate contract with Fleet Management and charged to expenses.

VI. Financial Requirements

A. Overview

An evaluation of the adequacy of revenues to meet projected revenue requirements has been made for the fiscal years ending June 30, 2009, through June 30, 2015. Revenue projections for retail service customers are based on the schedules of rates for water and wastewater service, which became effective November 1, 2008. The Water Department is currently in the final stages of the second phase of the rate hearings related to retail service stormwater rates. Based upon the first phase of the rate hearings, an overall revenue increase of approximately 5.8 percent was placed into effect on November 1, 2008. Projected additional revenues from this recent increase are reflected in Table V1-8.

The rate hearings are now focused on the stormwater cost reallocation proposed for fiscal years 2011 through 2012, which is a proposed revision to the stormwater fee structure to shift from a meter based fee to a parcel area based fee for non-residential customers. The stormwater rates applicable to retail customers were transitioned to a parcel area basis during the three year period of fiscal years 2002 through 2004 based on rate hearings held in 2002. There are now adequate technological resources and an adequate billing system to accommodate this basis of charge for stormwater service to the non-residential customers on an individualized basis and to new stormwater only customers in the City. The proposed revision to the stormwater fee structure is designed to be revenue neutral and is not intended to impact the projected revenues.

Beyond fiscal year 2012, additional annual operating revenue increases are projected to be necessary to meet the Water Department's projected expenses and to comply with the rate covenant of the General Ordinance. A projected statement of revenues and expenses for the seven-year study period covering fiscal years 2009 through 2015 (“Study Period”) is presented in Table VI-8 which provides an indication of the adequacy of revenues and the feasibility of issuing the Bonds and future indicated revenue bond issues and Pennvest loans under the stipulations of the General Ordinance.

The financial data used in the analyses presented herein were obtained from the Water Department's historical audited financial statements through fiscal year 2008, the approved operating and capital budgets for fiscal year 2009, year to date revenue and expense for fiscal year 2009, and the preliminary operating and capital budgets for fiscal year 2010.

The Water Department operates on a modified accrual basis of accounting. Revenues are recorded upon receipt, except revenues from other governments which are accrued as billed, and interest which is accrued as earned. Expenditures are recorded as expenses on an encumbrance basis, except debt service and lease payments which are recorded when paid.

B. Existing Rates and Rate Methodology

Under the Philadelphia Home Rule Charter, in accordance with standards ordained by City Council from time to time, the Water Department is empowered and required to establish rates for water, wastewater and stormwater service, without further authorization of the City Council, at levels which provide sufficient revenue to meet all operating expenses of the water, wastewater, and stormwater 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 bond ordinance covenants.

The Water Department retained Black & Veatch in September of 2007 to assist in the development of cost of service based rates for the period of fiscal years 2009 through 2012. Rates for wholesale water and wastewater service became effective July 1, 2008, and additional increases have been noticed to the wholesale customers, becoming effective at the beginning of each of the fiscal years 2010 through 2012. The initial increase in water and wastewater rates applicable to retail customers, including residential, commercial, industrial, charities and schools, the Philadelphia Housing Authority, and municipal service became effective beginning November 1, 2008, and were based in large part on the Black & Veatch studies and the results of the first phase of the rate hearing process related to retail service. Subsequent increases for retail service customers are scheduled to become effective at the beginning of fiscal years 2010 through 2012. These rates were also a result of the findings and recommendations identified during the first phase of the rate hearing process. The overall increase in revenues projected from the wholesale and retail rate increases for these three years amounts to between 5.5 percent and 5.8 percent annually.

As indicated above, the first phase of the ongoing rate hearing process related to rates for fiscal years 2009 through 2012, has resulted in an overall revenue increase of approximately 5.8 percent which, for retail customers, became effective November 1, 2008. The increase was comprised of an overall increase of 8.4 percent in water revenues and an increase of 4.3 percent for wastewater revenues. The schedules of retail rates shown in Table VI-1 are those that were in effect as of July 1, 2007 and those which became effective as of November 1, 2008, since both sets of rates are applicable in the projection of billings

and receipts in fiscal year 2009. The rates in effect as of November 1, 2008 are the basis for the "base" level of revenue projections used in this report.

TABLE VI-1

GENERAL SERVICE
WATER AND WASTEWATER RATES

Monthly Service Charges

Meter Size	Water Rates: Existing Effective July 1, 2007	Water Rates: Adopted Effective Nov 1, 2008	Wastewater Rates: Existing Effective July 1, 2007	Wastewater Rates: Adopted Effective Nov 1, 2008
Inches	$/month	$/month	$/month	$/month
5/8 (a)	5.10	5.15	16.59	16.74
3/4	5.91	5.95	86.24	78.54
1	7.88	7.91	140.01	127.86
1-1/4	10.34	10.34	209.69	191.79
1-1/2	12.29	12.27	273.41	250.31
2	18.22	18.14	434.70	398.23
3	31.33	31.14	809.69	742.29
4	54.53	54.27	1,353.88	1,240.76
6	105.58	104.98	2,701.17	2,476.13
8	164.76	163.71	4,313.96	3,955.34
10	239.01	237.54	6,205.43	5,689.17
12	418.94	415.56	11,548.42	10,592.89

Quantity Charges

Water Rates: Monthly Water Usage	Existing Effective July 1, 2007	Adopted Effective Nov 1, 2008
	$/Mcf	$/Mcf
First 2 Mcf	21.80	24.49
Next 98 Mcf	17.27	19.72
Next 1,900 Mcf	15.36	18.13
Over 2,000 Mcf	11.50	13.79

Wastewater Rates	Units	Existing Effective July 1, 2007	Adopted Effective Nov 1, 2008
All Billable Water Usage	$/Mcf	17.72	19.73
Wastewater Surcharge			
BOD in excess of 250 mg/l	$/lb	0.270	0.291
SS in excess of 350 mg/l	$/lb	0.247	0.306

Mcf = 1,000 Cubic Feet = 7,480 Gallons
mg/l = milligrams per liter
BOD = Biochemical Oxygen Demand
SS = Suspended Solids

(a) Approximately 96 percent of all retail customers have 5/8-inch meters.

In addition to the existing General Service rates presented in Table VI-1, special reduced rates (currently 75 percent of the General Service rates) are applicable to certain properties or customer groups such as charitable institutions, schools, and eligible senior citizens as prescribed by ordinance. Reduced rates are also applicable to the Philadelphia Housing Authority equal to 95 percent of the General Service rates. Charges are also

established for municipal fire protection and private fire protection and for dischargers of high strength wastewater service.

Service to customers located outside the City is on a wholesale basis through contracts with various municipalities, authorities, and townships. The present bases of charges to the wholesale customers are set out in respective contracts for service to each customer. There are currently 10 wholesale wastewater customers and two wholesale water customers. The existing rates for the wholesale customers are based upon the cost of service study which Black & Veatch prepared for the Water Department in conjunction with the development of the retail rates which were the subject of the rate hearings discussed previously. The existing rates for wholesale customers became effective July 1, 2008, with additional increases approved for these customers effective July 1, 2009, July 1, 2010, and July 1, 2011. For purposes of revenue projections from wholesale customers beyond fiscal year 2012, the overall revenue increases shown in Table VI-8 of this report are assumed to equally apply to both wholesale and retail customers.

C. Projected Revenues under Existing Rates

Projected operating and nonoperating revenues of the Water Department are shown in Table VI-2 for fiscal years 2009 through 2015 under rate schedules for water and wastewater service for General Service customers and Contract Service customers that became effective July 1, 2008 and November 1, 2008, respectively. Operating revenues of the Water Department consist of several components, which are projected separately for the water and wastewater utilities.

Operating revenues for the water and wastewater utilities include charges for water and wastewater service to several customer classes. The General Customer group, shown on Lines 1 and 9 of Table VI-2, consists of residential, commercial, industrial, public utility accounts, senior citizens, charitable institutions, schools, and the Philadelphia Housing Authority. Projected gross billings have been developed by applying the approved schedules of rates to normalized projections of water sales and number of customers for respective classes based upon an analysis of historical trends. The projection of customer accounts reflects an annual decrease of approximately 800 accounts, equivalent to less than a 0.2 percent annual decrease of total system accounts. The projection of water sales reflects an annual decrease of approximately 1.3 percent, which includes a 1 percent annual reduction to the sales per account associated with 5/8” meter General Customers. Both the decrease in number of customers and the decrease in the use per customer for smaller accounts have been a trend which has been fairly consistent over the past several years. Revenues under existing

rate levels from General Customers, which are comprised of the above mentioned accounts, reflect an adjustment to the projections of gross billings to anticipated cash receipts based on an analysis of historical annual billings and receipts.

TABLE VI-2

PROJECTED REVENUE
UNDER RATES EFFECTIVE NOVEMBER 1, 2008
(in thousands of dollars)

Line No.	Description	Fiscal Year Ending June 30, 2009	2010	2011	2012	2013	2014	2015
	Operating Revenue							
	Water Operations							
1	Metered Sales to General Customers	154,354	160,191	159,660	158,451	156,337	154,237	152,137
2	Municipal Service	8,221	8,668	8,668	8,668	8,668	8,668	8,668
3	Private Fire Protection	1,695	1,695	1,695	1,695	1,695	1,695	1,695
4	Public Fire Protection	5,427	5,427	5,427	5,427	5,427	5,427	5,427
5	Contract Service	7,557	7,558	7,558	7,558	7,558	7,558	7,558
6	Subtotal Water Service Revenue	177,254	183,539	183,008	181,799	179,685	177,585	175,485
7	Other Operating Revenue	11,299	12,397	12,342	11,788	11,236	10,684	10,132
8	Total Water Operations	188,553	195,936	195,350	193,587	190,921	188,269	185,617
	Wastewater Operations							
9	Metered Sales to General Customers	253,331	257,546	257,354	256,828	254,962	253,111	251,253
10	Municipal Service	14,440	14,539	14,539	14,539	14,539	14,539	14,539
11	Contract Service	28,771	28,799	28,799	27,516	27,516	27,516	27,516
12	Excess Strength Service Charge	4,893	4,978	4,864	4,751	4,637	4,524	4,410
13	Subtotal Wastewater Service Revenue	301,435	305,862	305,556	303,634	301,654	299,690	297,718
14	Other Operating Revenue	10,902	10,936	10,888	10,840	10,794	10,749	10,703
15	Total Wastewater Operations	312,337	316,798	316,444	314,474	312,448	310,439	308,421
16	Total Operating Revenue	500,890	512,734	511,794	508,061	503,369	498,708	494,038
	Nonoperating Income							
17	Interest Income - Capital Funds (a)	4,050	2,543	4,672	5,137	3,108	2,279	5,580
18	Interest Income - Operating Funds (b)	5,964	3,177	2,378	1,976	1,577	1,721	2,021
19	Total Nonoperating Income	10,014	5,720	7,050	7,113	4,685	4,000	7,601
20	Total Water Department Revenue	510,904	518,454	518,844	515,174	508,054	502,708	501,639

(a) Includes interest income on the Construction Fund and Debt Service Reserve Account. Excludes up to $4,994,000 annually in interest income on the Debt Service Reserve Account which is transferred to the City General Fund.
(b) Includes interest income on Revenue and Rate Stabilization Funds.

The historical relationship of billings to collections for the Department has been relatively stable for the past several years, amounting to an average accumulative collection factor of 97.0 percent, with 87.5 percent of billings in a given current year being collected in that same year, 9.0 percent in the subsequent fiscal year, and approximately 2.5 percent being collected in the second subsequent fiscal year. In recognition of the overall economic downturn that has impacted most of the country over the past several months, the collection factor in fiscal year 2009 (for current year collections) has been adjusted downward from recent history by 1.5 percent and is projected to return to previous levels in fiscal year 2012.

Revenues from Municipal Service, shown on Lines 2 and 10 of Table VI-2, are derived solely from water and wastewater service to various municipal entities within the City of Philadelphia and the provision of system facilities for public fire protection, shown on Line 4 of Table VI-2. The City of Philadelphia is the largest customer of the Water Department. The fiscal year 2009 revenues from the City are expected to amount to approximately $28,088,000. This includes $5,427,000 in public fire protection charges. In January 2005 the Water Department decommissioned the high pressure fire system which provided non-potable fire service to the Center City area. The high pressure system has been fully replaced by the standard pressure fire system, which has been the system actually used for fire protection in the Center City area for the past several years. The charges previously recovered from the City for the high pressure fire system were phased out during the period of fiscal years 2005 through 2008. The full costs of the high pressure system amounted to approximately $1,700,000 per year. Existing schedules of charges also include a charge for private fire protection connections to the water system, the revenue from which is shown on Line 3 of Table VI-2.

Contract water service, Line 5 of Table VI-2, consists of water sales to the Bucks County Water and Sewer Authority and to Aqua Pennsylvania (formerly the Philadelphia Suburban Water Company) on a wholesale basis. Current charges for water service provided to Bucks County are assessed on a monthly basis and include an annual fixed charge to recover allocated capital costs, a commodity charge applicable to metered usage, and a demand charge per unit of measured maximum demand. The term of this contract covers a period of 45 years and expires in 2011. Bucks County has contested the proposed water rates for the period covering fiscal year 2009 to fiscal year 2012. The parties have filed for arbitration on this issue as provided in the service agreement. At the same time, both parties have continued discussions in an attempt to resolve the related issues. At this time, the Water Department is billing Bucks County at the proposed water rates and the revenue associated with the proposed water rate increase is being accumulated in an escrow account. For this analysis, revenue projections conservatively reflect the rate levels effective as of July 1, 2007.

The charges to Aqua Pennsylvania, which commenced taking service from Philadelphia in fiscal year 2002, includes a commodity charge applicable to metered water usage for the recovery of power and chemical costs, and a fixed charge to recover all other allocable operation and maintenance expenses and capital related costs. The contract with Aqua Pennsylvania is for up to 9.5 million gallons per day (mgd) of maximum day capacity and covers a term of 25 years, through 2026.

Other operating revenue from the water operations shown on Line 7 of Table VI-2 consists largely of penalties on overdue bills for retail water service customers and miscellaneous other revenue.

Wholesale wastewater service is provided to 10 suburban customers on a contractual basis. In the 1980s, six of the largest contract customers entered into new long-term contracts with the Water Department. These contracts have terms of 30 to 35 years and require that five of the six customers make front-end capital contributions to the Water Department for the allocated share of investment in treatment and collection system facilities used in providing wastewater service to the particular customer. Contract rates for wastewater service generally consist of charges for operation and maintenance expense and certain capital costs associated with the collection and treatment facilities used in providing the service, and are now applied on a monthly basis for all customers except for Delaware County Regional Sewer Authority (DELCORA). The Water Department is in the process of discussing the terms of a new contract with DELCORA, as the current contract is scheduled to expire in fiscal year 2011. Assumptions included in the study are that service will be continued to DELCORA with annual revenues being projected at the current levels. Projected revenue from wholesale wastewater customers is shown on Line 11 of Table VI-2.

Bucks County has contested the proposed wastewater rates for the period covering fiscal year 2009 to fiscal year 2012 for both service to Bucks County and to Bensalem Township, which is now managed by Bucks County. The parties have filed for arbitration on this issue as provided in the service agreement. At the same time, both parties have continued discussions in an attempt to resolve the related issues. At this time, the Water Department is billing Bucks County at the proposed wastewater rates and the revenue associated with the proposed wastewater rate increase is being accumulated in an escrow account. For this analysis, revenue projections conservatively reflect the rate levels effective as of July 1, 2007.

Retail customers which contribute high strength wastewater are presently assessed an extra strength surcharge based upon monitored strength. Revenue from these customers is shown on Line 12 of Table VI-2.

Other operating revenues for the wastewater utility, shown on Line 14 of Table VI-2, includes penalties on overdue bills and income from permits and licenses, and other miscellaneous sources.

Non-operating revenue of the Water Department consists of interest and other income. Interest income recognizes the requirements set forth in the General Ordinance which provides for the transfer of all interest earnings from investment of the Construction Fund, the Rate Stabilization Fund, and the Debt Service Reserve Account (in excess of $4,994,000) to the Revenue Fund, in addition to the interest income earned on the Revenue Fund itself. Projections of interest income are based on the projected average balances in these funds and are considered to be available to meet the Water Department's revenue requirements throughout the Study Period. Interest rates of 3.0 percent for fiscal year 2009, 2.0 percent for fiscal years 2010 and 2011, and 2.5 percent for fiscal years 2012 to 2015 have been assumed in estimating interest income on the various operating funds and accounts, the Debt Service Reserve Account, and the Construction Fund. The projected FY 2009 estimated interest income on the Debt Service Reserve Account of $6.0 million reflects actual interest earnings through the first three quarters of the fiscal year. Total non-operating interest income available to the Revenue Fund is shown on Line 19 of Table VI-2.

D. Capital Improvements Financing

Table VI-3 summarizes the Water Department's Capital Improvement Program for fiscal years 2009 through 2015 on an encumbrance basis, that is, the total cost of each project is shown in the year that design of the project is scheduled to commence.

TABLE VI-3

CAPITAL IMPROVEMENT PROGRAM
(in thousands of dollars)

Line No.	Description	Fiscal Year Ending June 30, 2009	2010	2011	2012	2013	2014	2015
	WATERWORKS IMPROVEMENTS							
1	Engineering and Administration (a)	9,996	10,344	10,344	10,344	10,344	10,344	10,344
2	Water Treatment Plant Improvements	18,480	21,120	21,120	21,120	21,120	21,120	21,120
3	Distribution System Rehabilitation	21,980	21,960	21,960	21,960	21,960	21,960	21,960
4	Vehicles	1,500	1,000	1,250	1,250	1,250	1,250	1,250
5	Subtotal	51,956	54,424	54,674	54,674	54,674	54,674	54,674
	WASTEWATER COLLECTION AND TREATMENT							
6	Engineering and Administration	11,734	12,143	12,143	12,143	12,143	12,143	12,143
7	Water Pollution Control Plant Improvements	23,520	26,880	26,880	26,880	26,880	26,880	26,880
8	Storm Flood Relief	30,000	40,000	50,000	55,000	60,000	60,000	60,000
9	Reconstruction of Old Sewers	26,540	23,020	22,760	22,760	22,760	22,760	22,760
10	Vehicles	1,500	1,000	1,250	1,250	1,250	1,250	1,250
11	Subtotal	93,294	103,043	113,033	118,033	123,033	123,033	123,033
12	Total Improvements (Line 5 + Line 11)	145,250	157,467	167,707	172,707	177,707	177,707	177,707
13	Inflation Adjustment (b)	0	0	6,708	14,092	22,189	30,185	38,500
14	Inflated Total	145,250	157,467	174,415	186,799	199,896	207,892	216,207

(a) Excludes allowance for inflaction, which is included on Line 14.
(b) Cost estimates for fiscal years 2011 to 2015 are in terms of fiscal year 2010 cost levels. Allowance for inflation of 4.0 percent per year after 2010.

Costs shown in Table VI-3 reflect the estimated total costs of the various projects, a portion of which will be financed from Capital Account Deposits, transfers from the Residual Fund, and other non-bond sources such as assessments. Projected fiscal year 2010 through 2015 costs for the capital improvement program are stated at estimated fiscal year 2010 cost levels, in keeping with the manner in which the Department's six year capital program is developed. An annual inflation allowance of 4 percent has been recognized on Line 13 of Table VI-3 beginning with fiscal year 2011.

Table VI-4 shows the total projected capital improvement costs, a net cash flow adjustment, and the annual net cash financing requirements associated with the Capital Improvement Program. The cash flow adjustment indicated in Table VI-4 represents the net result of carrying forward costs which are encumbered in one year, but which do not become a cash expenditure until a subsequent year. Estimated Engineering and Administration costs are anticipated to be incurred fully during the fiscal year in which the costs are budgeted.

TABLE VI-4

ANNUAL CASH CAPITAL IMPROVEMENT FINANCING REQUIREMENT (in thousands of dollars)

Fiscal Year Ending June 30	Total Capital Improvements	Net Cash Flow Adjustment	Net Cash Financing Required
2009	145,250	(45,250)	100,000
2010	157,467	(27,467)	130,000
2011	174,415	(29,415)	145,000
2012	186,800	(24,800)	162,000
2013	199,896	(23,896)	176,000
2014	207,892	(27,892)	180,000
2015	216,208	(36,208)	180,000

Net cash financing requirements indicated in Table VI-4 are assumed to be primarily met from future revenue bond issues, Pennvest loans, Capital Account Deposits, and transfers to the Construction Fund from the Residual Fund. Projected revenue bonds and Pennvest loans are assumed to be issued to finance a major portion of the Water Department's share of costs as the encumbrances mature into actual cash payments to contractors. The annual net cash financing required for capital improvements through fiscal year 2015 is expected to be met by issuance of additional water and wastewater revenue bonds and Pennvest loans, including $140,945,000 from proposed Series 2009A Bonds (the "2009A Bonds") anticipated to be issued May 2009; $214,913,000 from proposed Series

2009B Bonds (the "2009 Pennvest Loans") anticipated to be received in equal monthly increments over the three year period covering November 2009 to October 2012; $180,000,000 of revenue bonds anticipated to be issued in August 2010; $135,000,000 of revenue bonds anticipated to be issued in the first half of fiscal year 2014; and $350,000,000 of revenue bonds anticipated to be issued in the first half of fiscal year 2015.

Table VI-5 presents an estimate of the flow of funds in the Construction Fund of the Water Department for fiscal years 2009 through 2015. Line 1 of the table shows the total amount of the proposed revenue bond issues that are to be used to finance a portion of the Water Department's capital improvement program. Lines 2 through 4 show the disposition of the proceeds of these revenue bond issues. Lines 6 through 17 of Table VI-5 show the estimated receipts and disposition of funds in the Construction Fund and the Debt Service Reserve Account. Line 8 of Table VI-5 shows the projected proceeds from the anticipated $214.9 million of 2009 Pennvest Loans. The projected proceeds from the proposed 2009 Pennvest Loans are estimated assuming equal monthly deposits during the three year period covering November 2009 to October 2012. Line 9 of Table VI-5 shows the annual Capital Account Deposit into the Construction Fund. The amount of this deposit is projected to be equal to 1 percent of the net plant investment in water and wastewater facilities. Lines 10 and 15 of Table VI-5 show transfers from the Residual Fund into the Construction Fund and Debt Reserve Account, respectively. As monies begin to flow into the Residual Fund, it is assumed that one of the most prudent uses of those balances would be to finance a portion of the Water Department's capital improvement program. Other prudent uses of Residual Fund balances could include prepayment or redemption of a portion of outstanding revenue bonds. For purposes of this report, we have shown the use of Residual Fund balances to be used as an additional source of cash financing of the Water Department's capital improvement program and the debt service reserve requirement associated with the proposed 2009 Pennvest Loans.

Lines 18 and 19 of Table VI-5 show the estimated interest earnings from the investment of the Construction Fund and the Debt Reserve Account based on respective average annual balances. As previously indicated, interest earnings rates of 3.0 percent for fiscal year 2009, 2.0 percent for fiscal years 2010 and 2011, and 2.5 percent for fiscal years 2012 through 2015 have been assumed for the Debt Service Reserve Account and the Construction Fund. The projected fiscal year 2009 estimated interest income on the Debt Service Reserve Account of $6.0 million reflects actual interest earnings through the first three quarters of the fiscal year. These interest earnings are considered as nonoperating income and are transferred to the Revenue Fund except as described below, and are used to meet annual revenue requirements of the Water Department under the General Ordinance.

Only the interest earnings in excess of $4,994,000 in the Debt Service Reserve Account are transferred to the Revenue Fund, with $4,994,000 being transferred to the Residual Fund in accordance with the General Ordinance.

TABLE VI-5

PROJECTED FLOW OF FUNDS - CONSTRUCTION FUND
WATER DEPARTMENT
(in thousands of dollars)

Line No.	Description	Fiscal Year Ending June 30, 2009	2010	2011	2012	2013	2014	2015
	Disposition of Bond Proceeds							
1	Proceeds From Sale of Bonds	140,945		180,000			135,000	350,000
	Transfers:							
2	Debt Reserve Account (a)	7,240		11,323			10,070	25,753
3	Cost of Bond Issuance (b)	4,385		5,400			4,050	10,500
4	Construction Fund (c)	129,320		163,277			120,880	313,747
5	Total Issue	140,945		180,000			135,000	350,000
	Construction Fund							
6	Beginning Balance	89,123	152,622	98,950	227,826	177,816	67,438	52,452
7	Transfer From Bond Proceeds	129,320	0	163,277	0	0	120,880	313,747
8	PENNVEST Loan Proceeds	0	47,758	71,638	71,638	23,879	0	0
9	Capital Account Deposit	18,179	18,570	18,961	19,352	19,743	20,134	20,525
10	Transfer from Residual Account	16,000	10,000	20,000	21,000	22,000	24,000	26,000
11	Total Available	252,622	228,950	372,826	339,816	243,438	232,452	412,724
12	Net Cash Financing Required	100,000	130,000	145,000	162,000	176,000	180,000	180,000
13	Ending Balance	152,622	98,950	227,826	177,816	67,438	52,452	232,724
	Debt Service Reserve							
14	Beginning Balance	115,201	122,441	134,525	145,848	145,848	145,848	155,918
15	Transfer From Residual Fund	0	12,084	0	0	0	0	0
16	Transfer From Bond Proceeds	7,240		11,323			10,070	25,753
17	Ending Balance	122,441	134,525	145,848	145,848	145,848	155,918	181,671
	Interest Income							
18	Construction Fund (d)	3,015	2,543	4,672	5,137	3,108	2,279	5,580
19	Debt Reserve Account (e)	6,029	2,718	2,927	3,692	3,692	3,883	4,435
20	Total Interest Income	9,044	5,261	7,599	8,829	6,800	6,162	10,015

(a) Amount of Debt Service Reserve Account deposit estimated based on maximum annual future debt service payment.
(b) Cost of bond issuance assumed at 3.0 percent of issue amount. Issuance cost of 2009 Bonds includes $0.95 million Original Issue Discount.
(c) Deposits equal proceeds from sale of bonds less transfers to the Debt Reserve Account and Costs of Issuance.
(d) Interest income is transferred to the Revenue Fund.
(e) Interest income is transferred to the Residual Fund in the lesser amount of $4,994,000 and actual interest earned with the balance being transferred to the Revenue Fund.

E. Projected Revenue Requirements

The annual revenue requirements of the Water Department consist of operating expenses for existing and proposed water and wastewater system facilities, including interdepartmental charges for services provided to the Water Department by other

departments of the City, debt service on all obligations issued by the Water Department, projected Capital Account Deposits, and a payment to the City General Fund. In addition, revenues must be adequate to meet applicable rate covenants, as set forth in the General Ordinance.

1. Operating Expenses

Operating expenses, including interdepartmental charges, consist of all costs of the Water Department necessary and appropriate for the operation, maintenance, and administration of the water and wastewater systems during each year. Projections of operating expenses for the water and wastewater utilities for the fiscal years 2009 through 2015 are shown in Table VI-6. Projections of operating expenses include expenses such as personal services, purchased services including power, materials and supplies, equipment, fringe benefits, and indemnities.

TABLE VI-6

PROJECTED OPERATION AND MAINTENANCE EXPENSE
(in thousands of dollars)

Line No.	Description	Fiscal Year Ending June 30, 2009	2010	2011	2012	2013	2014	2015
	Water Operations							
1	Personal Services and Fringe Benefits	63,176	64,910	66,281	68,360	71,203	74,174	77,295
2	Purchase of Services	29,796	32,915	35,988	38,497	40,161	41,869	43,714
3	Materials and Supplies	25,582	28,993	31,112	33,403	35,887	38,577	41,497
4	Equipment	1,575	1,722	1,776	1,826	1,883	1,937	1,996
5	Contributions, Indemnities, Refunds and Taxes	1,765	2,285	2,353	2,424	2,497	2,572	2,649
6	Interdepartmental Charges	19,813	19,778	20,163	20,706	21,417	22,154	22,918
7	Subtotal Operating Expenses	141,707	150,603	157,673	165,216	173,048	181,283	190,069
8	Less: Liquidated Encumbrances	(6,800)	(6,800)	(6,000)	(6,000)	(6,000)	(6,000)	(6,000)
9	Operating Expenses - Water	134,907	143,803	151,673	159,216	167,048	175,283	184,069
	Wastewater Operations							
10	Personal Services and Fringe Benefits	93,789	96,476	98,511	101,600	105,832	110,259	114,875
11	Purchase of Services	59,428	67,955	73,202	77,427	80,474	83,712	87,059
12	Materials and Supplies	16,097	17,161	18,024	18,950	19,935	20,990	22,111
13	Equipment	2,300	2,532	2,606	2,687	2,766	2,851	2,936
14	Contributions, Indemnities, Refunds and Taxes	3,005	3,890	4,007	4,127	4,251	4,379	4,510
15	Interdepartmental Charges	35,997	35,955	36,660	37,650	38,944	40,286	41,678
16	Subtotal Operating Expenses	210,616	223,970	233,010	242,441	252,202	262,477	273,168
17	Less: Liquidated Encumbrances	(10,200)	(10,200)	(9,000)	(9,000)	(9,000)	(9,000)	(9,000)
18	Operating Expenses - Wastewater	200,416	213,770	224,010	233,441	243,202	253,477	264,168
19	Total Operating Expenses	335,323	357,573	375,683	392,657	410,250	428,760	448,237

Direct operating expense projections shown in Table VI-6 include recognition of the potential impact of anticipated escalation in costs due to inflation during the seven-year Study Period. Fiscal years 2009 and 2010 expense projections are based on the Water Department's adopted budgeted and proposed budgeted expenditures for that year, respectively. An analysis of previous years' budgets and actual expenditures by functional division and by budgetary object class within each division has been used to adjust the adopted and proposed budgeted expenditures downward slightly to reflect recent actual expenditure experience.

Projections of labor intensive items of expense reflect stipulations of the current one-year labor agreement, in which a bonus of $1,100 per employee is applicable for fiscal year 2009. Beyond fiscal year 2009, labor costs are assumed to increase 1.0 percent in fiscal year 2011, 2.0 percent in fiscal year 2012, and 3.0 percent annually in fiscal years 2013 to 2015.

Electric power costs are expected to increase 2.5 percent annually for the first half of fiscal year 2011. The City’s current contract agreements with PECO for electrical service expire on December 31, 2010. The projected power costs for fiscal year 2011 reflect an increase in anticipated power costs upon expiration of the current contract agreements, due to the loss of the negotiated favorable rate provided in those agreements. The loss in this negotiated rate is expected to result in an annualized power cost on the order of $25 million during fiscal year 2011, as compared to the projected annualized amount under the negotiated rate of $21 million. Power costs during the period fiscal year 2012 to fiscal year 2014 are projected to increase 7.5 percent annually.

Chemical costs are expected to increase 9.0 percent annually through the Study Period. All other purchased services, materials and supplies, and equipment expenditures are projected to increase at 3.0 percent annually from the adjusted 2010 proposed budgeted expenditures level throughout the Study Period.

Interdepartmental charges for service provided to the Water Department by other City departments and agencies anticipated through the seven year Study Period are also included in Table VI-6. These charges represent the Water Department's proportionate charge for services provided directly by other City departments and agencies, including the Water Revenue Bureau, which has responsibility for the collection of revenue for water and wastewater service provided by the Water Department. Accomplishment of this responsibility requires reading of meters, maintenance of customer accounts, billing, collection of payments, enforcements of payments, and customer relations. Projections of interdepartmental expenses are also based on the adopted fiscal year 2009 budget and

proposed fiscal year 2010 budget. Cost escalation factors used to project expenditures for the Study Period are the same as those used to project direct Water Department operating expenditures mentioned above.

2. Debt Service Requirements

Projected debt service on outstanding revenue bonds is shown on Line 1 of Table VI-7 for the Study Period. The projection of debt service on outstanding revenue bonds reflects projected debt service schedules provided by the Water Department. The projected debt service payments on the outstanding variable rate bonds reflect the following assumptions based on discussions with and guidance from Water Department staff:

- Series 1997B. The projected interest cost for the Study Period is estimated based on an interest rate of 3.0 percent. The projected interest costs take into consideration the interest cost experience since the recent remarketing of these bonds in September 2008 to replace the insurance and liquidity provider.
- Series 2003. The projected interest cost for the Study Period reflects an overall average interest rate of 7.9 percent over the Study Period (including a fixed interest rate of 4.52 percent and a variable rate component of approximately 3.50 percent).
- Series 2005B. The projected interest cost for the Study Period reflects an overall average interest rate of 4.9 percent over the Study Period (including a fixed interest rate of 4.53 percent during the Study Period and a variable rate component of approximately 2.7 percent in fiscal year 2009). The projected annual interest costs reflect the Water Department's plan to remarket these bonds to replace the current insurance and liquidity provider.

The proposed $140,945,000 2009A Bonds are anticipated to be issued May 2009. Debt service on this issue reflects the underwriter's debt structure analysis which assumes interest only payments during the Study Period based on a 5.14 percent interest rate. The Water Department's projected debt service on currently outstanding bonds decreases significantly in fiscal year 2017 (decreasing from approximately $175 million per year to $90 million per year), and it is assumed that the proposed bonds in fiscal years 2009, 2014, and 2015 will be structured to wrap around the existing debt service schedule and levelize the projected debt service requirements beyond fiscal year 2017. The first debt service payment on the 2009A Bonds is projected to occur in fiscal year 2010.

A second bond issue during the Study Period of $180,000,000 is projected to be issued in August 2010. Debt service on this issue reflects the principal payments and a 4.52

percent interest rate per the negotiated rate lock agreements, with the first semi-annual debt service payment for this second bond issue projected to occur in fiscal year 2011. This debt issuance in August 2010 is actually two separate bond issues of $90,000,000 each, and the rate lock provided in the negotiated forward swap is established at the 4.52 percent rate.

Debt service on the subsequent proposed $135,000,000 and $350,000,000 bond issues in fiscal years 2014 and 2015, respectively, assumes a 30-year amortization schedule, a 6.0 percent interest rate, and interest only payments during the Study Period. Table VI-7 summarizes the total revenue bond debt service projected for the Study Period.

TABLE VI-7

FUTURE DEBT SERVICE REQUIREMENTS
(in thousands of dollars)

Line No.	Description	Fiscal Year Ending June 30, 2009	2010	2011	2012	2013	2014	2015
	Revenue Bonds							
1	Existing (a)	183,211	183,740	183,714	183,410	185,111	184,108	182,835
	Proposed							
2	Fiscal Year 2009 (b)		4,465	7,239	7,239	7,239	7,239	7,239
3	Fiscal Year 2010							
4	Fiscal Year 2011 (c)			9,707	11,255	11,272	11,285	11,306
5	Fiscal Year 2012							
6	Fiscal Year 2013							
7	Fiscal Year 2014 (d)						4,050	8,100
8	Fiscal Year 2015 (d)							10,500
9	Total Proposed	0	4,465	16,946	18,494	18,511	22,574	37,145
10	Total Revenue Bonds	183,211	188,205	200,660	201,904	203,622	206,682	219,980
	Pennvest Loans							
11	Pennvest Parity Loans	463	191	572	986	4,227	5,722	5,722
12	Pennvest Subordinate Loans	1,227	1,228	1,227	1,022	0	0	0
13	Total Debt Service	184,901	189,623	202,459	203,913	207,849	212,404	225,702

(a) Assumes the average interest rates of 3.0% for the Variable Rate Series 1997B Bonds, 7.9% for the Variable Rate Series 2003 Bonds, and 4.9% for the Variable Rate Series 2005B Bonds.
(b) Assumes interest only payments during the planning period based on 5.14% interest.
(c) Reflects principal payment schedule and interest rate of 4.52% per negotiated rate lock agreements.
(d) Assumes interest only payments during the planning period based on 6.0% interest.

Lines 11 and 12 of Table VI-7 show the debt service payments on the outstanding and proposed Pennvest loans. Line 11 shows the annual debt service which is related to parity revenue bonds issued through Pennvest, including the proposed $214.9 million of 2009 Pennvest Loans. Projected debt service on the proposed 2009 Pennvest Loans reflects the following terms of the funding offers provided by Pennvest: (i) three years of monthly interest only payments during the period covering November 2009 to October 2012 (based

on an interest rate of 1.193%), (ii) monthly principal and interest payments of $1,007,000 for the five year period covering November 2012 to October 2017, (based on an interest rate of 1.193%), and (iii) monthly principal and interest payments of $1,076,000 for the fifteen year period covering November 2017 to October 2032 (based on an interest rate of 2.107%). Line 12 shows the annual debt service which is a subordinate loan issued through Pennvest dated June 15, 1993.

3. Capital Account Deposit

The General Ordinance establishes a Capital Account as an account within the Construction Fund. The Water Department covenants to make deposits to the Capital Account in each fiscal year, subject to the availability of funds, in an amount not less than one percent of the total net plant investment in water and wastewater facilities. Such deposits will be required June 20 of each fiscal year to fund annual renewals, replacements, and improvements to maintain adequate water and wastewater service to the areas served by the system. The projected level of the annual Capital Account Deposit reflects the current level of net plant investment in water and wastewater facilities and the historical rate of growth in net plant investment value. The projected fiscal year 2009 requirement amounts to $18,179,000 and increases during the Study Period to $20,525,000 in fiscal year 2015.

4. City General Fund Deposit

Under the General Ordinance, annual payments to the City General Fund are required from the Residual Fund in an amount not to exceed the lower of $4,994,000 or annual interest earnings on the Debt Service Reserve Account. Applicable interest earnings are transferred to the Residual Fund to meet this obligation.

F. Adequacy of Projected Revenues to Meet Projected Revenue Requirements under General Ordinance Requirements

Table VI-8 presents a statement of projected revenues and revenue and rate covenant requirements for water and wastewater operations for fiscal year 2009 through fiscal year 2015 under the stipulations of the General Ordinance. The table provides an indication of the adequacy of the Water Department's revenues and the feasibility of the issuance of the Bonds and future anticipated revenue bond sales during the Study Period.

Projections of annual operating revenue for water and wastewater service shown on Lines 1 and 2 of Table VI-8 include revenue from retail customers under the rate levels in effect as of July 1, 2007 and subsequently adjusted as of November 1, 2008, for Bucks County and Bensalem the rates in effect as of July, 1 2007, and for the remainder of the

wholesale customers the rates which have been put in place for fiscal years 2009 through 2012 as previously presented in Table VI-2. Lines 4 through 9 indicate additional service revenue required in each fiscal year to meet revenue requirements and rate covenant compliance during the Study Period. As mentioned earlier in this section of the report, an overall revenue increase of approximately 5.8 percent became effective on November 1, 2008 and is included in the revenues shown on Line 3. The annual revenue increases of 5.75 percent in fiscal year 2010 and 5.45 percent in fiscal years 2011 and 2012, reflected in Lines 4 through 6, were reviewed and adopted as a part of the current ongoing rate hearing process.

As indicated by the positive year-end balances shown on Line 36 of Table VI-8, these adopted revenue increases and proposed future revenue increases beyond fiscal year 2012 are projected to be adequate to satisfy the basic Charter requirement that the Water Department provide sufficient revenues to meet all operating expenses of the water and wastewater systems, debt service requirements on all obligations issued for the Water Department, and certain payments to the City General Fund, as well as other specific bond ordinance covenants.

In addition to meeting the requirements listed above, pursuant to the authorizing General Ordinance, the Department covenants that during any given fiscal year the it will, at a minimum, impose, charge, and collect in each fiscal year such water and wastewater rents, rates, fees, and charges as shall yield net revenues which shall be equal to at least 1.20 times the debt service requirements for such fiscal year (recalculated to exclude therefrom principal and interest payments in respect of Subordinated Bonds); provided that such water and wastewater rents, rates, fees, and charges shall yield net revenues which shall be at least equal to 1.00 times (i) the debt service requirements for such fiscal year (including debt service requirements in respect of Subordinated Bonds); (ii) amounts required to be deposited into the Debt Reserve Account during such fiscal year; (iii) the principal or redemption price of and interest on General Obligation Bonds payable during such fiscal year; (iv) debt service requirements on interim debt payable during such fiscal year; and (v) the Capital Account Deposit amount for such fiscal year (less any amounts transferred from the Residual Fund to the Capital Account during such fiscal year).

TABLE VI-8
PROJECTED REVENUE AND REVENUE REQUIREMENTS
(in thousands of dollars)

Line No.	Description			Fiscal Year Ending June 30, 2009	2010	2011	2012	2013	2014	2015
	OPERATING REVENUE									
1	Water Service - Existing Rates			177,254	183,539	183,008	181,799	179,685	177,585	175,485
2	Wastewater Service - Existing Rates			301,435	305,862	305,556	303,634	301,654	299,690	297,718
3	Total Service Revenue - Existing Rates			478,689	489,401	488,564	485,433	481,339	477,275	473,203
	Additional Service Revenue Required									
	Year	Percent Increase	Months Effective							
4	FY 2010	5.75%	12		28,141	28,092	27,912	27,677	27,443	27,209
5	FY 2011	5.45%	12			28,158	27,977	27,741	27,507	27,272
6	FY 2012	5.45%	12				29,502	29,253	29,006	28,759
7	FY 2013	12.9%	12					73,015	72,399	71,781
8	FY 2014	6.6%	12						41,820	41,463
9	FY 2015	6.6%	12							44,199
10	Total Additional Service Revenue Required			0	28,141	56,250	85,391	157,686	198,175	240,683
11	Total Water & Wastewater Service Revenue			478,689	517,542	544,814	570,824	639,025	675,450	713,886
12	Transfer From/(To) Rate Stabilization Fund			44,835	37,195	42,730	36,775	(380)	(9,490)	(15,495)
	Other Income (a)									
13	Other Operating Revenue			22,201	23,333	23,230	22,628	22,030	21,433	20,835
14	Construction Fund Interest Income			3,015	2,543	4,672	5,137	3,108	2,279	5,580
15	Debt Reserve Fund Interest Income			1,035	0	0	0	0	0	0
16	Operating Fund Interest Income			1,092	774	782	983	1,044	1,064	1,047
17	Rate Stabilization Interest Income			4,872	2,403	1,596	993	533	657	974
18	Total Revenues			555,739	583,790	617,824	637,340	665,360	691,393	726,827
	OPERATING EXPENSES									
19	Water & Wastewater Operations			279,513	301,840	318,859	334,300	349,889	366,317	383,641
20	Direct Interdepartmental Charges			55,810	55,733	56,823	58,356	60,361	62,440	64,596
21	Total Operating Expenses			335,323	357,573	375,682	392,656	410,250	428,757	448,237
22	**NET REVENUES AFTER OPERATIONS**			220,416	226,217	242,142	244,684	255,110	262,636	278,590
	DEBT SERVICE									
	Senior Debt Service									
	Revenue Bonds									
23	Outstanding Bonds			183,211	183,740	183,714	183,410	185,111	184,108	182,835
24	Pennvest Parity Bonds			463	305	1,123	1,994	8,966	12,175	12,175
25	Projected Future Bonds			0	4,465	16,946	18,494	18,511	22,574	37,145
26	Total Senior Debt Service			183,674	188,510	201,783	203,898	212,588	218,857	232,155
27	**TOTAL SENIOR DEBT SERVICE COVERAGE (L22/L26)**			1.20 x	1.20 x	1.20 x	1.20 x	1.20 x	1.20 x	1.20 x
	Subordinate Debt Service									
28	Outstanding General Obligation Bonds			0	0	0	0	0	0	0
29	Pennvest Subordinate Bonds			1,227	1,228	1,227	1,022	0	0	0
30	Total Subordinate Debt Service			1,227	1,228	1,227	1,022	0	0	0
31	Total Debt Service on Bonds			184,901	189,738	203,010	204,921	212,588	218,857	232,155
32	**CAPITAL ACCOUNT DEPOSIT**			18,179	18,570	18,961	19,352	19,743	20,134	20,525
33	**TOTAL COVERAGE (L22/(L31+L32))**			1.08 x	1.08 x	1.09 x	1.09 x	1.09 x	1.09 x	1.10 x
	RESIDUAL FUND									
34	Beginning of Year Balance			11,706	14,115	10,444	10,624	10,039	10,819	10,464
35	Interest Income (b)			1,073	504	9	4	0	0	0
	Plus:									
36	End of Year Revenue Fund Balance			17,336	17,909	20,171	20,411	22,779	23,645	25,910
37	Deposit for Transfer to City General Fund (c)			4,994	2,718	2,927	3,692	3,692	3,883	4,435
	Less:									
38	Transfer to Construction Fund			16,000	10,000	20,000	21,000	22,000	24,000	26,000
39	Transfer to City General Fund			4,994	2,718	2,927	3,692	3,692	3,883	4,435
40	Transfer to Debt Service Reserve Fund			0	12,084	0	0	0	0	0
41	End of Year Balance			14,115	10,444	10,624	10,039	10,819	10,464	10,374
	RATE STABILIZATION FUND									
42	Beginning of Year Balance			182,380	137,545	100,350	57,620	20,845	21,225	30,715
43	Deposit From/(To) Revenue Fund			(44,835)	(37,195)	(42,730)	(36,775)	380	9,490	15,495
44	End of Year Balance			137,545	100,350	57,620	20,845	21,225	30,715	46,210

Notes: (a) Includes other operating and nonoperating income, including interest income on funds and accounts transferable to the Revenue Fund.
(b) Includes interest earnings on Debt Service Reserve substitution funds deposited in the Special Water Infrastructure Account.
(c) Transfer of interest earnings from the Bond Reserve Account must first go to the Residual Fund as shown in Line 37 to satisfy the requirements for the Transfer to the City General Fund, with the balance (if any) included in Line 15 going to the Revenue Fund.

In addition to the rate covenant of the General Ordinance described above, for each fiscal year ending on or after June 30, 2000, the City has agreed with Financial Guaranty Insurance Company (Finance Guaranty), for so long as the Series 1993 Bonds insured by Financial Guaranty are outstanding, to establish rates and charges for use by the Water and Wastewater Systems 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 percent of the Debt Service Requirements (excluding debt service due on any Subordinated Bonds) in such fiscal year. Further, any calculation by a consulting engineer of projected rate covenant compliance in connection with the proposed issuance of additional Bonds for each fiscal year ending on or after June 30, 2000, must state that Net Revenues (excluding amounts transferred from the Rate Stabilization Fund into the Revenue Fund during, or as of the end of, such fiscal year) in each fiscal year included in the Study Period are projected to be at least 90 percent of the Debt Service Requirements (excluding debt service due on any Subordinated Bonds) in such fiscal year.

With the issuance of the Series 2003 Bonds, Financial Security Assurance, Inc. (FSA) also entered into an agreement with the Water Department to apply this “90 percent” rule so long as the Series 2003 Bonds insured by FSA are outstanding.

To comply with the General Ordinance covenants discussed above, as well as the requirements set forth in the City's agreements with Financial Guaranty and FSA, additional water and wastewater service revenue, above the increase in rates which took effect on November 1, 2008, is necessary during the Study Period, and such requirements are reflected in the revenue projections shown on Lines 4 through 9 of Table VI-8. The increases shown for fiscal years 2010 through 2012, as indicated previously, have already been approved through the rate hearing process. As shown on Lines 27 and 33, the levels of additional service revenue projected for the Study Period is indicated to be adequate to provide for the debt service coverage and requirements of the Financial Guaranty and FSA agreements as described above, and as mentioned previously the positive year-end balances shown on Line 36 indicate that Charter requirements are also projected to be satisfied. It is important to note that under the General Ordinance, which provides for the various rate covenants discussed above, the Water Department utilizes the Rate Stabilization Fund, along with necessary increases in revenue, to manage its debt service coverage on its senior lien Bonds to the required 1.20 level each year.

Flow of funds in the Residual Fund (Lines 34-41) and the Rate Stabilization Fund (Lines 42-44) are also presented in Table VI-8 for the Study Period through fiscal year 2015.

As indicated on Line 41 of Table VI-8, a balance of between approximately $10,000,000 and $15,000,000 is maintained in the Residual Fund at the end of each fiscal year. In accordance with the General Ordinance, funds in the Residual Fund may be used for the following purposes: (1) to pay operating expenses; (2) to fund transfers to any fund or account other than the Revenue Account and the Rate Stabilization Fund; (3) to pay principal and interest on any revenue bonds and general obligation debt; (4) for the payment of amounts due under capitalized leases or similar obligations; and (5) to fund required transfers to the City's General Fund. One of the most prudent uses of such funds is that they be used for capital program financing in future years. Accordingly, for purposes of this report, we have indicated the annual transfers of available Residual Fund balances to the Construction Fund and Debt Service Reserve Account in the amounts shown on Lines 38 and 40 of Table VI-8.

The current projections of fiscal year 2009 revenues and revenue requirements indicate that a $44,835,000 transfer from the Rate Stabilization Fund is anticipated to maintain coverage requirements. The projected maximum allowable Rate Stabilization Fund transfer in fiscal year 2009 is $55,102,000 based on the “90 percent” rule. Accordingly, Water Department staff continues to monitor revenues and expenses to manage the level of the Rate Stabilization Fund transfer required for debt service coverage to maintain compliance with the terms of both the General Ordinance and the Financial Guaranty and FSA agreements.

The balance of funds projected in the Rate Stabilization Fund at the end of fiscal year 2012 amounts to $20,845,000. During the recent rate hearing process, the Water Department indicated the need to maintain a balance of approximately $45,000,000 in the Rate Stabilization Fund to provide for working capital needs. Due to the financial conditions experienced over the past several months across the country, in both the credit markets and the overall downturn in the economy, the Water Department has incurred increased costs in terms of remarketing and liquidity fees and interest rates on its variable rate bonds that were not known nor anticipated during the rate hearing process. Accordingly, the projected balance in the Rate Stabilization Fund is expected to fall below the target level of $45,000,000 by the end of fiscal year 2012. The projected revenue increases beyond fiscal year 2012, are projected to reestablish the $45,000,000 level by the end of the Study Period. In addition, Water Department staff continues to track the projected revenues, expenses, and fund balances to determine the potential need to initiate a rate hearing process to supplement the current adopted rate increases.

In conclusion, based upon the assumptions recognized in this report regarding the estimated future annual financial operations of the Water and Wastewater Systems, it is our opinion that the Water and Wastewater Systems will yield pledged Project Revenues (including projected revenue increases indicated in this report resulting from rate increases which may be imposed after an administrative process without further legislation) over the amortization period of the Bonds sufficient to meet the payment or deposit requirements of: all expenses of operation, maintenance, repair and replacement of the Water and Wastewater Systems; all reserve funds required to be established out of such Project Revenues; the principal or redemption price and interest on all Bonds, as the same become due and payable, for which such Project Revenues are pledged; and, the Rate Covenant set forth in Section 5.01 of the General Ordinance. In addition, the Net Revenues are currently sufficient to comply with the Rate Covenant and are projected to be sufficient (including projected revenue increases indicated in the report resulting from rate increases which may be imposed after an administrative process without further legislation) to comply with the Rate Covenant for each of the two fiscal years following the fiscal year in which the Bonds are issued.

APPENDIX III

SUMMARIES OF CERTAIN AUTHORIZATIONS FOR THE BONDS

SUMMARIES OF CERTAIN AUTHORIZATIONS FOR THE BONDS

The following are summaries of certain provisions of The First Class City Revenue Bond Act (the "Act"), the Restated General Water and Wastewater Revenue Bond Ordinance of 1989, as amended and supplemented (the "General Ordinance") and the Eleventh Supplemental Ordinance to the General Ordinance (the "Eleventh Supplemental Ordinance"). The summaries are not, and should not be regarded as, complete statements of the provisions of these documents and legislation. Reference is made to the Act, the General Ordinance and the Eleventh Supplemental Ordinance, copies of which are available from the Office of the Director of Finance, 1300 Municipal Services Building, 1401 J. F. Kennedy Boulevard, Philadelphia, Pennsylvania 19102, for the complete terms and provisions thereof.

THE FIRST CLASS CITY REVENUE BOND ACT
(Act 234 of the General Assembly of the Commonwealth, approved October 18, 1972, P.L. 955; 53 P.S. §§ 15901-15924)

The Series 2009 Bonds are being issued under the terms of The First Class City Revenue Bond Act and the General Ordinance and pursuant to the Eleventh Supplemental Ordinance. The following summarizes the terms of The First Class City Revenue Bond Act. All capitalized terms used in the following summary of The First Class City Revenue Bond Act are defined as in The First Class City Revenue Bond Act and may be differently referenced in other portions of this Official Statement.

General Authorization; Definition of Project; Bonds to be Special Obligations

The Act is intended to provide a comprehensive authorization to the City of Philadelphia (the "City") and any other Pennsylvania cities of the first class to issue revenue bonds ("Bonds") to finance various types of projects.

The Act defines "Project" to include, among other things, any building, structure, facilities or improvements of a public nature, the related land, rights or leasehold estates in land and the related furnishings, machinery, apparatus or equipment of a capital nature, which the City is authorized to own, construct, acquire, improve, lease, operate, maintain or support; any item of construction, acquisition or extraordinary maintenance or repair thereof, the City's share of the cost of any of the foregoing or any combination thereof undertaken jointly with others; and any combination of any of or all of the foregoing or any undivided portion of the cost of any of the foregoing as may be designated as a "Project" by the City for financing purposes and in respect of which the City may reasonably be expected to receive "Project Revenues" (as defined in the Act).

Bonds issued under the Act are required to be payable solely from Project Revenues and to be secured solely by such revenues and by any reserve funds which may be created or funded in connection with the Bonds. The Bonds are not permitted to pledge the credit or taxing power of the City to create any debt or charge against the tax or general revenues of the City, or create any lien against any of the City property other than the Project Revenues pledged therefore and reserve Funds established in respect of the Bonds. The Bonds do not constitute a debt of the City, and are excluded from the calculation of the City's debt-incurring capacity under the Pennsylvania Constitution.

Estimates of Future Revenues

To establish that Project Revenues will be sufficient to amortize all Bonds outstanding, the Act requires a finding to be made in the ordinance authorizing the issuance of the Bonds that the pledged Project Revenues will be sufficient to pay any prior parity charges thereon and the principal of and interest on the Bonds. This finding is to be based on a report of the chief fiscal officer of the City filed with the City Council and supported by appropriate schedules and summaries. The report of the chief fiscal officer of the City may be based on a report of consulting engineers employed by the City to evaluate the project.

For the purpose of estimating future Project Revenues, the Act provides that only the following shall be included: (i) those rents, rates, tolls or charges to the general public which, under existing authorizations, will be reasonably collectible in such year under the schedule or rate of rents, rates or charges which are or will be in effect during such year in accordance with such ordinance, resolutions or rate schedule or which may be imposed by administrative action without further legislation; (ii) those bulk payments which may be imposed under subsisting legislation or which are provided under subsisting agreements or which are the subject of an expression of intent by the prospective obligor deemed reliable by the chief fiscal officer of the City; and (iii) those governmental subsidies or payments which, under subsisting legislation, are subject to reasonably precise calculation and, unless stated in such legislation or authorization to be of an annually or more frequently recurring nature, are payable in such year.

Detail of Bonds and City Covenants

The Act provides that the ordinance authorizing the issuance of the Bonds shall fix the aggregate amounts of the Bonds to be issued from time to time and determine, or designate officers of the City to determine, the form and details of the Bonds. The City may include in its Bond ordinance various covenants with Bondholders, including covenants governing the imposition, collection and disbursement of Project Revenues, Project operation and maintenance, the establishment, segregation, maintenance, custody, investment and disbursement of sinking funds and reserves, the issuance of additional priority or parity bonds, the redemption of the Bonds and such other provisions as the City deems necessary or desirable in the interest or for the protection of the City or of such Bondholders. Under the Act the covenants, terms and provisions of the Bond ordinance made for the benefit of Bondholders constitute contractual obligations of the City, but such covenants (within limitations, if any, fixed by the Bond ordinance) may be modified by agreement with a majority in interest of the Bondholders or such larger portion thereof as may by provided in the Bond ordinance.

Sinking Fund

The Act requires that the Bond ordinance shall provide for the establishment of a sinking fund for the payment of the principal of and interest (including Qualified Swap payments) on the Bonds. Payment into such sinking fund shall be made in annual or more frequent installments and shall be sufficient to pay or accumulate for payment all principal of and interest on the Bonds for which the sinking fund is established as and when the same shall become due and payable. The sinking fund shall be managed by the chief fiscal officer of the City and moneys therein to the extent not currently required, shall be invested, subject to limitations established by the Bond ordinance and the Act. Interest and profits from investment of moneys in the sinking fund shall be added to such fund and may be applied in reduction of or to complete required deposits into the sinking fund. Excess moneys in the sinking fund shall be repaid to the City for its general purposes or may be applied as may be provided in the Bond ordinance. All moneys deposited in the sinking fund are subjected to a perfected security interest for the benefit of the holders of the Bonds, for which the fund is established, until property disbursed. This perfected security interest also applies, under the terms of the Act, to moneys in the sinking fund reserve created as part of the sinking fund by the General Ordinance.

Refunding

Any outstanding Bonds issued under the Act or other bonds issued for purposes for which Bonds are issuable under the Act, whether issued before or after the effective date of the Act, may from time to time be refunded by Bonds issued under the Act and are subject to the same protections and provisions required for the issuance of an original issue of Bonds. The last stated maturity date of the refunding Bonds may not be later than ten years after the last stated maturity date of the Bonds to be refunded. If outstanding Bonds are refunded in advance of their maturity or redemption date, the principal thereof and interest thereon to payment or redemption date, and redemption premium payable, if any, will no longer be deemed to be outstanding obligations when the City shall have deposited with a bank, bank and trust company or trust company, funds irrevocably pledged to the purpose, which are represented by demand deposits, interest-bearing time accounts, savings deposits, certificates of deposit (insured or secured as public funds) or specified obligations of the United States or of the Commonwealth of Pennsylvania sufficient to effect such redemption or payment or, if interest on the deposited funds to the time of disbursement is also pledged, sufficient, together with such interest, for such purpose and, in the case of redemption, shall have duly called the Bonds for redemption or given irrevocable instructions to give notice of such call.

Validity of Proceedings; Suits and Limitations Thereon

Prior to the delivery of any Bonds, the City is required to file with the Court of Common Pleas of Philadelphia County (the "Court") a transcript of the proceedings authorizing the issuance of the Bonds. If no action is brought on or before the twentieth day following the date of recording of the transcript, or when the proceedings have been approved finally by the Court, then notwithstanding any defect or error in such proceedings, the validity of the proceedings, the City's right to issue the Bonds, the lawful nature of the purpose for which the Bonds are issued, and the validity and enforceability of the Bonds in accordance with their terms may not thereafter be inquired into judicially, in equity, at law, or by civil or criminal proceedings, or otherwise, either directly or collaterally except where a constitutional question is involved.

Negotiable Instruments

The Act provides that Bonds issued thereunder shall have the qualities and incidents of securities under Article 8 of the Uniform Commercial Code of the Commonwealth and shall be negotiable instruments.

Exemption from State Taxation

The Commonwealth pledges with the holders from time to time of Bonds issued under the Act that such Bonds, and interest thereon, shall at all times be free from taxation within and by the Commonwealth, but this exemption does not extend to underwriting profits or to gift, succession or inheritance taxes or any other taxes not levied directly on the Bonds and the receipt of interest thereon.

Defaults and Remedies

If the City should fail to pay the principal of or interest on any Bond when the same shall be due and payable, the remedy provisions of the Act permit the holder of such Bond, subject to the limitations described below, to recover the amount due in an action in Philadelphia Common Pleas Court; but a judgment rendered in favor of the Bondholder in such an action is collectible only from Pledged Amounts. The holders of 25% or more in aggregate principal amount of the Bonds of such series then outstanding which are in default, whether because of failure of timely payment which is not cured in

30 days, or failure of the City to comply with any other provisions of the Bonds or any Bond ordinance, may appoint a trustee to represent them. On being appointed, the trustee shall be the exclusive representative for the affected Bondholders and the individuals rights of action described above shall no longer be available. The trustee may, and upon written request of the holders of 25% or more in aggregate principal amount of Bonds in default, and on being furnished with indemnity satisfactory to it, shall, take one or more of the following actions, which, if taken, shall preclude similar action, whether previously or subsequently initiated, by individual holders of Bonds; enforce, by proceedings a law or in equity, all rights of the holders of the Bond; bring suit on the Bonds; bring in suit in equity to require the City to make an accounting for all pledged Project Revenues received and to enjoin unlawful action or action in violation of the holders' rights; and, after 30 days' written notice to the City, and subject to any limitations in the Bond ordinance, declare the unpaid principal of the Bonds to be immediately due and payable, together with interest thereon at the rates stated in the Bonds until final payment, and upon the curing of all defaults, to annual such declaration. In any suit, action or proceeding by or on behalf of holders of defaulted Bonds, trustee fees and expenses, including operating costs of a project and reasonable counsel fees, shall constitute taxable costs, and all such costs and expenses allowed by the Court shall be deemed additional principal due on the Bonds and shall be paid in full from any recovery prior to any distribution to the holders of the Bonds. The General Ordinance limits any such recovery to Pledged Amounts. The trustee shall make distribution of any sums so collected in accordance with the Act.

Refunding with General Obligation Bonds

Upon certification by the City's chief fiscal officer that Project Revenues pledged for the payment of Bonds have become insufficient to meet the requirements of the ordinance or ordinances under which the Bonds were issued, the City Council is empowered, but not required, subject to applicable Pennsylvania constitutional debt limitations, to authorize the issuance and sale of general obligation refunding bonds of the City, without limitation as to rate of interest and in such principal amount (subject to the aforesaid limitations on indebtedness) as may be required, together with other available funds, to pay and redeem such Bonds including principal, interest to the date fixed for redemption or payment and premium, whether or not the principal of or interest on the refunding bonds shall exceed the principal of or interest on the bonds to be refunded.

THE RESTATED GENERAL WATER AND WASTEWATER REVENUE BOND ORDINANCE OF 1989

(Ordinance of the City Council approved June 24, 1993 - Bill No. 544)

The following is a summary of certain terms defined in the Restated General Water and Wastewater Revenue Bond Ordinance of 1989 (the "General Ordinance") and used in this Official Statement. Reference should be made to the General Ordinance for a full and complete statement of its terms and any capitalized terms used herein but not otherwise defined. The Series 2009 Bonds are being issued under the terms of the General Ordinance and pursuant to the Eleventh Supplemental Ordinance. The Eleventh Supplemental Ordinance (see below) sets forth the specific terms of the Series 2009 Bonds. The following summarizes the terms of the General Ordinance, prior to being supplemented pursuant to the Eleventh Supplemental Ordinance. All capitalized terms used in the following summary of the General Ordinance are defined as in the General Ordinance, prior to being supplemented pursuant to the Eleventh Supplemental Ordinance, and may be differently referenced in other portions of this Official Statement.

Certain Definitions

Accredited Value means, with respect to Capital Appreciation Bonds, the amount to which, as of any specified time, the Original Value of any such Bond has been increased by accretion, all as may be provided in an applicable Supplemental Ordinance.

Act means The First Class City Revenue Bond Act, approved October 18, 1972 (Act No. 234, 53 P.S. §15901 to 15924), as from time to time amended.

Bond or *Bonds* means, upon and after issuance of the first series of bonds under the General Ordinance, if and to the extent Outstanding at any time, (i) the Existing Bonds and (ii) all series of bonds authorized and issued under one or more supplemental ordinances amending and supplementing the General Ordinance.

Bond Committee means the Mayor, City Controller and City Solicitor or a majority thereof. Bond Counsel means a firm of nationally recognized bond counsel selected by the City.

Bondholder or *Holder* means any registered owner of Bonds or holder of Bonds issued in coupon form at the time Outstanding.

Capital Account means the Capital Account within the Construction Fund.

Capital Account Deposit Amount means an amount equal to one percent (1%) of the depreciated value of property, plant and equipment of the System or such greater amount as shall be annually certified to the City in writing by a Consulting Engineer as sufficient to make renewals, replacements and improvements in order to maintain adequate water and wastewater service to the areas served by the System.

Capital Appreciation Bonds means any Bonds issued under the General Ordinance which do not pay interest either until maturity or until a specified date prior to maturity, but whose Original Value increases periodically by accretion to a final Maturity Value.

Charges Account means the Charges Account established within the Sinking Fund to provide for the payment of fees under any Credit Facility to the extent payment of such fees are not otherwise provided.

City Controller means the head of the City's auditing department as provided by the Philadelphia Home Rule Charter.

City Solicitor means the head of the City's law department as provided by the Philadelphia Home Rule Charter.

Code means the Internal Revenue Code of 1986, as amended.

Construction Fund means the Construction Fund established pursuant to the General Ordinance.

Consulting Engineer means a nationally recognized Independent registered consulting engineer or a nationally recognized Independent firm of registered consulting engineers, in either case having experience in the design and analysis of the operation of water and wastewater systems of the magnitude and scope of the System.

Credit Facility means any letter of credit, standby bond purchase agreement, line of credit, surety bond, insurance policy or other insurance commitment or similar agreement (other than a Qualified Swap or an Exchange Agreement) that is provided by a commercial bank, insurance company or other institution, with a current long term rating (or whose obligations thereunder are guaranteed by a financial institution with a long term rating) from Moody's and S&P not lower than the credit rating of any Series of Bonds which has no Credit Facility, to provide support for a Series of Bonds or for any issue of Subordinated Bonds, and shall include any Substitute Credit Facility.

Debt Reserve Account means the Debt Reserve Account of the Sinking Fund established in the General Ordinance.

Debt Reserve Requirement means with respect to all Bonds, an amount equal to the lesser of (i) the greatest amount of Debt Service Requirements payable in any one Fiscal Year (except that such Debt Service Requirement will be computed as if any Qualified Swap did not exist and the Debt Service Requirements attributable to any Variable Rate Bonds may be based upon the fixed rate of interest as set forth in the Supplemental Ordinance or Determination for such Bonds), determined as of any particular date or (ii) the maximum amount to be financed with proceeds of Bonds permitted by Section 148(d) (1) of the Code (or any successor provision).

Debt Service Account means the Debt Service Account of the Sinking Fund established in the General Ordinance.

Debt Service Requirements, with reference to a specified period, means:

(a) amounts required to be paid into any mandatory sinking fund established for the benefit of Bonds during the period;

(b) amounts needed to pay the principal or redemption price of Bonds maturing during the period and not to be redeemed at or prior to maturity through any sinking fund established for the benefit of Bonds;

(c) interest payable on Bonds during the period, with adjustment for capitalized interest or redemption through any sinking fund established for the benefit of Bonds; and

(d) all net amounts, if any, due and payable by the City under a Qualified Swap during such period.

For purposes of estimating Debt Service Requirements for any future period, (i) any Option Bond outstanding during such period shall be assumed to mature on the stated maturity date thereof, except that the principal amount of any Option Bond tendered for payment and cancellation before its stated maturity date shall be deemed to accrue on the date required for payment pursuant to such tender; and (ii) Debt Service Requirements on Bonds for which the City has entered into a Qualified Swap shall be calculated assuming that the interest rate on such Bonds shall equal the stated fixed or variable rate on the Qualified Swap or, if applicable and if greater than such stated rate, the applicable rate for any Bonds issued in connection with the Qualified Swap adjusted, in the case of a variable rate obligation, as provided in the General Ordinance.

Calculation of Debt Service Requirements with respect to Variable Rate Bonds shall be subject to adjustment.

Debt Service Withdrawal means the aggregate amount withdrawn from the Capital Account during a Fiscal Year and applied toward the payment of principal or redemption price of or interest on Bonds or toward the elimination of a deficiency in any reserve fund established for the benefit of Bonds.

Determination means a determination by the Bond Committee regarding certain matters relating to the issuance of a Series of Bonds, made pursuant to the General Ordinance or the Supplemental Ordinance providing for the issuance of such Se ties of Bonds.

Director of Finance means the chief financial officer of the City as established by the Philadelphia Home Rule Charter.

Effective Date means when (but only when) all Prior Bonds issued under the Prior Ordinance have been paid or defeased as set forth in Section 10 of the Act.

Exchange Agreement means, to the extent from time to time permitted by applicable law, any interest exchange agreement, interest rate swap agreement, currency swap agreement or other contract or agreement, other than a Qualified Swap, authorized, recognized and approved by a Supplemental Ordinance or Determination as an Exchange Agreement and providing for (i) certain payments by the City from the Residual Fund and (ii) payments by an entity whose senior long term debt obligations, other senior unsecured long term obligations or claims paying ability, or whose obligations under an Exchange Agreement are guaranteed by an entity whose senior long term debt obligations, other senior unsecured long term obligations or claims paying ability are rated not less than A3 by Moody's, A- by S&P or A- by Fitch, or the equivalent thereof by any successor thereto as of the date the Exchange Agreement is entered into; which payments by the City and counterparty are calculated by reference to fixed or variable rates and constituting a financial accommodation between the City and such counterparty.

Existing Bonds means the bonds originally issued under the Prior Ordinance other than Prior Bonds, which Existing Bonds shall be specified in a certificate of the Director of Finance on the Effective Date and thereafter shall be secured by the General Ordinance.

Financial Consultant means a firm of investment bankers, a financial consulting firm, a firm of certified public accountants or any other firm which is qualified to calculate amounts required to be rebated to the United States pursuant to Section 148(1) of the Code.

Fiscal Agent means a bank or other entity designated as such pursuant to the General Ordinance or its successor.

Fiscal Year means the fiscal year of the City.

Fitch means Fitch Ratings and any successor thereto.

General Obligation Bonds means the general obligation bonds of the City issued and outstanding from time to time to finance improvements to the System and adjudged, pursuant to the Constitution and laws of the Commonwealth of Pennsylvania, to be self-sustaining on the basis of expected Project Revenues.

General Ordinance means the Restated General Water and Wastewater Revenue Bond Ordinance of 1989.

Government Obligations means direct obligations of, or obligations the principal of and interest on which are unconditionally guaranteed by, the United States of America, including but not limited to interest obligations of the Resolution Funding Corporation or any successor thereto.

Independent means a person who is not a salaried employee or elected or appointed official of the City; provided, however, that the fact that such person is retained regularly by or transacts business with the City shall not make such person an employee within the meaning of this definition.

Initial Deposit means the initial, one time, deposit to be made by the City from any source into the Rate Stabilization Fund upon the establishment of such Rate Stabilization Fund.

Interdepartmental Charges means the proportionate charges for services performed for the Water Department by all officers, departments, boards or commissions of the City which are required by the Philadelphia Home Rule Charter to be included in the computation of operating expenses of the Water Department.

Interim Debt means any bond anticipation notes or other temporary borrowing which the City anticipates permanently financing with Bonds or other long term indebtedness under the General Ordinance or otherwise.

Maturity Value with respect to Capital Appreciation Bonds means the amount due on the maturity date.

Moody's means Moody's Investors Service and any successor thereto.

Net Revenues for any period means the Project Revenues collected during such period and deposited into the Revenue Fund plus (x) the amounts, if any, transferred from the Rate Stabilization Fund into the Revenue Fund during, or as of the end of, such period and (y) interest earnings during such period on moneys in any of the funds or accounts established under the General Ordinance to the extent such interest earnings are credited to the Revenue Fund pursuant to the General Ordinance minus the sum of (a) Operating Expenses incurred during such period and (b) the amounts, if any, transferred from the Revenue Fund to the Rate Stabilization Fund during, or as of the end of, such period; provided, however that in determining such Net Revenues the Initial Deposit shall not reduce such Net Revenues.

Operating Expenses for any period means all costs and expenses of the Water apartment necessary and appropriate to operate and maintain the System in good operating condition, and shall include, without limitation, salaries and wages, purchases of services by contract, costs of materials, supplies and expendable equipment, maintenance costs, costs of any property or the replacement thereof or for any work or project, related to the System, which is not properly chargeable to property, plant and equipment, pension and welfare plan and worker's compensation requirements, provisions for claims, refunds and uncollectible receivables and for Interdepartmental Charges, all in accordance with generally accepted accounting principles consistently applied, but Operating Expenses shall exclude depreciation, amortization, interest and sinking fund charges.

Operating Expense Withdrawal means the aggregate amount withdrawn from the Capital Account during a Fiscal Year and applied toward the payment of Operating Expenses.

Option Bond means any Bond which by its terms may be tendered by and at the option of the Holder thereof for payment by the City prior to its stated maturity date or the maturity date of which may be extended by and at the option of the Holder thereof.

Ordinance means the General Ordinance, as amended from time to time in accordance with the provisions of the General Ordinance.

Original Value with respect to Capital Appreciation Bonds means the principal amount paid by the initial purchasers on the date of original issuance.

Outstanding, when used with reference to Bonds, means, as of any date, all Bonds theretofore or thereupon being authenticated and delivered under the General Ordinance except (i) any Bonds cancelled by the Fiscal Agent at or prior to such date; (ii) Bonds (or portion of Bonds) for the payment or redemption of which moneys, equal to the principal amount, Accredited Value or redemption price thereof, as the case may be, with interest (except to the extent of any Capital Appreciation Bonds) to the date of maturity or redemption date, shall be held in trust under the General Ordinance and set aside for such payment or redemption (whether at or prior to the maturity or redemption date), provided that if such Bonds (or portions of Bonds) are to be redeemed, notice of such redemption shall have been given as provided in the General Ordinance or provision satisfactory to the Fiscal Agent shall have been made for the giving of such notice; (iii) Bonds in lieu of or in substitution for which other Bonds shall have been authenticated and delivered pursuant to the General Ordinance; and (iv) Bonds deemed to have been paid as provided in the General Ordinance.

Philadelphia Home Rule Charter means the Philadelphia Home Rule Charter, as amended or superseded by any new home rule charter, adopted pursuant to authorization of the First Class City Home Rule Act approved April 21, 1949, P.L. 665 §l et seq. (53 P.S. §13101 et seq.).

Prior Bonds means the bonds issued under the Prior Ordinance designated as Water and Sewer Revenue Bonds (i) the First Series through Ninth Series, and the Eleventh Series and Twelfth Series, and (ii) to the extent the following bonds are defeased on the Effective Date, the Tenth Series and the Thirteenth Series through Sixteenth Series.

Prior Ordinance means the General Water and Sewer Revenue Bond Ordinance of 1974 approved May 16, 1974, as amended and supplemented from time to time.

Project Revenues means all rents, rates, fees and charges imposed or charged for the connection to, or use or product of or services generated by the System to the ultimate users or customers thereof, all payments under bulk contracts with municipalities, governmental instrumentalities or other bulk users, all subsidies or payments payable by Federal, State or local governments or governmental agencies on account of the cost of operation of, or the payment of the principal of or interest on moneys borrowed to finance costs chargeable to the System, all grants, payments and contributions made in aid or on account of the System exclusive of grants and similar payments and contributions solely in aid of construction and all accounts, contract rights and general intangibles representing the foregoing.

Purchase and Remarketing Fund means, with respect to each Series of Bonds subject to tender for purchase pursuant to an applicable Supplemental Ordinance or Determination, the Fund so designated in such Supplemental Ordinance.

Qualified Escrow Securities means funds which are represented by (a) demand deposits, interest-bearing time accounts, savings deposits or certificates of deposit, but only to the extent such deposits or accounts are fully insured by the Federal Deposit Insurance Corporation or any successor United States governmental agency, or to the extent not insured, fully secured and collateralized by Government Obligations having a market value (exclusive of accrued interest) at all times at least equal to the principal amount of such deposits or accounts, (b) if at the time permitted under the Act, obligations of any state or political subdivision thereof or any agency or instrumentality of such state or political subdivision for

which cash, Government Obligations or a combination thereof have been irrevocably pledged to or deposited in a segregated escrow account for the payment when due of principal or redemption price of and interest on such obligations, and any such cash or Government Obligations pledged and deposited are payable as to principal or interest in such amounts and on such dates as may be necessary without reinvestment to provide for the payment when due of the principal or redemption price of and interest on such obligations, and such obligations are rated by any Rating Agency in the highest rating category assigned by each such rating service to obligations of the same type, or (c) noncallable Government Obligations. In each case such funds (i) are subject to withdrawal, maturing or payable at the option of the holder, at or prior to the dates needed for disbursement, provided such deposits or accounts, whether deposited by the City or by such depository, are insured or secured as public deposits with securities having at all times a market value exclusive of accrued interest equal to the principal amount thereof, (ii) are irrevocably pledged for the payment of such obligations and (iii) are sufficient, together with the interest to disbursement date payable with respect thereto, if also pledged, to meet such obligations in full.

Qualified Rebate Fund Securities means either:

(a) Government Obligations; or

(b) rights to receive the principal of or the interest on Government Obligations through (i) direct ownership, as evidenced by physical possession of such Government Obligations or unmatured interest coupons or by registration as to ownership on the books of the issuer or its duly authorized paying agent or transfer agent, or (ii) purchase of certificates or other instruments evidencing an undivided ownership interest in payments of the principal of or interest on Government Obligations.

Qualified Swap or *Swap Agreement* means, with respect to a Series of Bonds, any financial arrangement that (i) is entered into by the City with an entity that is a Qualified Swap Provider at the time the arrangement is entered into; (ii) provides that (a) the City shall pay to such entity an amount based on the interest accruing at a fixed rate on an amount equal to the principal amount of the Outstanding Bonds of such Series, and that such entity shall pay to the City an amount based on the interest accruing on a principal amount initially equal to the same principal amount as such Bonds, at either a variable rate of interest or a fixed rate of interest computed according to a formula set forth in such arrangement (which need not be the same as the actual rate of interest borne by the Bonds) or that one shall pay to the other any net amount due under such arrangement or (b) the City shall pay to such entity an amount based on the interest accruing on the principal amount of the Outstanding Bonds of such Series at a variable rate of interest as set forth in the arrangement and that such entity shall pay to the City an amount based on interest accruing on a principal amount equal to the Outstanding Bonds of such Series at an agreed fixed rate (which shall not be the same as the rate on the Bonds) or that one shall pay to the other any net amount due under such arrangement; and (iii) which has been designated in writing to the Fiscal Agent by the City as a Qualified Swap with respect to the Bonds.

Qualified Swap Provider means, with respect to a Series of Bonds, an entity whose senior long term debt obligations, other senior unsecured long term obligations or claims paying ability, or whose payment obligations under a Qualified Swap are guaranteed by an entity whose senior long term debt obligations, other senior unsecured long term obligations or claims paying ability, are rated (at the time the subject Qualified Swap is entered into) at least as high as Aa by Moody's, and AA by S&P, or the equivalent thereof by any successor thereto.

Rate Covenant means the rate covenant contained in the General Ordinance.

Rate Stabilization Fund means the Rate Stabilization Fund established pursuant to the General Ordinance.

Rating Agency means Moody's, S&P or Fitch, to the extent that any of such rating services have issued a credit rating on the Bonds or, upon discontinuance of any of such rating services, such other nationally recognized rating service or services if any such rating service has issued a credit rating on the Bonds.

Rebate Bond Year, for purposes of the General Ordinance and in order to facilitate compliance with the arbitrage rebate requirements of the Code, shall mean the period or periods specified in a Supplemental Ordinance or Determination for a Series of Bonds.

Rebate Fund means the Rebate Fund established pursuant to the General Ordinance.

Remarketing Agent means a Remarketing Agent appointed in the manner provided in the applicable Supplemental Ordinance or Determination authorizing the issuance of Variable Rate Bonds.

Remarketing Agreement means an agreement providing for the remarketing of tendered Variable Rate Bonds by a Remarketing Agent, as more fully set forth and defined in the Supplemental Ordinance authorizing any Series of Variable Rate Bonds.

Residual Fund means the Residual Fund established pursuant to the General Ordinance.

Revenue Fund means the Revenue Fund established pursuant to the General Ordinance. *S&P* means Standard & Poor's Ratings Services and any successor thereto.

Series when applied to Bonds means, collectively, all of the Bonds of a given issue authorized by Supplemental Ordinance, as provided in the General Ordinance, and may also mean, if appropriate, a subseries of any Series if, for any reason, the City should determine to divide any Series into one or more subseries of Bonds.

Sinking Fund means the Sinking Fund established pursuant to the General Ordinance.

Sinking Fund Installment means an amount so designated which is established pursuant to the General Ordinance.

Special Water Infrastructure Account means the Special Water Infrastructure Account of the Residual Fund established in the General Ordinance.

Standby Agreement with respect to a Series of Bonds, means an irrevocable letter of credit and related reimbursement agreement, line of credit, standby bond purchase agreement or similar agreement providing for the purchase of all or a portion of the Bonds of such Series, as amended, supplemented or extended from time to time.

Standby Purchaser, with respect to a Series of Bonds, means the provider of the Standby Agreement for such Series of Bonds.

Subordinated Bond means any Bond referred to in, and complying with the provisions of the General Ordinance with respect to Subordinated Bonds.

Subordinated Bond Fund means the Subordinated Bond Fund established in the General Ordinance.

Substitute Credit Facility means any letter of credit, standby bond purchase agreement, line of credit, surety bond, insurance policy or other insurance commitment or similar agreement (other than a Qualified Swap or an Exchange Agreement) that replaces a Credit Facility and is provided by a commercial bank, insurance company or other financial institution with a current long term credit rating (or whose obligations thereunder are guaranteed by a financial institution with a long term rating) from Moody's and S&P not lower than the credit rating of any Series of Bonds which has no Credit Facility.

Supplemental Ordinance means an ordinance supplemental to the General Ordinance enacted pursuant to the Act and the General Ordinance by the Council of the City.

System means the entire combined water system and wastewater system of the City, now Outstanding and hereafter acquired by lease, direct control, purchase or otherwise or constructed by the City, including any interest or participation of the City in any facilities in connection with said System, together with all additions, betterments, extensions and improvements to said System or any part thereof hereafter constructed or acquired and together with all lands, easements, licenses and rights of way of the City and all other works, property or structures of the City and contract rights and other tangible and intangible assets of the City now or hereafter owned or used in connection with or related to said System.

Tender Agent, with respect to a Series of Bonds, means any commercial bank or trust company organized under the laws of any state of the United States or any national banking association designated as a tender agent for such Series of Bonds, and its successor or successors hereafter appointed in the manner provided in the applicable Supplemental Ordinance or Determination.

Uncertificated Bond means any Bond which is fully registered as to principal and interest and which is not represented by an instrument.

Variable Rate Bond means any Bond, the rate of interest on which is subject to change prior to maturity and cannot be determined in advance of such change.

Water and Wastewater Funds means, collectively, the Revenue Fund, the Sinking Fund, the Subordinated Bond Fund, the Rate Stabilization Fund, the Residual Fund and the Construction Fund.

Water Commissioner means the head of the Water Department as provided by the Philadelphia Home Rule Charter.

Water Department means the Water Department of the City created pursuant to Section 3-100 of the Philadelphia Home Rule Charter.

SUMMARY OF OPERATIVE PROVISIONS OF THE GENERAL ORDINANCE

The following is a summary of certain operative provisions of the General Ordinance. Reference should be made to the General Ordinance for a full and complete statement of its provisions and the meaning of any capitalized terms used herein but not otherwise defined.

Form and Terms of Bonds

All Bonds shall be in substantially such form as may be approved by the City and set forth in the Supplemental Ordinance or Determination providing for the issuance thereof. Bonds shall be generally designated as Water and Wastewater Revenue Bonds of the City and shall be issued in such Series and within such Series in such subseries as the City may from time to time determine. The aggregate

principal amount of Bonds which may be issued, authenticated and delivered under the General Ordinance is unlimited, but prior to the issuance of such Series of Bonds, the City shall enact a Supplemental Ordinance authorizing such Series and the maximum aggregate principal amount of such Series.

The Bonds shall be issued in fully registered form, except as provided in the General Ordinance and, such Bonds shall be issued upon and contain such additional terms as may be set forth in the supplemental Ordinance and Determination providing for the issuance of the Bonds in question. As required by Section 5 of the Act, all Bonds shall contain a brief statement of the Project Revenues pledged as security therefor and the priority or priorities, if any, in the application of such pledged Project Revenues and shall contain a covenant of the City to pay from the pledged Project Revenues on the respective due dates the amounts required to pay the interest on and principal or redemption price of the Bonds. Bonds may be designated as of such Series by date, number, letter or otherwise and may also have such individual letters, identifying numbers or other marks, and such descriptive panels, registration panels, legends or endorsements placed thereon as may, consistent with The General Ordinance and the Act, be determined by a Supplemental Ordinance, Determination or the Director of Finance. The Bonds may also have printed thereon or on the reverse thereof the text of an approving legal opinion with respect thereto. Any portion of the text of any Bond may be set forth on the reverse thereof with an appropriate reference on the face of the Bond.

The Bonds of each Series shall be issued in such aggregate principal amount, shall be in such denominations, shall mature or be subject to mandatory redemption in such principal amounts, on such dates and at such places, shall have such Sinking Fund Installments for Bonds of like maturity and interest rate, shall bear interest from such date or dates and at such rate or rates (including variable, adjustable, convertible or other rates), shall be subject to optional redemption at such times and upon such terms, shall (if such Bonds are Option Bonds) be subject to optional or mandatory tender, and shall contain such other terms and conditions not inconsistent with the General Ordinance or the Act, all as shall be determined by the City and set forth in the Supplemental Ordinance or Determination under which such Bonds are issued, or as shall be determined by a designated officer or officers of the City thereunto authorized by the Supplemental Ordinance, or in the absence of such provisions or designation, as shall be determined by the Director of Finance as specified below.

If permitted by applicable law, any Series of Bonds may be issued as Uncertificated Bonds and the foregoing provisions specifying the form of Bonds shall be inapplicable to such Series.

A Series of Bonds may be secured by a Credit Facility meeting the requirements of the General Ordinance and the applicable Supplemental Ordinance. In connection with the issuance of its Bonds or at any time thereafter so long as a Series of Bonds remains Outstanding, the City also may enter into Qualified Swaps or Exchange Agreements if the Bond Committee determines that such Qualified Swap or Exchange Agreement will assist the City in more effectively managing its interest costs. The City's payment obligation under any Qualified Swap shall be made from the Sinking Fund and its payment obligation under any such Exchange Agreement shall be made from the Residual Fund created pursuant to the General Ordinance. Unless otherwise acknowledged by each Rating Agency by virtue of its confirmation of the existing credit ratings on the City's Outstanding Bonds, the City will not enter into any Qualified Swap or Exchange Agreement unless it gives at least fifteen (15) day's advance notice of its intention to do so to each of the Rating Agencies, which notice shall specify the identity of the Qualified Swap Provider or Exchange Agreement counterparty, as the case may be.

Sale of Bonds; Taxes Not to be Assumed; Authority of Director of Finance

Bonds may be sold by the City at public, private, or invited sale upon such terms not inconsistent with the Act and at such prices as the City may determine. To the extent that the Supplemental Ordinance authorizing any Series of Bonds and the Determination relating to such Series shall not otherwise provide:

(a) all Bonds shall be sold at competitive public sale to the purchaser or purchasers submitting the highest and best bid upon such terms and conditions of the bidding as shall be specified in an official notice of sale issued in the name of the City by the Director of Finance;

(b) no covenant to pay or assume any taxes shall be included in such Bonds; and

(c) subject to the foregoing, the terms upon which are the prices for which the Bonds are to be sold or exchange, and the form, terms or provisions of the Bonds including, without limitation, the matters referred to in Section 5 of the Act, shall be determined by the Director of Finance who is designated in the General Ordinance as the officer of the City authorized to make such determinations based, to the extent applicable, on the prices, interest rates or other terms set forth in the highest and best proposal conforming to the bidding specifications, as ascertained and accepted on behalf of the City by the Director of Finance.

Payments of Principal, Redemption Price and Interest; Date of Bonds

Unless otherwise provided in any Bond or the Supplemental Ordinance or Determination relating thereto:

(a) The principal or redemption price of each Bond shall be payable upon surrender thereof at the principal Philadelphia office of the Fiscal Agent in Philadelphia, Pennsylvania or at the principal office of a paying agent designated in such Bonds.

(b) The interest due on any Bond in fully registered form shall be payable by check or draft mailed to the Holder thereof, or at the request of a Holder of one million (1,000,000) dollars or more in principal amount or maturity value of Bonds by wire transfer to an account at a financial institution in the United States, designated in writing to the Fiscal Agent-or the paying agent, subject to such provisions concerning record dates as may be contained in such Bond and in the Supplemental Ordinance and Determination providing for the issuance and terms thereof.

(c) The principal or redemption price of and the interest on each Bond shall be payable in any coin or currency of the United States of America or Bonds of a Series may be payable in such foreign currency as may be specified in the Supplemental Ordinance authorizing such Series of Bonds, if applicable law permits.

(d) Fully registered Bonds of each Series shall be dated as of the date six months preceding the interest payment date next following the date of execution thereof by the Fiscal Agent, unless such date of execution shall be an interest payment date, in which case they shall be dated as of such date of execution; provided, however, that if, as shown by the records of the Fiscal Agent, interest on the Bonds of any Series shall be in default, fully registered Bonds of such Series issued in lieu of Bonds surrendered for transfer or exchange may be dated as of the date to which interest has been paid in full on the Bonds surrendered. Fully registered Bonds of each Series shall bear interest from their date.

Notwithstanding any other provision in The General Ordinance to the contrary, the foregoing provisions of this Section are subject to the express understanding that the principal of and interest on all

Bonds issued hereunder and the premium, if any, payable on redemption thereof, shall be payable only from Project Revenues and other funds provided for the payment of Bonds. The Bonds are not general obligations of the City and do not pledge the general credit or taxing power or create any debt or charge against the general revenues of the City, or create any lien against any property of the City other than pledged Project Revenues.

Execution of Bonds

The Bonds shall be executed on behalf of the City by the Fiscal Agent by the manual signatures of two of its duly authorized officers or signers, under the seal of the City which shall be either affixed or reproduced thereon in facsimile and shall be countersigned and attested by the manual or facsimile signature of the City Controller, or in such other manner as shall be authorized by law and prescribed by Supplemental Ordinance. Any such Bonds may be executed, issued and delivered notwithstanding that one or more of the officers or signers signing such Bonds or whose facsimile signature shall be upon such Bonds shall have ceased to be such officers or signers at the time when such Bonds shall actually be delivered, and although at the nominal date of the Bond any such person shall not have been such officer or signer.

Bond Registrar and Bond Register

The City shall designate one or more persons to act as "Bond Registrar" for the Bonds provided that the Bond Registrar appointed for the Bonds shall be either the Fiscal Agent or a person which would meet the requirements for qualification as a Fiscal Agent imposed by the General Ordinance. Any person other than the Fiscal Agent undertaking to act as Bond Registrar shall first execute a written agreement, in form satisfactory to the City and the Fiscal Agent, to perform the duties of a Bond Registrar under the General Ordinance, which agreement shall be filed with the Fiscal Agent.

The Bond Registrar shall act as registrar and transfer agent for the Bonds. The City shall cause the Bond Registrar to designate, by a written notification to the Fiscal Agent, a specific office location at which the Bond Register is kept. The principal corporate trust office of the Fiscal Agent shall be such office in respect of the Bonds for which the Fiscal Agent is acting as Bond Registrar.

The Bond Registrar shall, in any case where it is not also the Fiscal Agent, forthwith following each regular record date and at any other time as reasonably requested by the Fiscal Agent, certify and furnish to the Fiscal Agent and any paying agent as the Fiscal Agent shall specify, the names, addresses, and holdings of Bondholders and any other relevant information reflected in the Bond Register, and the Fiscal Agent and any such paying agent shall for all purposes be fully entitled to rely upon the information so furnished to it and shall have no liability or responsibility in connection with the preparation thereof.

Interchangeability of Bonds

Fully registered Bonds, upon surrender thereof at the office of Bond Registrar with a written instrument of transfer satisfactory to the Bond Registrar, duly executed by the registered owner or his duly authorized attorney may at the option of the registered owner thereof, and upon payment by such registered owner of any charges, which the City or Bond Registrar may make, be exchanged for an equal aggregate principal amount of fully registered Bonds of the same Series, maturity and interest rate of any other authorized denominations.

Negotiability, Transfer and Registry

Fully registered Bonds shall be transferable only by the registered owner thereof in person or by his attorney duly authorized in writing, upon surrender thereof together with a written instrument of transfer satisfactory to the Bond Registrar duly executed by the registered owner or his duly authorized attorney. Upon the transfer of any such fully registered Bonds the City shall issue and the Bond Registrar shall execute in the name of the transferee a new fully registered Bond or Bonds of the same aggregate principal amount and Series, maturity and interest rate as the surrendered Bonds.

The City, the Fiscal Agent and any paying agent designated in the Bonds may deem and treat the person in whose name any Bond shall be registered in the Bond Register as the absolute owner of such Bond, whether such Bond shall be overdue or not, for the purpose of receiving payment of, or on account of, the principal and redemption price of and interest on such Bond and for all other purposes, and all such payments so made to any such registered owner or upon his order shall be valid and effectual to satisfy and discharge the liability upon such Bond to the extent of the sum or sums so paid, and neither the City, the Fiscal Agent nor any paying agent designated in the Bond shall be affected by any notice to the contrary.

Any consent, waiver or other action taken by the registered owner of any Bond pursuant to the provisions of the General Ordinance shall be conclusive and binding upon such Holder, his heirs, successors or assigns, and upon all transferees of such Bond whether, or not notation of such consent, waiver or other action shall have been made on such Bond or on any Bond issued in exchange therefor.

Regulations With Respect to Exchanges and Transfers

In all cases in which the privilege of exchanging Bonds or transferring registered Bonds is exercised, the City shall execute and deliver Bonds in accordance with the General Ordinance. All Bonds surrendered in any such exchanges or transfers shall forthwith be delivered to the Bond Registrar and cancelled or retained by the Bond Registrar. For every such exchange or transfer of Bonds, whether temporary or definitive, the City or the Bond Registrar may make a charge sufficient to reimburse it for any tax, fee or other governmental charge imposed by a governmental unit other than the City in connection with said exchange, transfer or registration and for any charge of insuring Bonds during the delivery thereof. Neither the City nor the Bond Registrar shall be required to transfer or exchange Bonds of any Series for a period of 20 days next preceding any selection of Bonds to be redeemed or thereafter until after the first mailing of any notice of redemption, or to transfer, exchange or register any Bonds called for redemption.

Coupon Bonds

The Act authorizes the Bonds to be issuable in coupon form. Notwithstanding such authorization pursuant to the Act, any Series of Bonds, the interest on which is excludable from gross income tax purposes, shall not be issued in coupon form unless the Fiscal Agent receives an opinion of Bond Counsel satisfactory to the Fiscal Agent to the effect that execution and delivery of Coupon Bonds will not adversely affect the exclusion of interest on such Series of Bonds from gross income for federal income tax purposes. Taxable Bonds may be issued in coupon form as provided by Supplemental Ordinance.

Credit Enhancement; Exchange Agreements; Qualified Swaps

As provided by Supplemental Ordinance or Determination relating to any Series of Bonds and subject to the requirements of the General Ordinance, the City may provide for a Credit Facility, Exchange Agreement or Qualified Swap with respect to any Series of Bonds.

Purpose of Bonds; Combination or Projects for Financing Purposes

The Bonds issued under the General Ordinance shall be issued for the purpose (i) of paying the costs of Projects (as such term is defined in the Act) relating to the System, (ii) of reimbursing any fund of the City from which such costs shall have been paid or advanced, (iii) of funding any of such costs for which the City shall have outstanding bond anticipation notes or other obligations, (iv) of refunding any Bonds or bonds of the City issued for the foregoing purposes or (v) of financing anything else relating to the System permitted under the Act. The water and wastewater systems of the City (referenced in the definition of "System" above) are combined as a Project for the purpose of capital financing but the separate accounts or subaccounts required by the Philadelphia Home Rule Charter shall be maintained within the funds and accounts established under the General Ordinance in accordance with the Philadelphia Home Rule Charter.

Pledge or Revenues; Grant of Security Interest; Limitation on Recourse

The City pledges, and assigns to the Fiscal Agent, its successors in trust and its assigns, for the security and payment of all Bonds (other than Subordinated Bonds) and grants to said Fiscal Agent, its successors in trust and its assigns, a lien on and security interest in (i) all Project Revenues and (ii) all amounts on deposit in or standing to the credit of the funds and accounts (other than the Rebate Fund) established in the General Ordinance together with interest earnings on amounts in such funds and accounts (other than the Rebate Fund). The Fiscal Agent shall hold and apply the security interest granted in the General Ordinance and the pledged revenues and funds described therein, in trust, for the equal and ratable benefit and security of all present and future Holders of Bonds (other than Subordinated Bonds) issued pursuant to the provisions of the General Ordinance and each Supplemental Ordinance, without preference, priority or distinction of any one Bond over any other Bond (other than Subordinated Bonds); provided however, that the pledge of the General 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 of 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.

For the purpose of compliance with the filing requirements of the Uniform Commercial Code in order to perfect the security interest granted by the General Ordinance, the Fiscal Agent shall be deemed to be, and the City recognizes the Fiscal Agent as, the representative of Bondholders to execute financing statements as the secured party.

Neither the Bonds nor the City's reimbursement or other contractual obligations under any Credit Facility, Qualified Swap or Exchange Agreement shall constitute a general indebtedness or a pledge of the full faith and credit of the City within the meaning of any constitutional or statutory provision or limitation of indebtedness. No Bondholder or beneficiary of any of the foregoing agreements shall ever have the right, directly or indirectly, to require or compel the exercise of the ad valorem taxing power of the City for the payment of the principal and redemption price of or interest on the Bonds or the making of any payments under the General Ordinance. The Bonds and the obligations evidenced thereby and by the foregoing agreements, shall not constitute a lien on any property of or in the City, other than the Project Revenues and amounts on deposit in or standing to the credit of the Water and Wastewater Funds and interest earnings on amounts in such funds.

Parity Bonds

All Bonds issued under the General Ordinance (other than Subordinated Bonds) shall be parity Bonds equally and ratably secured by the pledge of and grant of the security interest in the Project Revenues and the amounts on deposit in or standing to the credit of the funds and accounts (other than the Rebate Fund), together with interest earnings on amounts in such funds and accounts (other than the Rebate Fund) without preference, priority or distinction as to lien or otherwise, except as otherwise provided, of any one Bond over any other Bond or as between principal and interest.

The City reserves the right, and nothing in the General Ordinance shall be construed to impair such right, to finance improvements to the System by the issuance of its general obligation bonds or by the issuance, under ordinances other than Supplemental Ordinances, of water and/or wastewater revenue bonds or notes for the payment of which Project Revenues may be used or pledged subject and subordinate to the payment from such Project Revenues of the payments described below under "Transfers From Revenue Fund" and subject to the elimination of any deficiency in any fund or account established under the General Ordinance or under any Supplemental Ordinance.

Establishment of Funds and Accounts

The following funds and accounts are established by the General Ordinance and shall be held by the Fiscal Agent:

(a) Revenue Fund;

(b) Sinking Fund and within such Fund a Debt Service Account, a Charges Account and a Debt Reserve Account;

(c) Subordinated Bond Fund;

(d) Rate Stabilization Fund;

(e) Residual Fund and within such Fund a Special Water Infrastructure Account;

(f) Construction Fund, and within the Construction Fund, separate accounts designated as follows:

  (i) the Existing Projects Account, into which existing proceeds, if any, of revenue bonds heretofore issued under the Act in respect of the System shall be deposited,

  (ii) the Bond Proceeds Account, into which proceeds of Bonds issued under the General Ordinance shall be deposited, and

  (iii) the Capital Account;

(g) Rebate Fund.

Nothing in the General Ordinance shall be construed to prevent the City from establishing, in connection with the issuance of one or more Series of Bonds, additional funds or accounts to be held for the benefit of one or more Series of Bonds issued under the General Ordinance, as set forth in Supplemental Ordinances; provided that, no such additional funds or accounts shall be established unless,

in the opinion of Bond Counsel, establishment of additional funds or accounts would not adversely affect the exclusion of interest on Bonds, if any, from gross income for federal income tax purposes.

Segregation of Water and Wastewater Funds; Deposit of Project Revenues into Revenue Fund

(a) The Water and Wastewater Funds shall be held separate and apart from all other funds and accounts of the City and the Fiscal Agent and the funds and accounts therein shall not be commingled with, loaned or transferred among themselves or to any other City funds or accounts except as expressly permitted by the General Ordinance.

(b) The City shall cause all Project Revenues received by it on any date to be deposited into the Revenue Fund upon receipt thereof by the City and the Fiscal Agent shall, upon receipt of Project Revenues, deposit such Project Revenues into the Revenue Fund. The City and Fiscal Agent also shall cause to be deposited into the Revenue Fund such portion of proceeds of Bonds as designated by Supplemental Ordinance or Determination and any other funds directed to be deposited into the Revenue Fund by the City. The Fiscal Agent shall, at the written direction of the City, disburse from the Revenue Fund the amounts and at the times specified below under "Transfers From Revenue Fund."

(c) If at any time sufficient moneys are not available in the Revenue Fund to pay Operating Expenses and to make transfers required pursuant to the General Ordinance, then amounts on deposit in the Construction Fund, Rate Stabilization Fund and Residual Fund may be loaned temporarily, at the written direction of the City, to the Revenue Fund for the payment of such Operating Expenses to the extent of the deficiency, until such loaned amounts are required by the Water Department for purposes of the Fund making the loan. If a similar deficiency exists in the Construction Fund, amounts on deposit in the Revenue Fund, Rate Stabilization Fund and Residual Fund may be loaned temporarily, at the written direction of the City, to the Construction Fund, to the extent of the deficiency, until required by the Water Department for purposes of the Fund making the loan.

Transfers From Revenue Fund

Amounts on deposit in the Revenue Fund shall be applied by the Fiscal Agent, at the written direction of the City, in the following manner and in the following order of priority:

(a) to the City or its designees to pay such sums as are necessary to meet Operating Expenses in a timely manner;

(b) (i) on or before the dates that the principal or redemption price of and interest on Bonds (other than Subordinated Bonds) or payments under a Swap Agreement or Credit Facility are due, to deposit in the Debt Service Account of the Sinking Fund the amount necessary to provide for the timely payment of the principal or redemption price of and interest on such Bonds (other than Subordinated Bonds), any payments under any Swap Agreement and any amounts under a Credit Facility to repay advances thereunder to pay any of the foregoing, and (ii) on or before the dates that other payments are due under any Credit Facility with respect to Bonds (other than Subordinated Bonds) to deposit in the Charges Account of the Sinking Fund the amount necessary to make such payments;

(c) if the transfers in paragraphs (a) and (b) above are being made according to schedule, for deposit in the Debt Reserve Account, the amount, if any, required to eliminate any deficiency therein;

(d) if the transfers in paragraphs (a) and (b) above are being made according to schedule, and following any transfer required pursuant to paragraph (c) above, to deposit in any debt reserve account

established within the Sinking Fund and not held for the equal and ratable benefit of all Bonds (other than Subordinated Bonds), the amount, if any, required to eliminate any deficiency therein;

(e) if the transfers in paragraphs (a) and (b) above are being made according to schedule, and following any transfer then required to be made pursuant to paragraphs (c) and (d) above, to deposit in the Subordinated Bond Fund the amount necessary to provide for the timely payment of the principal or redemption price of and interest on Subordinated Bonds, and forward to the paying agent in respect of bond anticipation notes (payable by exchange for, or out of the proceeds of the sale of Subordinated Bonds) the amount necessary to provide for the timely payment of interest thereon (to the extent not capitalized);

(f) if the transfers in paragraphs (a) and (b) above are being made according to schedule, and following any transfer then required to be made pursuant to paragraphs (c), (d) and (e) above to pay to the City the amount necessary to provide for the timely payment of the principal or redemption price of and interest on General Obligation Bonds;

(g) if the transfers in paragraphs (a) and (b) above are being made according to schedule, and following any transfer then required to be made pursuant to paragraphs (c), (d), (e) and (f) above, to transfer to the Rate Stabilization Fund such amount as the Water Commissioner may determine, the first such determination to be made on the Effective Date and to include the balance on that date in the Renewal and Replacement Fund created under the Prior Ordinance and the unencumbered operating balance of the Water Department as of the end of the Fiscal Year immediately preceding the Effective Date;

(h) if the transfers in paragraphs (a) and (b) above are being made according to schedule, and following any transfer then required to be made pursuant to paragraphs (c) , (d) , (e), (f) and (g) above, to transfer to the Capital Account of the Construction Fund on June 20, of each Fiscal Year (or the first business day following June 20 if June 20 is not a business day) an amount equal to the sum of (i) the Capital Account Deposit Amount, (ii) the Debt Service Withdrawal for the preceding Fiscal Year and (iii) the Operating Expense Withdrawal for the preceding Fiscal Year, less any amounts transferred during the Fiscal Year to such Capital Account from the Residual Fund; and

(i) if the transfers in paragraphs (a) and (b) above are being made according to schedule, and following any transfer then required to be made pursuant to paragraphs (c), (d), (e), (f), (g) and (h) above and after providing for the repayment of any inter-Fund loans, to transfer as of June 30 of each year all remaining amounts to the Residual Fund.

Notwithstanding the foregoing, nothing in the General Ordinance shall prevent the City from directing the transfer of amounts on deposit in any fund or account established under the General Ordinance into the Rebate Fund in the amounts and at the times specified below under "Funds and Accounts — Rebate Fund."

Sinking Fund

The Sinking Fund is to be a consolidated fund for the equal and proportionate benefit of the Holders of all Bonds (other than Subordinated Bonds) from time to time Outstanding and each account therein may be invested and reinvested on a consolidated basis.

The Fiscal Agent, as directed by the City by Supplemental Ordinance, Determination or other written direction, shall pay out of the Debt Service Account of the Sinking Fund to the designated paying agent or agents (i) on or before each interest payment date for any of the Bonds (other than Subordinated

Bonds) the amount required for the interest payable on such date; and (ii) on or before each principal, redemption or prepayment date for any Bonds (other than Subordinated Bonds), the amount required for the principal, redemption or prepayment payable on such date, and (iii) on or before the respective due dates the amounts, if any, due under any Swap Agreements. Such amounts shall be applied by the designated paying agent or agents on the due dates thereof. The Fiscal Agent shall also pay out of the Debt Service Account of the Sinking Fund the accrued interest included in the purchase price of Bonds purchased for retirement and on or before the due dates any amounts owing by the City under any Credit Facility on account of advances to pay principal of or interest or redemption premium on Bonds (other than Subordinated Bonds).

Amounts accumulated in the Debt Service Account with respect to any Sinking Fund Installment (together with amounts accumulated therein with respect to interest on the Bonds for which such Sinking Fund Installment was established) if so directed by the City, shall be applied by the Fiscal Agent, on or prior to the 60th day preceding the due date of such Sinking Fund Installment, to the purchase of Bonds of the Series, maturity and interest rate within each maturity for which such Sinking Fund Installment was established. All purchases of Bonds pursuant to this provision shall be made at prices not exceeding the applicable sinking fund redemption price of such Bonds plus accrued interest, and such purchases shall be made by the Fiscal Agent as directed by the City. As soon as practicable after the 42nd day preceding the due date of any such Sinking Fund Installment, the Fiscal Agent shall proceed to call for redemption, by giving notice as provided in the General Ordinance, on such due date Bonds of the Series, maturity and interest rate within each maturity for which such Sinking Fund Installment was established (except in the case of Bonds maturing on a Sinking Fund Installment date) in such amount as shall be necessary to complete the retirement of the unsatisfied balance of such Sinking Fund Installment after making allowance for any Bonds purchased with moneys held in the Subordinated Bond Fund which the City has directed the Fiscal Agent to apply as a credit against such Sinking Fund Installment. The Fiscal Agent shall pay out of the Sinking Fund to the appropriate paying agent or agents, on or before such redemption date (or maturity date) the amount required for the redemption of the Bonds so called for redemption (or for the payment of such Bonds then maturing) and such amount shall be applied by such paying agent or agents to such redemption (or payment). All expenses in connection with the purchase or redemption of Bonds shall be paid by the City from Project Revenues.

In the event of the refunding of any Bonds, the Fiscal Agent shall, if the City so directs, withdraw from the Sinking Fund all, or any portion of, the amounts accumulated therein with respect to principal or interest on the Bonds being refunded and deposit such amounts with itself or another financial institution serving as escrow agent to be held for the payment of the principal or redemption price, if applicable, and interest on the Bonds being refunded; provided that such withdrawal shall not be made unless immediately thereafter the Bonds being refunded shall be deemed to have been paid as described below under "Deposit of Funds for Payment of Bonds." In the event of a refunding, the City may also direct the Fiscal Agent to withdraw from the Sinking Fund all, or a portion of, the amounts accumulated therein with respect to principal and interest on the Bonds being refunded and deposit such amounts in any fund or account established under the General Ordinance.

If any Bond shall not be presented for payment when the principal thereof becomes due, either at maturity or otherwise or at the date fixed for redemption thereof, if moneys sufficient to pay such Bond shall have been deposited with the Fiscal Agent, it shall be the duty of the Fiscal Agent to hold such moneys, without liability to the City, any Bondholder or any other person for interest thereon, for the benefit of the owner of such Bond. Notwithstanding the foregoing, any moneys in the Sinking Fund for the payment of the interest, principal or redemption premium of Bonds unclaimed for two (2) years after the due date shall be repaid to the City but such repayment shall not discharge the obligation, if any, for which such moneys were previously held in the Sinking Fund; provided, however, that such repayment

shall not be made unless, at the time of such repayment, there shall exist no deficiency in any fund or account established under the General Ordinance or any Supplemental Ordinance.

The Fiscal Agent shall pity out of the Charges Account to the appropriate payees any fees, expenses and other amounts due under any Credit Facility with respect to Bonds (other than Subordinated Bonds), to the extent such amounts are not paid from the Debt Service Account.

Credits Against Sinking Fund Installments

If at any time Bonds of any Series or maturity for which Sinking Fund Installments shall have been established are purchased or redeemed other than (i) from amounts accumulated in the Debt Service Account or (ii) Bonds deemed to have been paid as described under "Deposit of Funds for Payment of Bonds" below, and, with respect to such Bonds which have been deemed paid, irrevocable instructions have been given to the Fiscal Agent to redeem or purchase the same on or prior to the due date of the Sinking Fund Installment to be credited under this paragraph, the City may from time to time and at any time by written notice to the Fiscal Agent specify the portion, if any, of such Bonds so purchased, redeemed or deemed to have been paid and not previously applied as a credit against any Sinking Fund Installment which are to be credited against future Sinking Fund Installments. Such notice shall specify the amounts of such Bonds to be applied as a credit against such Sinking Fund Installment or Installments and the particular Sinking Fund Installment or Installments against which such Bonds are to be applied as a credit; provided, however that none of such Bonds may be applied as a credit against a Sinking Fund Installment to become due less than 42 days after such notice is delivered to the Fiscal Agent. All such Bonds to be applied as a credit shall be surrendered to the Fiscal Agent for cancellation on or prior to the due date of the Sinking Fund Installment against which they are being applied as a credit. The portion of any such Sinking Fund Installment remaining after the deduction of any such amounts credited toward the same (or the original amount of any such Sinking Fund Installment if no such amounts shall have been credited toward the same) shall constitute the unsatisfied balance of such Sinking Fund Installment for the purpose of calculation of Sinking Fund Installments due on a future date.

Debt Reserve Account

Unless otherwise provided in the applicable Supplemental Ordinance, the City is required, under direction of the Director of Finance, to deposit in the Debt Reserve Account from the proceeds of sale of each Series of Bonds issued under the General Ordinance, an amount which, when added to the Outstanding balance in the Debt Reserve Account, will be equal to the Debt Reserve Requirement immediately after the issuance of such Series of Bonds. The money and investments in the Debt Reserve Account shall be held and maintained in an amount equal at all times to the Debt Reserve Requirement provided that if the Supplemental Ordinance authorizing a Series of Bonds shall authorize the accumulation from Project Revenues of a reserve of such amount in respect of such Bonds over a period of not more than three Fiscal Years after the issuance and delivery of such Bonds, then the full payment of the annual deposits required under such Supplemental Ordinance will meet the Debt Reserve Requirements of the General Ordinance in respect of such Bonds.

If at any time and for any reason, the moneys in the Debt Service Account of the Sinking Fund are insufficient to pay as and when due, the principal of (and premium, if any) or interest on any Bond or Bonds or other obligations payable from the Debt Service Account then due (including under Swap Agreements and Credit Facilities), the Fiscal Agent is authorized and directed to withdraw from the Debt Reserve Account and pay over the amount of such deficiency for deposit in the Debt Service Account. If by reason of such withdrawal or for any other reason there shall be a deficiency in the Debt Reserve Account, the City covenants to restore such deficiency promptly from Net Revenues.

Any moneys in the Debt Reserve Account in excess of the Debt Reserve Requirement is required to be transferred to the Revenue Fund at the written direction of the City.

Notwithstanding the foregoing provisions, in lieu of the required deposits into the Debt Reserve Account, the City may cause to be deposited into the Debt Reserve Account a surety bond or an insurance policy payable to the Fiscal Agent for the account of the Bondholders and any Qualified Swap or an irrevocable letter of credit in an amount equal to the difference between the Debt Reserve Requirement and the remaining sums, if any, then on deposit in the Debt Reserve Account. The surety bond, insurance policy or letter of credit shall be payable (upon the giving of notice as required thereunder) on any interest payment date on which moneys will be required to be withdrawn from the Debt Reserve Account and applied to the payment of debt service on the Bonds and such withdrawal cannot be met by amounts on deposit in the Debt Reserve Account or provided from any other Fund under the General Ordinance. The insurer providing such surety bond or insurance policy shall be an insurer whose municipal bond insurance policies insuring the payment, when due, of the principal of and interest on municipal bond issues results in such issues being rated in not lower than the second highest rating category (without regard to rating subcategories) by either Moody's or S&P. The letter of credit issuer shall be a bank or trust company which is rated not lower than the second highest rating category (without regard to ratings sub-categories) by either Moody's or S&P. If a disbursement is made pursuant to a surety bond, an insurance policy or a letter of credit provided pursuant to this paragraph, the City shall be obligated either (i) to reinstate the maximum limits of such surety bond, insurance policy or letter of credit or (ii) to deposit into the Debt Reserve Account, funds in the amount of the disbursement made under such surety bond, insurance policy or letter of credit, or a combination of such alternatives, as shall provide that the amount in the Debt Reserve Account equals the Debt Reserve Requirement within a time period not longer than would be required to restore the Debt Reserve Account by operation of this provision and from the same source of funds as provided in the General Ordinance. Upon the occurrence of any reduction or suspension or any credit rating with respect to such surety bond, insurance policy or letter of credit (or the provider thereof) required by the General Ordinance, the City shall so notify the provider of the surety bond, insurance policy or letter of credit and prior to the effective date of such cancellation shall either provide a substitute surety bond, insurance policy or letter of credit meeting the above-described requirements or shall deposit cash in the Debt Reserve Account so that the amount in such Account shall equal the Debt Reserve Requirement. The Director of Finance may use funds already held in the Debt Reserve Account to purchase appropriate surety bonds or insurance policies for deposit in the Debt Reserve Account in lieu of some or all of the current cash or other deposits therein, which surety bonds or insurance policies shall satisfy the requirements described in this paragraph.

Subordinated Bond Fund

Subject to the third paragraph under this heading, the Fiscal Agent shall apply amounts in the Subordinated Bond Fund to the payment of the principal of, redemption premium, if any, and interest on Subordinated Bonds of a Series and to payments due under any Credit Facilities and Exchange Agreements with respect to Subordinated Bonds in accordance with the provisions of, and subject to the priorities and limitations and restrictions provided in, the Supplemental Ordinance and Determination authorizing such Series of Subordinated Bonds.

At any time and from time to time the City may deposit in the Subordinated Bond Fund for the payment of the principal of, redemption premium, if any, and interest on Subordinated Bonds amounts received from any source other than Project Revenues which is not inconsistent with the General Ordinance or any Supplemental Ordinance or Determination.

If at any time the amounts in the Sinking Fund shall be less than the current requirement of such fund pursuant to paragraphs (b) and (c) under "Transfers from Revenue Fund" above and there shall not

be on deposit in the Debt Reserve Account, the Capital Account or the Residual Fund available moneys sufficient to cure such deficiency, then the Fiscal Agent shall withdraw from the Subordinated Bond Fund and deposit in the Sinking Fund the amount necessary (or all the moneys in said fund, if less than the amount necessary) to eliminate such deficiency.

Any moneys in the Subordinated Bond Fund for the payment of the interest, principal or redemption premium of Subordinated Bonds unclaimed for two years after the due date are to be repaid to the City but such repayment shall not discharge the obligation, if any, for which such moneys were previously held in the Subordinated Bond Fund; provided, however, that such repayment shall not be made unless, at the time of such repayment, there shall exist no deficiency in any fund or account established under the General Ordinance or any Supplemental Ordinance.

Construction Fund

Proceeds of Bonds issued for capital purposes are to be deposited into the Bond Proceeds Account of the Construction Fund and disbursed according to established procedures of the City.

The Fiscal Agent shall on the Effective Date deposit in the Existing Projects Account proceeds of Prior Bonds as directed by a Supplemental Ordinance or Determination; deposit in the Bond Proceeds Account the proceeds of Bonds as directed by a Supplemental Ordinance or Determination; and deposit in the Capital Account any amounts transferred pursuant to paragraph (h) under "Transfers from Revenue Fund" above. Amounts in the Existing Projects Account and Bond Proceeds Account shall be applied as directed in writing by the City for purposes permitted by the Act and the Bonds and such other purposes as are permitted under the General Ordinance.

Amounts deposited in the Capital Account may be applied at the written direction of the City to (i) payments for the cost of renewals, replacements and improvements to the System; (ii) payments into the Sinking Fund or into the Subordinated Bond Fund to cure a deficiency in one of the foregoing; or (iii) the purchase of Bonds if a Consulting Engineer shall first have certified to the City that amounts remaining on deposit in the Capital Account following the proposed purchase of Bonds will be sufficient to pay the cost of renewals, replacement and improvements to the System projected to be payable during such Fiscal Year; provided, however, that no Bond shall be purchased at a price in excess of the principal amount and redemption price which would be applicable if the Bond were redeemed at the time such Bond was first subject to redemption.

As described in paragraph (c) under "Segregation of Water and Wastewater Funds; Deposit of Project Revenues into Revenue Fund" above, the General Ordinance requires that, if at any time sufficient moneys are not available for the payment of Operating Expenses, then amounts on deposit in the Capital Account may be used for the payment of Operating Expenses to the extent of the deficiencies.

Residual Fund

Amounts on deposit in the Residual Fund may be used at the written direction of the City (i) to pay Operating Expenses; (ii) to fund transfers to any fund or account established under the General Ordinance or under a Supplemental Ordinance (other than the Revenue Fund and the Rate Stabilization Fund); (iii) to make payments required under any Exchange Agreement; (iv) for the payment of principal, redemption premium, if any, and interest on any revenue bonds or notes (the proceeds of which were applied in respect of the System) issued under the Act but not under the General Ordinance; (v) for the payment of principal, redemption premium, if any, and interest on any General Obligation Bonds; (vi) for the payment of principal, redemption premium, if any, and interest on other general obligation debt issued in respect of the System; (vii) for the payment of amounts due under capitalized leases or similar

obligations relating to the System; and (viii) to fund a transfer to the City's "General Fund" in an amount not to exceed the lower of (A) all "Net Reserve Earnings" as defined below or (B) $4,994,000. "Net Reserve Earnings" shall mean the amount of interest earnings during the Fiscal Year on amounts in the Debt Reserve Account and the Subordinated Bond Fund less the amount of interest earnings during the Fiscal Year on amounts in any such reserve funds and accounts giving rise to a rebate obligation pursuant to Section 148(f) of the Code.

The General Ordinance provides that the City establish expenditure authority from the Residual Fund to enable it to pay Operating Expenses and the other items permitted by the General Ordinance. In the event that there is a substitution of appropriate surety bonds or insurance policies from some or all of the deposits held in the Debt Reserve Account, a transfer of resulting excess money in the Debt Reserve Account to the Revenue Fund and, following compliance with the provisions described under "Transfers From Revenue Fund" in this Appendix III, a transfer of remaining amounts of such excess to the Residual Fund, such remaining amount shall be deposited into the Special Water Infrastructure Account. Any amounts deposited in the Special Water Infrastructure Account may be used to finance water-related infrastructure projects.

Rate Stabilization Fund

Pursuant to the General Ordinance, as of the effective date of the General Ordinance and as of June 30 of each Fiscal Year, the City may transfer (i) from the Rate Stabilization Fund to the Revenue Fund or (ii) from the Revenue Fund to the Rate Stabilization Fund, the amount determined by the Water Commissioner to be transferred for such Fiscal Year.

Rebate Fund

(a) The General Ordinance provides that the Rebate Fund shall be maintained for so long as any Series of Bonds is Outstanding, and for 60 days thereafter (or such other period as may be specified by the Code and applicable regulations), for the purpose of paying to the United States Treasury the amount required to be rebated pursuant to Section 148(f) of the Code. All amounts in the Rebate Fund, including income earned from investment d amounts in the Rebate Fund, shall be held by the City free and clear of the lien created by the General Ordinance.

(b) Any moneys in the Rebate Fund are to be invested exclusively in Qualified Rebate Fund Securities and investment earnings are to be credited to the Rebate Fund. The City is required to maintain records of the date and amount of each deposit made into the Rebate Fund and of the investments made of such amounts, so that the investment earnings allocable to each deposit made into the Rebate Fund can be identified as if such deposits were made in segregated accounts; provided that the City may direct the Fiscal Agent in writing to commingle the amounts deposited into the Rebate Fund and shall not be required to segregate such deposits.

(c) The City is required to determine, or is required to retain a Financial Consultant to determine, within 30 days of the end of each Rebate Bond Year, the amount required to be rebated to the United States as described in Section 148(f) of the Code, as calculated from the date of original delivery of the related Series of Bonds. Such amount, less any amounts previously rebated to the United States as described in paragraph (e) below, is referred to as the "Required Rebate Fund Balance." To the extent that the amount on deposit in the Rebate Fund at the end of any Rebate Bond Year is in excess of the Required Rebate Fund Balance, such excess shall, at the direction of the Director of Finance, be transferred to the Sinking Fund. To the extent that the amount on deposit in the Rebate Fund at the end of any Rebate Bond Year is less than the Required Rebate Fund Balance, the City shall deposit an amount equal to such deficiency into the Rebate Fund. Notwithstanding the foregoing, under the General Ordinance the City is

not required to determine the Required Rebate Fund Balance, except as required in connection with making the payments to the United States Treasury as described in paragraph (e) below, if during the preceding Rebate Bond Year there have been no investments made of amounts on deposit in any fund or account established under the General Ordinance or of Bond proceeds on deposit in other funds or accounts in "non-purpose investments" (as defined in Section 148(f)(6) of the Code) having a yield higher than the yield on the related Series of Bonds.

(d) The City is required to direct the Fiscal Agent in writing to withdraw from the Rebate Fund and pay over to the United States Treasury (1) not less frequently than once each five years after the date of issuance of a Series of Bonds, an amount, as determined by the City or a Financial Consultant, equal to 90% of the Required Rebate Fund Balance and (2) not later than 60 days after the retirement of the last Bond of a Series, 100% of the Required Rebate Fund Balance with respect to such Series.

(e) The City or the Fiscal Agent, as the case may be, is required to retain records of the determinations of the amounts required to be deposited in the Rebate Fund, of the proceeds of any investments of moneys in the Rebate Fund, and of the amounts paid to the United States, until the date six years after the retirement of the last of the Bonds Outstanding.

(f) The provisions regarding the Rebate Fund may be amended or deleted from the General Ordinance without any further action of the City Council, upon receipt by the City of an opinion of Bond Counsel that such amendment or deletion will not adversely affect the exemption of interest on a Series of Bonds from Federal income tax. Any moneys on deposit in the Rebate Fund shall be transferred to the Sinking Fund to the extent permitted by any such opinion.

Management of Funds and Accounts

The General Ordinance provides that the moneys on deposit in the funds and accounts established under the General Ordinance, to the extent not currently required, shall be invested and secured as required by Section 9 of the Act, all at the direction and under the management of the Director of Finance or such other chief fiscal officer of the City as may hereinafter be established.

Investment of Funds and Accounts

All moneys deposited in any fund or account established under the General Ordinance or under any Supplemental Ordinance may be invested by the City or by the Fiscal Agent, at the oral or written direction of the City, in any investments permitted by law (except as otherwise provided in the General Ordinance with respect to the Debt Reserve Account and Rebate Fund); provided that any investments with respect to amounts on deposit in the funds (other than the Debt Reserve Account) and accounts established under the General Ordinance shall mature or shall be subject to redemption by the holder thereof upon demand at par no later than the date when such amounts are needed for the purposes of such funds or accounts. Interest earnings on amounts on deposit (i) in the Revenue Fund are to be credited to the Revenue Fund; (ii) in the Sinking Fund (except as provided in (iii) below) are to be credited to the Sinking Fund to the extent needed to meet Debt Service Requirements in respect of Bonds (other than Subordinated Bonds) and additional interest earnings shall be credited to the Revenue Fund; (iii) in the Debt Reserve Account shall be credited to the Debt Reserve Account until such account is fully funded and shall then be credited to the Residual Fund up to the maximum amount to be transferred to the City's General Fund and any excess is to then be transferred to the Revenue Fund; (iv) in the Subordinated Bond Fund are to be credited to the Subordinated Bond Fund to the extent needed to meet Debt Service Requirements in respect of Subordinated Bonds and additional interest earnings shall be credited to the Revenue Fund or to such other fund or account established under the General Ordinance as the City may direct pursuant to a Supplemental Ordinance; (v) in the Residual Fund, shall be credited to the Residual

Fund; (vi) in the Rate Stabilization Fund shall be credited to the Revenue Fund; (vii) in the Construction Fund shall be credited to the appropriate account of the Construction Fund or to the Revenue Fund, as the City shall direct; and (viii) in the Rebate Fund shall be credited to the Rebate Fund.

Valuation of Funds and Accounts

In computing the assets of any fund or account established under the General Ordinance, investments and accrued interest thereon are to be deemed a part thereof. Such investments shall be valued on June 30 of each Fiscal Year at the lower of the cost or current market value thereof if the applicable maturity is more than one year and at par if the applicable maturity is equal to or less than one year plus accrued interest, or at the redemption price thereof, if then redeemable at the option of the holder; provided that investments in any reserve fund or reserve account of the Sinking Fund established pursuant to a Supplemental Ordinance may be valued as provided in the Supplemental Ordinance establishing it. The annual valuation is to apply for all purposes of the General Ordinance except if Bonds are issued or a fund deficit occurs based on the annual valuation, in which cases a valuation is to be made on the date Bonds are issued or the deficit is eliminated, as the case may be.

Covenants of the City

Rate Covenant: Pursuant to the General Ordinance, the City covenants with the Bondholders that it will, at a minimum, impose, charge and collect in each Fiscal Year such water and wastewater rents, rates, fees and charges as shall yield Net Revenues which shall be equal to at least 1.20 times the Debt Service Requirements for such Fiscal Year (recalculated to exclude therefrom principal and interest payments in respect of Subordinated Bonds); provided that such water and wastewater rents, rates, fees and charges shall yield Net Revenues which shall be at least equal to 1.00 times (i) the Debt Service Requirements for such Fiscal Year (including Debt Service Requirements in respect of Subordinated Bonds); (ii) amounts required to be deposited into the Debt Reserve Account during such Fiscal Year; (iii) the principal or redemption price of and interest on General Obligation Bonds payable during such Fiscal Year; (iv) debt service requirements on Interim Debt payable during such Fiscal Year; and (v) the Capital Account Deposit Amount for such Fiscal Year (less any amounts transferred from the Residual Fund to the Capital Account during such Fiscal Year). In estimating debt service requirements on any Interim Debt for the purposes of projecting compliance with this covenant, the City is entitled to assume that (i) such Interim Debt will be amortized over a period of up to the maximum term permitted by the Act, provided however, such period shall not be in excess of the useful life of the assets to be financed, on an approximately level debt service basis and bear interest at the average interest rate on bonds of a similar maturity and credit rating (without any credit enhancement) as the Bonds outstanding under the General Ordinance. Promptly upon any material change in the circumstances which were contemplated at the time such rents, rates, fees and charges were most recently reviewed, but not less frequently than once in each Fiscal Year, the City is required to review the rents, rates, fees and charges as necessary to enable the City to comply with the foregoing requirements; provided that such rents, rates, fees and charges shall in any event produce moneys sufficient to enable the City to comply with its covenants in the General Ordinance.

In estimating Debt Service Requirements on any Variable Rate Bonds for purposes of projecting compliance with this covenant or funding the Debt Reserve Account, the City is entitled to assume that such Variable Rate Bonds will bear interest at a rate equal to (i) the average interest rate on the Variable Rate Bonds during the period of 24 consecutive calendar months preceding the date of calculation or (ii) if the Variable Rate Bonds were not Outstanding during the entire 24-month period, the average interest rate on the Variable Rate Bonds since their date of issue or (iii) such other rate as may be specified in a Supplemental Ordinance or Determination.

Pursuant to the General Ordinance, the City represents that it has, by its Code of General Ordinances, as amended, authorized the imposition of rents, rates, fees and charges by the Water Department sufficient from time to time to comply with the Rate Covenant and covenants with the Holders of Bonds that it will not repeal or materially adversely dilute or impair such authorization.

Timely Payment of Principal, Redemption Premium and Interest: Pursuant to the General Ordinance, the City covenants with the Holders of all Bonds Outstanding under the General Ordinance that so long as such Bonds shall remain Outstanding it will pay or cause the Fiscal Agent or a paying agent to pay from the Project Revenues deposited in the Sinking Fund and the Subordinated Bond Fund the principal of, redemption premium, if any, and interest on all Bonds as the same shall become due and payable and as more particularly set forth in the Bonds and to pay the amounts due with respect to any and all Credit Facilities (including the reimbursement agreement or similar related agreement) and Qualified Swaps.

Operation of System: Pursuant to the General Ordinance, the City covenants with the Holders of all Bonds Outstanding under the General Ordinance that so long as such Bonds shall remain Outstanding it will continuously maintain the System or cause the System to be maintained in good condition and will continuously operate the System or cause the System to be operated.

Conditions of and Provisions Relating to Issuing Bonds: The City covenants with the Holders of all Bonds Outstanding under the General Ordinance that so long as any such Bonds shall remain Outstanding it will not issue any Series of Bonds under the General Ordinance without first complying with certain conditions stated in the General Ordinance including, without limitation, (a) the enactment of a Supplemental Ordinance, (b) the filing with the Fiscal Agent of a transcript of the proceedings relating to the issuance of such Series of Bonds, (c) the delivery to the City Council of a Consulting Engineer's Report, (d) the filing with the Fiscal Agent of certain opinions of counsel and (e) the execution of appropriate documents.

The Consulting Engineer's Report referred to in the preceding paragraph shall state that the Net Revenues are currently sufficient to comply with the Rate Covenant and are projected to be sufficient to comply with the Rate Covenant for each of the two Fiscal Years following the Fiscal Year in which the Bonds are to be issued; provided that if interest on such Bonds or a portion thereof has been capitalized, the projection shall extend to the two Fiscal Years following the Fiscal Year up to which interest has been capitalized on the Bonds or a portion thereof.

The General Ordinance provides that upon compliance with the conditions enumerated in the preceding paragraph and unless otherwise provided in the applicable Supplemental Ordinance or Determination, accrued interest on Bonds (other than Subordinated Bonds) shall be deposited in the Sinking Fund, accrued interest on Subordinated Bonds shall be deposited in the Subordinated Bond Fund, an amount sufficient to satisfy the requirements concerning the Debt Reserve Account shall be deposited in the Debt Reserve Account and the balance of the proceeds of the Bonds shall be deposited in the Bond Proceeds Account of the Construction Fund and shall be disbursed therefrom, in accordance with established procedures of the City; provided, however, that if such Bonds shall be issued for the purpose of funding or refunding Bonds previously issued by the City such proceeds shall, unless otherwise directed by the Supplemental Ordinance, be deposited in a special fund or account to be established with and held by the Fiscal Agent or another entity acting as an escrow agent and invested (if appropriate) and disbursed under the direction of the Director of Finance for the purpose of retiring the Bonds being funded or refunded.

Refunding Bonds

If the City shall, by Supplemental Ordinance, authorize the issuance of refunding Bonds pursuant to Section 10 of the Act, in the absence of specific direction or inconsistent authorization in the Supplemental Ordinance, the Director of Finance is authorized in the name and on behalf of the City to take all such action, including the irrevocable pledge of proceeds and the income and profit from the investment thereof for the payment and redemption of the funded or refunded Bonds, bonds or notes and, if there shall have been provided a Qualified Swap with respect to the Bonds to be refunded, provision for the payment, if any, of all amounts due and payable by the City under such Qualified Swap, and including the publication of all required redemption notices or the giving of irrevocable instructions therefor, as may be necessary or appropriate to accomplish the funding or refunding and to comply with the requirements of Section 10 of the Act.

Subordinated Bonds

The City may, at any time, or from time to time, issue Subordinated Bonds for any purpose permitted under the General Ordinance and under the Act. Subordinated Bonds shall be payable out of, and may be secured by a security interest in and a pledge and assignment of, Project Revenues and amounts on deposit in the Subordinated Bond Fund; provided, however, that any such security interest in and pledge and assignment of Project Revenues and amounts on deposit in the Subordinated Bond Fund shall be, and shall be expressed to be, subordinate in all respects to the security interest in, and pledge and assignment of, the Project Revenues and the amounts on deposit in the funds and accounts (other than the Rebate Fund but including the Subordinated Bond Fund) established under the General Ordinance for the security of the Bonds (other than Subordinated Bonds).

Annual Reports

The City covenants with the Holders of all Bonds Outstanding under the General Ordinance that so long as such Bonds shall remain Outstanding it will, within 120 days following the close of each Fiscal Year of the City or as soon thereafter as is practicable (not exceeding 150 days following the close of each Fiscal Year), file with the Fiscal Agent a report of the operation of the System, setting forth, among other things, in reasonable detail financial data concerning, and consolidated for, the water and wastewater components of the System for such Fiscal Year, including a balance sheet and a statement of income, expenses, and surplus (in each case not inconsistent with the statement of income, expenses, and other accounts of the City audited by the City Controller) prepared by the Water Department in accordance with generally accepted accounting principles consistently applied, showing compliance with the Rate Covenant, accompanied by a certificate of the Water Commissioner that the water and wastewater components of the System are in good operating condition and by a certificate of the Director of Finance that as of the date of such report the City has complied with all of the covenants in the General Ordinance and in all Supplemental Ordinances on its part to be performed. Such report shall be furnished to the Fiscal Agent in such reasonable number of copies as shall be required to meet the written requests of Bondholders therefor on a first come first served basis.

Disposition of Insurance Proceeds and Proceeds from the Sale of Assets

In the event that any assets of the System are destroyed or the City shall sell any assets of the System (except in the event of the sale or transfer of all or substantially all of the assets of the System to a municipal authority), the City shall, if the insurance proceeds or the proceeds from the sale of assets exceed 1.5% of the depreciated value of property, plant and equipment of the System, as shown on the financial statements of the City for the preceding Fiscal Year, apply such amounts, at the direction .of the Director of Finance or such other chief fiscal officer of the City as may hereinafter be established (i) to

the retirement of the principal amount of debt incurred in respect to the System; (ii) to the reconstruction, repair or replacement of assets of the System; or (iii) to the making of capital additions or improvements to the System.

Bonds Not to Become Arbitrage Bonds

The General Ordinance provides that the City covenants for the benefit of the Bondholders that, notwithstanding any other provision of the General Ordinance or any other instrument, it will neither make nor instruct the Fiscal Agent to make any investment or other use of amounts on deposit in the funds and accounts established by the General Ordinance or other proceeds of the Bonds which would cause any Series of Bonds issued under the General Ordinance as tax-exempt to be arbitrage bonds under Section 148 of the Code and the regulations thereunder to the extent that the same are applicable at the time of such investment; it will file any reports required to be filed pursuant to the Code; and it will not take or fail to take any action so as to render any Series of Bonds issued under the General Ordinance as tax-exempt to be arbitrage bonds under Section 148 of the Code.

Prohibition Against Certain Uses of Funds; Enforcement

(a) The City covenants that while any Bonds are Outstanding under the General Ordinance, it will not direct the Fiscal Agent to transfer, loan or advance proceeds of the Bonds or Project Revenues from the Water and Wastewater Funds to any City account for application other than for Water Department purposes.

(b) If, on any date when a deposit is required to be made of the Project Revenues, the City fails to comply with any provision of the General Ordinance, the Fiscal Agent is authorized to and shall seek, by mandamus or other suit, action or proceeding at law or in equity, the specific enforcement or performance of the obligation of the City to cause the Project Revenues to be transferred to the Revenue Fund, and shall have any and all other rights and remedies of a fiscal agent under the General Ordinance, any Supplemental Ordinance, the Act or otherwise at law or in equity.

Credit Facilities and Qualified Swaps

All or any of the foregoing covenants of the City for the benefit of the Bondholders may also be for the benefit of the providers of any Credit Facility and any Qualified Swap to the extent provided in a Supplemental Ordinance or Determination.

Bonds May Be Subject to Redemption

Bonds of any Series may be subject to either optional or mandatory redemption at the times, in the order, in the amounts, at the redemption prices, and under such terms, conditions and restrictions, ail as may be set forth in the Supplemental Ordinance authorizing the issuance of such Series of Bonds or in the Determination relating to such Series of Bonds or, in the absence of such provisions, as may be set forth in the Bonds of such Series, at the direction of the Director of Finance. Notwithstanding or in limitation of the foregoing, a Supplemental Ordinance or Determination for a Series of Bonds may contain provisions for optional redemption of a Series of Bonds which may be retained by the City as a call option or may be held by the City or sold simultaneously with such Series of Bonds or at future dates as determined by such Supplemental Ordinance or Determination.

Effect of Redemption, Payment

Upon compliance with certain notice requirements stated in the General Ordinance, or upon irrevocable instructions to give such notice having been delivered to the Fiscal Agent, irrevocable instruction having been delivered to the Fiscal Agent to pay said Bonds or portions thereof and to pay the amount, if any, due and payable under any Qualified Swap related to said Bonds, and funds having been deposited in the Sinking Fund or the Subordinated Bond Fund (as the case may be) prior to the date fixed for redemption, the Bonds or portions thereof so called for redemption shall become due and payable on the redemption date so designated, and interest on such Bonds or portions thereof shall cease from such redemption date, whether such Bonds be presented for redemption or not. The principal amount of all Bonds or portions thereof so called for redemption, together with the premium, if any, and accrued interest thereon, shall be paid by the Fiscal Agent or any other paying agent designated in the Bonds, upon presentation and surrender thereof in negotiable form.

Partial Redemption

Upon presentation of any Bond which is to be redeemed in part only, the City and the Fiscal Agent shall execute and deliver to the Holder thereof, at the expense of the City, a new Bond or Bonds of authorized denominations in a principal amount equal to and of the same Series and maturity as the unredeemed portion of the Bond or Bonds so presented.

Fiscal Agent

The Fiscal Agent under the Prior Ordinance or its successor, shall be Fiscal Agent as of the Effective Date for the General Ordinance. The City may appoint a successor Fiscal Agent by Supplemental Ordinance to act as Fiscal Agent under the General Ordinance, and in connection with the Bonds issued under the General Ordinance. The Fiscal Agent shall also act as depository of the Sinking Fund and the Subordinated Bond Fund, and may act as paying agent and bonds registrar.

Nothing in the General Ordinance is to be construed to prevent the City, in accordance with law, from engaging other Fiscal Agents from time to time or to engage other paying agents of the Bonds or any Series thereof in addition to, or as a successor to the Fiscal Agent. Any entity appointed by the City as Fiscal Agent under the General Ordinance shall be a trust company or national or state bank having trust powers and combined capital and surplus of at least million $50,000,000 and be qualified to serve pursuant to the Act. Any entity appointed by the City as Fiscal Agent under the General Ordinance as a successor to the Fiscal Agent shall assume all rights and obligations of the Fiscal Agent under the General Ordinance.

Subject to the foregoing, the General Ordinance provides that the proper officers of the City are authorized to enter into contracts or to confirm existing agreements governing the maintenance of funds and accounts and records, the disposal of cancelled Bonds, the rights, duties, privileges and immunities of the Fiscal Agent, and such other matters as are authorized by the Act and as are customary and appropriate and to confirm the agreement of the Fiscal Agent, in its several capacities, to comply with the provisions of the Act and of the General Ordinance.

The Fiscal Agent shall keep on file a copy of each report and its accompanying certificates delivered to it pursuant to the General Ordinance for a period of ten years and shall exhibit the same to, and permit the copying thereof by, any Bondholder or his authorized representative at all reasonable times.

Resignation of Fiscal Agent

The Fiscal Agent may resign and be discharged of the duties created by the General Ordinance by written resignation filed with the Director of Finance not less than 60 days before the date when such resignation is to take effect. Such resignation shall take effect on the day specified in such notice provided that a successor Fiscal Agent is appointed. If a successor Fiscal Agent is appointed prior to the date specified in the notice, the resignation shall take effect immediately on the appointment of such successor, and the City shall give the required notices described under "Appointment of Successor Fiscal Agent" below.

Appointment of Successor Fiscal Agent

If the Fiscal Agent or any successor Fiscal Agent resigns, is replaced, or is dissolved or if its property or business is taken under the control of any state or federal court or administrative body, a vacancy shall exist in the office of the Fiscal Agent, and the City shall appoint a successor within 30 days of such vacancy and shall mail notice of such appointment to the Bondholders and to the registered depositories at their registered addresses by first class mail, postage prepaid, within 30 days of such appointment.

Defaults and Statutory Remedies; Notice to Bondholders

If the City shall fail or neglect to pay or to cause to be paid the principal of, redemption premium, if any, or interest on any Bond or any Series of Bonds issued under the General Ordinance, whether at stated maturity or upon call for prior redemption, or if the City, after written notice to it, shall fail or neglect to make any payment owed by it as a result of a Credit Facility or Qualified Swap entered into with respect to Bonds and the provider of the Credit Facility or the Qualified Swap Provider provides written notification to the Fiscal Agent of such failure or neglect, or if the City shall fail to comply with any provision of any Bonds or with any covenant of the City contained in the General Ordinance, then, under and subject to the terms and conditions stated in the Act, the Holder or Holders of any Bond or Bonds shall be entitled to all of the rights and remedies, including the appointment of a trustee, provided in the Act; provided, however, that the remedy provided in Section 20(b)(4) of the Act may be exercised only upon the failure of the City to pay, when due, principal and redemption price (including principal due as a result of a scheduled mandatory redemption) and interest on a Series of Bonds.

Upon the occurrence of the event of default described above, or if an event occurs which could lead to a default with the passage of time and of which the Fiscal Agent has notice, the Fiscal Agent is required to, within 30 days, give written notice thereof by first-class mail to all Bondholders.

Remedies Not Exclusive; Effect of Delay in Exercise of Remedies

No remedy contained in the General Ordinance or in the Act conferred upon or reserved to the trustee, if any, or to the Holder of any Bond is intended to be exclusive (except as specifically provided in the Act) of any other remedy or remedies, and each and every such remedy shall be cumulative, and shall be in addition to every other remedy given under the General Ordinance or now or hereafter existing at law or in equity or by statute.

No delay or omission of a trustee, if one be appointed pursuant to Section 20 of the Act, or of any Holder of the Bonds to exercise any right or power accruing upon any default shall impair any such right or power or shall be construed to be a waiver of any such default, or an acquiescence therein; and every power and remedy provided with respect to an event of default under the General Ordinance, by the Act or otherwise may be exercised from time to time, and as often as may be deemed expedient.

Remedies to be Enforced Only Against Project Revenues

Any decree or judgment for the payment of money against the City by reason of default under the General Ordinance shall be enforceable only against the Project Revenues and the investments thereof and amounts on deposit in the funds and accounts (other than the Rebate Fund) established under the General Ordinance, and no decree or judgment against the City upon an action brought under the General Ordinance shall order or be construed to permit the occupation, attachment, seizure, or sale upon execution of any other property of the City.

Conveyance of System and Assignment, Assumption and Release

The General Ordinance provides that nothing in the General Ordinance is to prevent the City from conveying and assigning to a municipal authority created pursuant to the Municipality Authorities Act of 1945, as amended, or an authority created pursuant to any other applicable statute or to another entity (the "Authority") all or substantially all (or less than substantially all, as provided below) of its right, title and interest in the System and thereupon becoming released from all of its obligations under the General Ordinance, under any Supplemental Ordinance and under the Bonds and related obligations, including, but not limited to, Credit Facilities, Qualified Swaps and Exchange Agreements, (i) if the Authority assumes in writing the City's obligations (1) to operate or cause the System to be operated and to maintain or cause the System to be maintained in good condition; and (2) to pay the principal, redemption premium, if any, and interest on all Bonds issued, and all payments due under Credit Facilities, Qualified Swaps and Exchange Agreements entered into, pursuant to the General Ordinance and then outstanding according to the terms thereof; and (ii) if the instrument of assumption provides the Bondholders or the trustee or entity serving in a similar capacity and acting on behalf of the Bondholders with the substantial equivalent of all of the rights and remedies provided in the General Ordinance and the Act; provided, however, that before the City may consummate such a conveyance and assignment and obtain a release of its obligations under the General Ordinance, under any Supplemental Ordinance and under the Bonds, certain conditions are required to have been satisfied, including, without limitation, (a) the receipt by the City and the Fiscal Agent of certain opinions of counsel, (b) the granting of a security interest by the Authority to the trustee or entity serving in a similar capacity on behalf of the Bondholders, (c) a report of a Consulting Engineer detailing, among other things, continued compliance with covenants relating to Debt Service Requirements and (d) the conveyance and assignment to the Authority of amounts in the funds and accounts established under the General Ordinance. Upon a conveyance of all or substantially all of the assets of the System to the Authority, the General Ordinance provides that the provisions of the General Ordinance are to cease being enforceable against the City.

Amendments and Modifications

In addition to the enactment of Supplemental Ordinances supplementing or amending the General Ordinance in connection with the issuance of successive Series of Bonds, the General Ordinance provides that the General Ordinance and any Supplemental Ordinance may be further supplemented, modified or amended: (a) to cure any ambiguity, formal defect or omission therein or to make such provisions in regard to matters or questions arising thereunder which shall not be inconsistent with the provisions thereof and which shall not adversely affect the interests of Bondholders; (b) to grant to or confer upon Bondholders, or a trustee, if any, for the benefit of Bondholders any additional rights, remedies, powers, authority, or security that may be lawfully granted or conferred; (c) to incorporate modifications requested by any Rating Agency to obtain or maintain a credit rating on any Series of Bonds; (d) to comply with any mandatory provision of state or federal law or with any permissive provision of such law or regulation which does not substantially impair the security or right to payment of the Bonds but no amendment or modification shall be made with respect to any Outstanding Bonds to alter the amount, rate or time of payment, respectively, of the principal thereof or the interest thereon or to alter the redemption

provisions thereof without the written consent of the Holders of all affected Outstanding Bonds; and (e) except as aforesaid, in such other respect as may be authorized in writing by the Holders of 67% in principal amount or Original Value in the case of Capital Appreciation Bonds of the Bonds Outstanding and affected. In the case of a Credit Facility or Qualified Swap, if and to the extent provided in the Supplemental Ordinance and Determination of Bonds related thereto, the provider thereof may be the representative of the Bondholders of such Series or portion of such Series for purposes of Bondholder consent, approval or authorization. The written authorization of Bondholders of any supplement to or modification or amendment of the General Ordinance or any Supplemental Ordinance need not approve the particular form of any proposed supplement, modification or amendment but only the substance thereof. Bonds, the payment for which has been provided for upon the redemption thereof, are to be deemed to be not Outstanding.

Deposit of Funds for Payment of Bonds

When interest on, and principal or redemption price (as the case may be) of, all Bonds issued under the General Ordinance, and all amounts owed under any Credit Facility, Qualified Swap and Exchange Agreement entered into under the General Ordinance, have been paid, or there shall have been deposited with the Fiscal Agent or an entity which would qualify as a Fiscal Agent under the General Ordinance an amount, evidenced by moneys or Qualified Escrow Securities the principal of and interest on which, when due, will provide sufficient moneys to fully pay the Bonds at the maturity date or date fixed for redemption thereof, and all amounts owed under any Credit Facility, Qualified Swap and Exchange Agreement entered into under the General Ordinance, the pledge and grant of a security interest in the Project Revenues made under the General Ordinance shall cease and terminate, and the Fiscal Agent and any other depository of funds and accounts established under the General Ordinance shall turn over to the City or to such person, body or authority as may be entitled to receive the same all balances remaining in any such funds and accounts established under the General Ordinance.

If the City deposits with the Fiscal Agent or such other qualified entity moneys or Qualified Escrow Securities sufficient to pay the principal or redemption price of any particular Bond or Bonds becoming due, either at maturity or by call for redemption or otherwise, together with all interest accruing thereon to the due date, interest on the Bond or Bonds shall cease to accrue on the due date and all liability of the City with respect to such Bond or Bonds shall likewise cease, except as provided in the following paragraph. Thereafter such Bond or Bonds shall be deemed not to be outstanding under the General Ordinance and shall have recourse solely and exclusively to the funds so deposited for any claims of whatsoever nature with respect to such Bond or Bonds, and the Fiscal Agent or such other qualified entity shall hold such funds in trust for such Holder or Holders.

Moneys deposited with the Fiscal Agent or such other qualified entity pursuant to the preceding paragraphs which remain unclaimed two years after the date payment thereof becomes due shall, upon written request of the City, if the City is not at the time to the knowledge of the Fiscal Agent or such other qualified entity (the Fiscal Agent having no responsibility to independently investigate), in default with respect to any covenant in the General Ordinance or the Bonds contained, be paid to the City; and the Holders of the Bonds for which the deposit was made shall thereafter be limited to a claim against the City; provided, however, that before making any such payment to the City, the Fiscal Agent or such other qualified entity shall, at the expense of the City, publish in a newspaper of general circulation published in Philadelphia, Pennsylvania, a notice that said moneys remain unclaimed and that, after a date named in said notice, which date shall be not less than 30 days after the date of publication of such notice, the balance of such moneys then unclaimed will be paid to the City.

The provisions regarding the deposit of funds for the payment of Bonds stated above are not be construed to limit the procedure set forth in Section 10 of the Act for calculating the principal or

redemption price of and interest on any Bonds for the purpose of ascertaining the sufficiency of revenues for the purpose of Sections 7(a)(5) and 8(a) (iii) of the Act and for the purpose of determining the outstanding net debt of the City if General Obligation Bonds of the City are refunded pursuant to the Act.

Maintenance of Tax Exempt Status of Bonds

No deposit of funds for the payment of bonds shall be made if, in the opinion of Bond Counsel, such action shall cause the interest on any Series of Bonds initially issued as tax exempt Bonds, to become subject to Federal income tax.

Nothing contained in the General Ordinance shall require any Series of Bonds to be structured so that interest on such Bonds will be excluded from income of the Holders thereof for the purpose of calculating Federal income tax; provided that the provisions contained in the General Ordinance are satisfied.

Interested Parties

The General Ordinance provides that nothing in the General Ordinance expressed or implied is intended or is to be construed to confer upon, or to give to, any person or corporation, other than the City, the Owners of the Bonds, the Fiscal Agent, each provider of a Credit Facility, and Qualified Swap, Standby Agreement and Remarketing Agreement, any right, remedy or claim under or by reason of the General Ordinance or any covenants, condition or stipulation thereof; and all the covenants, stipulations, promises and agreements in the General Ordinance contained by and on behalf of the City shall be for the sole and exclusive benefit of the City, the Fiscal Agent, the Owners of the Bonds, each provider of a Credit Facility, Qualified Swap, Standby Agreement and Remarketing Agreement.

Ordinances are Contracts With Bondholders

The General Ordinance and Supplemental Ordinances adopted pursuant to the General Ordinance are contracts with the Holders of all Bonds from time to time Outstanding thereunder and are enforceable in accordance with the provisions of the General Ordinance and the laws of Pennsylvania.

Effectiveness

The General Ordinance provides that it is to become effective as to the holders of Bonds only upon consent in writing of the owners of not less than 67% in principal amount of all Bonds outstanding at the time of such consent.

THE ELEVENTH SUPPLEMENTAL ORDINANCE

The Series 2009 Bonds will be issued under and are subject to the Eleventh Supplemental Ordinance which supplements the provisions of the General Ordinance. Reference is made to the Eleventh Supplemental Ordinance and the General Ordinance, which provide more complete details of the terms of the Series 2009 Bonds. All capitalized and defined terms used in the following summary of the Eleventh Supplemental Ordinance which are not otherwise defined in this Official Statement are defined as in the General Ordinance.

The Eleventh Supplemental Ordinance was enacted pursuant to The First Class City Revenue Bond Act of October 18, 1972, Act No. 234, as amended (the "Act") and constitutes a Supplemental Ordinance enacted for the purpose of authorizing one or more Series of Bonds within the meaning of the General Ordinance, as amended and supplemented.

The Eleventh Supplemental Ordinance authorizes the Bond Committee, or a majority of them, on behalf of the City of Philadelphia (the "City"), to borrow, from time to time, by the issuance and sale of one or more series or subseries of Bonds, a sum or sums which in aggregate principal amount of the Series 2009 Bonds shall not exceed three hundred twenty-five million dollars ($325,000,000), exclusive of original issue discount, and in the event the Bonds are issued with original issue discount, the Bond Committee, or a majority of them, is authorized to increase the aggregate principal amount of the Bonds so issued, by the amount of such original issue discount. In accordance with the General Ordinance, the Bond Committee, or a majority of them, shall approve final terms of the Series 2009 Bonds in its Determination prior to, and as a condition of issuance of the Series 2009 Bonds. Such Determination shall be deemed a supplement to the Eleventh Supplemental Ordinance.

The Bond Committee, or a majority of them, is authorized on behalf of the City to enter into agreements specified in the Determination (the "Enhancement Agreements") with any bank, insurance company or other appropriate entity providing credit enhancement or payment or liquidity sources (collectively a "Provider") for the account of the City for the Series 2009 Bonds, including, without limitation, letters of credit, standby bond purchase agreements or other liquidity facilities and bond insurance. Such Enhancement Agreements may provide for payment of the principal or purchase price of, or interest on, the Series 2009 Bonds if the City does not pay the Bonds when due and may provide for repayment with interest to the Provider from the date of such payment.

The Eleventh Supplemental Ordinance authorizes the Bond Committee, or a majority of them, or the Director of Finance, as appropriate, to make all such covenants and to take any and all such other actions on behalf of the City as may be necessary or appropriate in connection with the consummation of the transactions contemplated in the Eleventh Supplemental Ordinance.

The Eleventh Supplemental Ordinance provides that the Series 2009 Bonds shall be sold either at public competitive sale to the highest bidder or bidders or at a private negotiated sale, as the Bond Committee, or a majority of them, shall determine to be in the best interest of the city. The Bonds may be sold in a single Series or in one or more subseries, as authorized by the General Ordinance and as specified by the Determination, each of which shall be deemed a Series for purposes of the General Ordinance and shall be designated by letter as Series 2009 Bonds, as appropriate and may include serial bonds, terms bonds, Capital Appreciation Bonds, as specified in the Determination.

The Series 2009 Bonds issued pursuant to the Eleventh Supplemental Ordinance shall bear interest from the dated date thereof, or the date of delivery, to maturity or prior redemption, if any, at prescribed fixed rates or variable rates. The interest on the Series 2009 Bonds at variable rates, if any, may accrue on a daily, weekly, monthly, quarterly, semi-annual or annual basis, on the basis of auction rates or on the basis of commercial paper periods or on such other basis as may be provided and may be payable daily, weekly, monthly, quarterly, semi-annually, annually or at the end of each auction period, at the end of each commercial paper period or on such basis as may be further provided, or may accrue to a specific date (including, but not limited to, the maturity date) and may thereafter accrue and be payable on such basis as shall be specified in the Determination. The interest on fixed rate Series 2009 Bonds, if any, shall be payable as provided in the Determination. The Series 2009 Bonds shall contain series or subseries, designations, terms and provisions as the Bond Committee, or a majority of them, shall determine to be in the best interest of the City and which are not inconsistent with the provisions of the Eleventh Supplemental Ordinance, or with the Act or the General Ordinance.

The Eleventh Supplemental Ordinance provides that the Series 2009 Bonds shall not pledge the credit or taxing power of the City, or create any debt, charge or lien against the tax, general revenues or property of the City other than the revenues pledged by the General Ordinance.

The Eleventh Supplemental Ordinance provides that proceeds of the Series 2009 Bonds shall be used to fund capital improvements to the City's Water and Wastewater Systems; to fund the Debt Reserve Account of the Sinking Fund; if applicable, pay costs related to a Qualified Swap; pay any other "project costs," as defined in the Act; and pay the issuance costs of the Series 2009 Bonds.

Accrued interest on Series 2009 Bonds shall be deposited in the Sinking Fund. Remaining Series 2009 Bond proceeds shall be deposited first in the Debt Reserve Account in an amount equal to the Debt Reserve Requirement to the extent that such requirement is not satisfied in whole or in part by available funds of the City or by a surety bond, insurance policy or letter of credit in accordance with the General Ordinance; all other Series 2009 Bond proceeds and other moneys currently on deposit under the General Ordinance, including current reserves and construction funds, shall be deposited or transferred as provided in a certificate of the Director of Finance.

The City covenants in the Eleventh Supplemental Ordinance that, so long as any Series 2009 Bonds shall remain outstanding, it will make payments or cause payments to be made out of the Sinking Fund established pursuant to the General Ordinance or any of the other Water and Wastewater funds available therefor, at such times and in such amounts as shall be sufficient for the payment of the interest (including the Qualified Swap payments), if any on the Series 2009 Bonds and the principal thereof when due. Prior to enactment of the Eleventh Supplemental Ordinance by City Council, an opinion of the City Solicitor shall be filed with the City Council pursuant to the Act.

The Eleventh Supplemental Ordinance authorizes the Director of Finance and any other applicable City officer to make such additional covenants and to take such other action with respect to the use and investment of the proceeds of the Series 2009 Bonds as may be necessary or advisable in order that the Series 2009 Bonds shall not be "arbitrage bonds" as defined in Section 148 of the Internal Revenue Code of 1986, as amended (the "Code"), that the City will comply with the requirements of Section 148 throughout the term of the Series 2009 Bonds and in order to maintain the exclusion of interest on the Series 2009 Bonds from gross income for federal income tax purposes, and further to establish such sub-accounts within the Sinking Fund and terms or restrictions to permit issuance of the Series 2009 Bonds.

The Eleventh Supplemental Ordinance authorizes the Director of Finance to execute and deliver a Continuing Disclosure Agreement (the "Continuing Disclosure Agreement") meeting the requirements of Rule 15c2-12 promulgated under Securities Exchange Act of 1934. The City covenants and agrees that it will comply with and carry out all of the provisions of the Continuing Disclosure Agreement.

APPENDIX IV

CERTAIN INFORMATION CONCERNING THE CITY OF PHILADELPHIA

THE GOVERNMENT OF THE CITY OF PHILADELPHIA

General

The City of Philadelphia (the "City") 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, 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 (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, now 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.

Under the Home Rule Charter, as currently in effect, there are two principal governmental entities in Philadelphia: (1) the City, which performs ordinary municipal functions as well as traditional county functions; and (2) the School District, which has boundaries coterminous with the City and has responsibility for all public primary and secondary education.

The court system in Philadelphia, consisting of Common Pleas, Municipal and Traffic Courts, is part of the Commonwealth of Pennsylvania judicial system. Although judges are paid by the Commonwealth, most other court costs are paid by the City, with partial reimbursement from the Commonwealth.

Elected and Appointed Officials

The Mayor is elected for a term of four years and is eligible to succeed himself for one term. Each of the seventeen members of the City Council is also elected for a four-year term which runs concurrently with that of the Mayor. There is no limitation on the number of terms that may be served by members of the City Council. Of the members of the City Council, ten are elected from districts and seven are elected at-large, with a minimum of two of the seven representing a party or parties other than the majority party. The District Attorney and the City Controller are elected at the mid-point of the terms of the Mayor and City Council.

The City Controller's responsibilities derive from the Home Rule Charter, various City ordinances and state and federal statutes, and contractual arrangements with auditees. The City Controller must follow GAGAS, Generally Accepted Government Auditing Standards established by the federal Government Accountability Office (formerly known as the General Accounting Office), and GAAS, Generally Accepted Auditing Standards promulgated by the American Institute of Certified Public

Accountants. As of March 1, 2009, the Office of the City Controller had 120 employees, including 76 auditors, 29 of whom were certified public accountants.

The City Controller post-audits and reports on the City's combined financial statements, federal assistance received by the City, the performance of City departments and the finances of the School District. The City Controller also conducts a pre-audit program of expenditure documents required to be submitted for approval, such as invoices, payment vouchers, purchase orders and contracts. Documents are selected for audit by category and statistical basis. The Pre-Audit Division verifies that expenditures are authorized and accurate in accordance with the Home Rule Charter and other pertinent legal and contractual requirements before any moneys are paid by the City Treasurer. The Pre-Audit Technical Unit, consisting of auditing and engineering staff, inspects and audits capital project design, construction and related expenditures. Other responsibilities of the City Controller include investigation of allegations of fraud, preparation of economic reports, certification of the City's debt capacity and the capital nature and useful life of the capital projects, and opining to the Pennsylvania Intergovernmental Cooperation Authority on the reasonableness of the assumptions and estimates in the City's five-year financial plans.

The principal officers of the City's government appointed by the Mayor are the Managing Director of the City (the "Managing Director"), the Director of Finance of the City (the "Director of Finance"), who is the chief financial and budget officer and is selected from three names submitted to the Mayor by a Finance Panel, the City Solicitor (the "City Solicitor"), who is head of the Law Department, the Deputy Mayor for Planning and Economic Development and Director of Commerce (the "Director of Commerce"). These officials, together with the Mayor and the other members of the Mayor's cabinet, constitute the major policy-making group in the City's government.

The Managing Director is responsible for supervising the operating departments and agencies of the City that render the City's various municipal services. The Director of Commerce is charged with the responsibility of promoting and developing commerce and industry.

The City Solicitor acts as legal advisor to the Mayor, the City Council, and all of the agencies of the City government. The City Solicitor is also responsible for all of the City's contracts and bonds, for assisting City Council, the Mayor, and City agencies in the preparation of ordinances for introduction in City Council, and for the conduct of litigation involving the City.

The Director of Finance is responsible for the financial functions of the City including development of the annual operating budget, the capital budget, and capital program; the City's program for temporary and long-term borrowing; supervision of the operating budget's execution; the collection of revenues through the Department of Revenue; and the oversight of pension administration as Chairperson of the Board of Pensions and Retirement. The Director of Finance is also responsible for the appointment and supervision of the City Treasurer, whose office serves as the disbursing agent for the distribution of checks and electronic payments from the City Treasury and the management of cash resources.

The following are brief biographies of Mayor Nutter, his chief of staff, his cabinet and the City Controller:

Michael A. Nutter, Mayor, was sworn in as Philadelphia's 98th Mayor on January 7, 2008. He won the Democratic nomination in a five-way primary election. Elected to Philadelphia City Council in 1992, the Mayor represented the City's Fourth Councilmanic District for nearly fifteen years. During his time in Council, he engineered groundbreaking ethics reform legislation, led successful efforts to pass a citywide smoking ban, worked to lower taxes for Philadelphians and to reform the City's tax structure, and labored to increase the number of Philadelphia police officers patrolling the streets and to create a Police Advisory Board to provide a forum for discussion between citizens and the Police Department.

Mayor Nutter received his B.A. from the Wharton School of Business at the University of Pennsylvania in 1979.

Clarence D. Armbrister, Chief of Staff, was appointed on January 7, 2008. Prior to his appointment, Mr. Armbrister was Executive Vice President and Chief Operating Officer of Temple University. Mr. Armbrister began his career at Temple in April 2003 when he was named Senior Vice President. He was elevated to the position of Executive Vice President and Chief Operating Officer in January 2007. Prior to joining Temple, Mr. Armbrister was a Director in the UBS Financial Services Municipal Securities Group in Philadelphia and had served as Managing Director of the School District of Philadelphia, Treasurer of the City of Philadelphia, and was a partner in the law firm of Saul Ewing LLP. Mr. Armbrister holds a J.D. from the University of Michigan Law School and a B.A. degree in political science and economics from the University of Pennsylvania.

Camille Cates Barnett, Ph.D., Managing Director, was appointed in January 2008. Dr. Barnett is a professional manager, having worked in the cities of Sunnyvale, California, Dallas, Houston and Austin, Texas and Washington, DC. Prior to her appointment as Managing Director, Dr. Barnett served as an advisor and consultant to public sector clients to improve governance, with the Public Strategies Group, and Public Financial Management. Dr. Barnett encourages collaborative approaches to growth, disaster recovery, economic strength, environmental sustainability and other issues that cross governmental jurisdictions and has written numerous articles on emerging networks in governing and transforming the public sector. Dr. Barnett has a Ph.D. in public administration from the University of Southern California and has taught at the University of Southern California and the University of Texas at Austin.

Rob Dubow, Director of Finance, was appointed on January 7, 2008. The Director of Finance is the Chief Financial Officer of the City. Prior to his appointment, Mr. Dubow was the Executive Director of the Pennsylvania Intergovernmental Cooperation Authority (PICA), which is a financial oversight board established by the Commonwealth in 1991. He served as Chief Financial Officer of the Commonwealth of Pennsylvania from 2004 to 2005. From 2000 to 2004, he served as Budget Director for the City of Philadelphia, where he had also been a Deputy Budget Director and Assistant Budget Director. Before working for the City, Mr. Dubow was a Senior Financial Analyst for PICA. He also served as a Research Associate at the Pennsylvania Economy League and was a reporter for the Associated Press. Mr. Dubow earned a Masters in Business Administration degree from the Wharton School of Business and a Bachelor of Arts degree from the University of Pennsylvania.

Shelley R. Smith, City Solicitor, was appointed on January 7, 2008. The City Solicitor of the City of Philadelphia is the City's chief legal officer, the head of the City's Law Department, and a member of the Mayor's Cabinet. Prior to her appointment, Ms. Smith was the Associate General Counsel for Regulatory Affairs - East at Exelon Corporation. Prior to joining Exelon, Ms. Smith was with Ballard Spahr as Of Counsel in the Labor, Employment & Immigration Group. Ms. Smith also spent more than a decade with the City of Philadelphia's Law Department where she was trial attorney and supervisor in the Civil Rights Unit, Chief of the Affirmative Litigation and Labor and Employment Units, and, finally, Chair of the Corporate and Tax Group.

Everett A. Gillison, Deputy Mayor for Public Safety, was appointed on January 7, 2008. Mr. Gillison advises and assists the Mayor on all policies, planning and initiatives designed to promote the public safety and prevent crime. He will lead a collaborative effort with the Police Department and other agencies in the criminal justice system to provide a more holistic approach to the prevention and the enhancement of public safety throughout the City. Mr. Gillison previously served as a Senior Trial Lawyer for the Defender Association of Philadelphia where he worked for more than 30 years. Other experience also includes his time on the Board of Summerbridge of Greater Philadelphia, as well as a member of the American College of Trial Lawyers.

Dr. Donald Schwarz, Deputy Mayor for Health and Opportunity and Health Commissioner, was appointed in January 2008. Prior to entering government service, Dr. Schwarz was Vice Chairman of the Department of Pediatrics of the University of Pennsylvania School of Medicine and Craig-Dalsimer Division Chief for Adolescent Medicine at The Children's Hospital of Philadelphia. He was also Mary D. Ames Associate Professor of Child Advocacy in the Department of Pediatrics of the University of Pennsylvania School of Medicine at The Children's Hospital of Philadelphia. Dr. Schwarz is board certified in pediatrics and adolescent medicine. Dr. Schwarz was, for 22 years, an active researcher in the areas of adolescent risk behaviors and early childhood development.

Andrew Altman was appointed Deputy Mayor for Planning and Economic Development and Director of Commerce in March 2008. Prior to his appointment, Mr. Altman was the President of Altman Development LLC in New York City that was founded to lead large-scale, urban land development projects on behalf of private equity and development firms. Previously, Mr. Altman was the first President and Chief Executive Officer of the Anacostia Waterfront Corporation in Washington, D.C., that was established to guide the revitalization of over 2800 acres of waterfront. Mr. Altman served in former Washington, D.C. Mayor Anthony Williams' Cabinet, as head of the city's planning agency, from 1999-2004 and was previously the director of planning for the city of Oakland, California. Mr. Altman is a native of Philadelphia and graduate of Temple University. Mr. Altman holds a Masters in City Planning from the Massachusetts Institute of Technology.

Rina Cutler, Deputy Mayor for Transportation and Utilities was appointed in January 2008. Ms. Cutler will advise and assist the Mayor on and coordinate all policies, planning and initiatives relating to transportation, waste management, infrastructure and public utilities. She will collaborate with the Managing Director in coordinating the development of policy and the allocation of resources for the departments of Streets, Water and Aviation. Ms. Cutler will also serve as the Mayor's representative working with SEPTA, PGW, the Parking Authority and other organizations. Ms. Cutler previously served as Deputy Secretary of Administration for the Pennsylvania Department of Transportation in Harrisburg. Her experience includes time as Executive Director of the Philadelphia Parking Authority and Transportation Commissioner for the Transportation Department in Boston, Massachusetts, as well as the Executive Director of Parking and Traffic in San Francisco.

Melanie Johnson, City Representative, was appointed on January 7, 2008. The City Representative will promote and give wide publicity to items of interest reflecting the accomplishments of the City and its inhabitants and the growth and development of its commerce and industry. Ms. Johnson had served as the Director of Communications for the Nutter for Mayor Campaign since August of 2006. Prior experience includes her time as Press Secretary to Former Mayor Ed Rendell, Director of Communication for Multicultural Affairs Congress at Philadelphia Convention and Visitors Bureau, and Senior Account Executive at Beach Advertising.

Joan Markman is the City's first Chief Integrity Officer, and took office with the Nutter administration on January 7, 2008. Before that, Ms. Markman spent 20 years as a federal prosecutor in the United States Attorney's Office in Philadelphia, where she focused on the investigation and prosecution of fraud and public corruption cases. Ms. Markman has also served as an adjunct lecturer in Trial Advocacy at the University of Pennsylvania Law School, as an associate attorney in the firm Dechert Price and Rhoads, and as an Assistant District Attorney in Philadelphia. She is a 1979 graduate of Wesleyan University and a 1983 graduate of the University of Virginia School of Law.

Amy L. Kurland, Inspector General, was appointed on January 7, 2008. The Inspector General investigates fraud, corruption, and abuse in all City departments, agencies, commissions and boards, as well as in contracts with individuals or companies receiving City funds and doing business with the City. Prior to her appointment, Ms. Kurland was an Assistant United States Attorney and Senior Litigation

Counsel for the Eastern District of Pennsylvania for 24 years, specializing in public corruption and white collar fraud prosecutions. She is also an Adjunct Professor of Trial Advocacy at Rutgers University. Ms. Kurland received her B.A. from Reed College and her J.D. from Rutgers University.

Lori Shorr, Ph.D., Chief Education Advisor to the Mayor, was appointed in January 2008. Dr. Shorr previously served in Pennsylvania's Rendell administration as Special Assistant to the Secretary of Education for the Commonwealth of Pennsylvania and in that capacity led the administration's work in aligning academic expectations between high school and post-secondary education. Her work at the state included dual enrollment, transfer and articulation, the Governor's Commission on College and Career Success, and other initiatives. Dr. Shorr is currently Vice President of Policy and Planning at Philadelphia Youth Network, a nationally-recognized non-profit which manages $24 million of investments from government, industry and the foundations community to effect systems change and serve over 10,000 disenfranchised Philadelphia youth through direct programming. Before her service at the Commonwealth, she was in the Provost's and President's offices at Temple University where her work concentrated on local academic alignment issues. At Temple Dr. Shorr also was affiliated faculty in both Women's Studies and Urban Education departments, lecturing on both feminist film theory and educational equity. She continues to publish and speak nationally in the areas of education, equity, and public policy. Dr. Shorr earned her Ph.D. from the University of Pittsburgh in Critical and Cultural Studies.

Pauline Abernathy, Senior Advisor to the Mayor, was appointed in January 2008. Ms. Abernathy was previously Deputy Director of Health and Human Services Policy at The Pew Charitable Trusts where she initiated, designed and managed national initiatives related to child welfare policy, underage drinking prevention, retirement savings and student debt policy. Prior to working at Pew, Ms. Abernathy worked at The White House National Economic Council and Domestic Policy Council and at the U.S. Department of Education and as a legislative assistant for a U.S. Senator. She has a bachelor's degree in Art History from Yale University and a Masters in Public Policy from Harvard University's Kennedy School of Government.

Terry Gillen, Senior Advisor to the Mayor for Economic Development, was appointed on January 7, 2008. Prior to joining the Administration, Terry Gillen was the Chief Executive Officer of the Collegiate Consortium for Workforce and Economic Development. She also has served as the Director of Policy for the Pennsylvania Department of Community and Economic Development in Harrisburg under the Rendell Administration and as Chief Operating Office of National Community Capital Association – a national community development financing organization. From 1995 to 1998, Ms. Gillen was Senior Vice President of the Philadelphia Industrial Development Corporation, which is the City's leading economic development agency. At PIDC, Ms. Gillen managed the Office of Defense Conversion, which oversees the reuse of the City's former defense facilities – including the former Navy Yard. In 1992, Ms. Gillen was appointed by Mayor Rendell as Deputy Commerce Director for the City of Philadelphia.

Alan L. Butkovitz is serving his first term as Philadelphia's elected City Controller, an office independent of the Mayor. Prior to his election as City Controller, Mr. Butkovitz served 15 years in the Pennsylvania House of Representatives, representing the 174th Legislative District in Northeast Philadelphia where he served on the Veterans Affairs and Urban Affairs Committees as well as committees on Aging and Older Adults, Children and Youth and Insurance. Mr. Butkovitz was widely praised for leading the bi-partisan investigation into violence in Philadelphia public schools. He authored legislation creating the Office of the Safe Schools Advocate, the first of its kind in the nation. Mr. Butkovitz was born and raised in Philadelphia. He is an attorney and received his Juris Doctor degree from Temple University Law School in 1976 and a bachelor's degree from Temple University in 1973.

Government Services

Municipal services provided by the City include: police and fire protection; health care; certain welfare programs; construction and maintenance of local streets, highways, and bridges; trash collection, disposal and recycling; provision for recreational programs and facilities; maintenance and operation of the water and wastewater systems (the "Water and Wastewater Systems"); the acquisition and maintenance of City real and personal property, including vehicles; maintenance of building codes and regulation of licenses and permits; maintenance of records; collection of taxes and revenues; purchase of supplies and equipment; construction and maintenance of airport facilities; and maintenance of a prison system. The City owns the assets that comprise the Philadelphia Gas Works ("PGW" or the "Gas Works"). PGW serves residential, commercial, and industrial customers in the City. PGW is operated by Philadelphia Facilities Management Corporation ("PFMC"), a non-profit corporation specifically organized to manage and operate the PGW for the benefit of the City.

Local Government Agencies

There are a number of significant governmental authorities and quasi-governmental non-profit corporations that also provide services within the City.

The Southeastern Pennsylvania Transportation Authority ("SEPTA"), which is supported by transit revenues and Federal, Commonwealth, and local funds, is responsible for developing and operating a comprehensive and coordinated public transportation system in the southeastern Pennsylvania region.

The Philadelphia Parking Authority is responsible for the construction and operation of parking facilities in the City and at the Philadelphia International Airport and, by contract with the City, for enforcement of on-street parking regulations.

The Philadelphia Municipal Authority (formerly The Equipment Leasing Authority of Philadelphia) ("PMA") was originally established for the purpose of buying equipment and vehicles to be leased to the City. PMA's powers have been expanded to include, without limitation, the construction and leasing of municipal solid waste disposal facilities, correctional facilities, and other municipal buildings.

The Redevelopment Authority of the City of Philadelphia (the "Redevelopment Authority") and the Philadelphia Housing Authority develop and/or administer low and moderate income rental units and housing in the City. The Redevelopment Authority, supported by Federal funds through the City's Community Development Block Grant Fund and by Commonwealth and local funds, is responsible for the redevelopment of the City's blighted areas.

The Hospitals and Higher Education Facilities Authority of Philadelphia (the "Hospitals Authority") assists non-profit hospitals by financing hospital construction projects. The City does not own or operate any hospitals. The powers of the Hospitals Authority have been expanded to permit the financing of construction of buildings and facilities for certain colleges and universities and other health care facilities and nursing homes.

The Philadelphia Industrial Development Corporation ("PIDC") and its affiliate, the Philadelphia Authority for Industrial Development ("PAID"), coordinate the City's efforts to maintain an attractive business environment and to attract new businesses to the City and retain existing ones.

The Pennsylvania Convention Center Authority (the "Convention Center Authority") constructed and maintains, manages, and operates the Pennsylvania Convention Center, which opened on June 25,

1993. The Convention Center Authority is currently undertaking an expansion of the Pennsylvania Convention Center.

School District

The School District was established by the Educational Supplement to the City's Home Rule Charter to provide free public education to the City's residents. Under the Home Rule Charter, its board is appointed by the Mayor and must submit a lump sum statement of expenditures to the City annually. Such statement is used by City Council in making its determination to authorize the levy of taxes on behalf of the School District. Certain financial information regarding the School District is included in the City's Comprehensive Annual Financial Report. It has no independent taxing powers and may levy only the taxes authorized on its behalf by the City and the Commonwealth. Under the Home Rule Charter, the School District is managed by a nine-member Board of Education appointed by the Mayor from a list supplied by an Educational Nominating Panel that is chosen by the Mayor. In some matters, including the incurrence of short-term and long-term debt, both the City and the School District are governed primarily by the laws of the Commonwealth. The School District is a separate political subdivision of the Commonwealth and the City has no property interest in or claim on any revenues or property of the School District.

The School District was declared distressed by the Secretary of Education of the Commonwealth pursuant to Section 691(c) of the Public School Code of 1949, as amended (the "School Code"), effective December 22, 2001. During a period of distress under Section 691(c) of the School Code, all of the powers and duties of the Board of Education granted under the School Code or any other law are suspended and all of such powers and duties are vested in the School Reform Commission (the "School Reform Commission") provided for under the School Code. The School Reform Commission is responsible for the operation, management and educational program of the School District during such period. It is also responsible for financial matters related to the School District. The School Code provides that the members of the Board of Education continue to serve during the time the School District is governed by the School Reform Commission, and that the establishment of the School Reform Commission shall not interfere with the regular selection of the members of the Board of Education. During the tenure of the School Reform Commission, the Board of Education will perform those duties delegated to it by the School Reform Commission. As of the date hereof, the School Reform Commission has not delegated any duties to the Board.

PENNSYLVANIA INTERGOVERNMENTAL COOPERATION AUTHORITY

General

The Pennsylvania Intergovernmental Cooperation Authority ("PICA") was created on June 5, 1991 by the Pennsylvania Intergovernmental Cooperation Authority Act for Cities of the First Class (the "PICA Act"). PICA was established to provide financial assistance to cities of the first class. The City is the only city of the first class in the Commonwealth. The PICA Act provides that, upon request by the City to PICA for financial assistance and for so long as any bonds issued by PICA remain outstanding, PICA shall have certain financial and oversight functions. Under the PICA Act, PICA no longer has the authority to issue bonds for new money purposes, but may refund bonds previously issued by it. PICA has the power, in its oversight capacity, to exercise certain advisory and review procedures with respect to the City's financial affairs, including the power to review and approve five-year financial plans prepared at least annually by the City, and to certify non-compliance by the City with the then-existing five-year plan adopted by the City pursuant to the PICA Act. Under the PICA Act, such certification would require the Secretary of the Budget of the Commonwealth to withhold payments due to the City from the Commonwealth or any of its agencies (including, with certain exceptions, all grants, loans, entitlements

and payment of the portion of the PICA Tax, hereinafter described, otherwise payable to the City). See "Source of Payment of PICA Bonds" below.

On June 16, 1992, PICA, at the request of the City, issued $474,555,000 Special Tax Revenue Bonds (City of Philadelphia Funding Program), Series of 1992 (the "1992 PICA Bonds"). The proceeds of the 1992 PICA Bonds were used (i) to make grants to the City to fund the Fiscal Year 1991 General Fund cumulative deficit ($153.5 million) and the then-projected Fiscal Year 1992 General Fund deficit ($71.4 million); (ii) to make grants to the City to pay the costs of certain capital projects to be undertaken by the City; and (iii) to make a grant to the City to provide it with financial assistance to enhance productivity in the operation of City government. It had been anticipated that the proceeds of the 1992 PICA Bonds would also be used to fund the City's projected Fiscal Year 1993 General Fund deficit; however, because no deficit occurred, a grant from PICA for this purpose was not required. These proceeds, in the amount equal to $23.5 million, were instead used to provide funds for other City purposes.

On July 29, 1993, PICA, at the request of the City, issued $643,430,000 Special Tax Revenue Bonds (City of Philadelphia Funding Program), Series of 1993 (the "1993 PICA Bonds"), the proceeds of which were used to make grants to the City to pay the costs of certain capital projects to be undertaken by the City and to make a grant to the City to provide for the defeasance of certain outstanding general obligation bonds of the City in the aggregate amount of $336,225,000.

On September 14, 1993, PICA issued $178,675,000 Special Tax Revenue Refunding Bonds (City of Philadelphia Funding Program), Series of 1993A (the "1993A PICA Bonds"), the proceeds of which were used to advance refund $136,670,000 principal amount of the 1992 PICA Bonds.

On December 15, 1994, PICA, at the request of the City, issued $122,020,000 Special Tax Revenue Bonds (City of Philadelphia Funding Program) Series of 1994 (the "1994 PICA Bonds"), the proceeds of which were used to make grants to the City to pay the costs of certain capital projects to be undertaken by the City.

On May 30, 1996, PICA issued $343,030,000 Special Tax Revenue Refunding Bonds (City of Philadelphia Funding Program), Series of 1996 (the "1996 PICA Bonds"), the proceeds of which were used to advance refund $304,160,000 principal amount of the 1992 PICA Bonds and $120,180,000 principal amount of the 1994 PICA Bonds.

On April 15, 1999, PICA issued $610,005,000 Special Tax Revenue Refunding Bonds (City of Philadelphia Funding Program), Series of 1999, the proceeds of which were used to advance refund $610,730,000 principal amount of the 1993 PICA Bonds.

On June 16, 2003, PICA issued $165,550,000 Special Tax Revenue Refunding Bonds (City of Philadelphia Funding Program), Series of 2003, the proceeds of which were used to refund $163,185,000 principal amount of the 1993A PICA Bonds.

On June 15, 2006, PICA issued $89,950,000 Special Tax Revenue Refunding Bonds (City of Philadelphia Funding Program) Series of 2006 (Auction Rate Securities), the proceeds of which were used to refund $89,960,000 principal amount of the 1996 PICA Bonds.

On May 15, 2008, PICA issued $133,740,000 Series 2008A and $80,825,000 Series 2008B Special Tax Revenue Refunding Bonds (City of Philadelphia Funding Program). The proceeds of the Series 2008A bonds were used to refund $142,085,000 principal amount of the 2003 PICA Bonds; the

proceeds of the Series 2008B bonds together with other available funds of the Authority were used to refund $85,500,000 principal amount of the 2006 PICA Bonds.

As of the close of business on June 30, 2008, the principal amount of PICA bonds outstanding was $572,095,000.

Source of Payment of PICA Bonds

The PICA Act authorized the City to impose a tax for the sole and exclusive purposes of PICA. In connection with the adoption of the Fiscal Year 1992 budget and the adoption of the first Five-Year Plan, the City reduced the wage, earnings, and net profits tax on City residents by 1.5% and enacted a PICA Tax of 1.5% tax on wages, earnings and net profits of City residents (the "PICA Tax"). Proceeds of the PICA Tax are solely the property of PICA. The PICA Tax, collected by the City's Department of Revenue, is deposited in the "Pennsylvania Intergovernmental Cooperation Authority Tax Fund" (the "PICA Tax Fund") of which the State Treasurer is custodian. The PICA Tax Fund is not subject to appropriation by City Council or the General Assembly of the Commonwealth.

The PICA Act authorizes PICA to pledge the PICA Tax to secure its bonds and prohibits the Commonwealth and the City from repealing the PICA Tax or reducing the rate of the PICA Tax while any bonds secured by the PICA Tax are outstanding.

The PICA Act requires that proceeds of the PICA Tax in excess of amounts required for (i) debt service, (ii) replenishment of any debt service reserve fund for bonds issued by PICA, and (iii) certain PICA operating expenses, be deposited in a trust fund established pursuant to the PICA Act exclusively for the benefit of the City and designated the "City Account." Amounts in the City Account are required to be remitted to the City not less often than monthly, but are subject to withholding if PICA certifies the City's non-compliance with the then-current five-year plan.

The PICA Act establishes a "Bond Payment Account" for PICA as a trust fund for the benefit of PICA bondholders and authorizes the creation of a debt service reserve fund for bonds issued by PICA. Since PICA has issued bonds secured by the PICA Tax, the PICA Act requires that the State Treasurer pay the proceeds of the PICA Tax held in the PICA Tax Fund directly to the Bond Payment Account, the debt service reserve fund created for bonds issued by PICA and the City Account.

The total amount of PICA Tax remitted to PICA by the State Treasurer (which is net of the costs of the State Treasurer in collecting the PICA Tax) for each of the Fiscal Years 1999 through 2008, the current estimate for Fiscal Year 2009 and the budgeted amount for Fiscal Year 2010, are set forth below:

Year	Amount
1999	$ 245.8 million
2000	256.6 million
2001	273.6 million
2002	278.0 million
2003	281.5 million
2004	285.0 million
2005	300.2 million
2006	309.9 million
2007	327.9 million
2008	341.8 million
2009 (Estimate)	352.1 million
2010 (Proposed Budget)	360.9 million

PICA bonds are payable from the PICA revenues, including the PICA Tax, pledged to secure PICA's bonds, the Bond Payment Account and any debt service reserve fund established for such bonds and have no claim on any revenues of the Commonwealth or the City.

Five-Year Plans of the City

One of the conditions precedent to the issuance of bonds by PICA was the development by the City and approval by PICA of a five-year financial plan. The original five-year plan, which covered Fiscal Years 1992 through 1996, was prepared by the Mayor, approved by City Council on April 29, 1992 and by PICA on May 18, 1992. In each subsequent year, the City updated the previous year's five-year plan, each of which was adopted by City Council, signed by the Mayor and approved by PICA.

The Mayor presented the Seventeenth Five-Year Plan (the "Seventeenth Five-Year Plan") to City Council on February 14, 2008. City Council approved the Fiscal Year 2009 Budget and the revised Fiscal Years 2009-2013 Five Year Plan on May 22, 2008. The Mayor signed the budget into law on May 22, 2008. The Seventeenth Five-Year Plan was approved by PICA on June 17, 2008.

The Mayor presented the Eighteenth Five-Year Plan (the "Eighteenth Five-Year Plan") to City Council on March 19, 2009. City Council began its review of the Fiscal Year 2010 Operating Budget and Eighteenth Five Year Plan on March 25, 2009.

CITY FINANCIAL PROCEDURES

Except as otherwise noted, the financial statements, tables, statistics, and other information shown below have been prepared by the Office of the Director of Finance and can be reconciled to the financial statements in the City's Comprehensive Annual Financial Report and Notes therein.

Independent Audit and Opinion of the City Controller

The City Controller has examined and expressed opinions on the basic financial statements of the City of Philadelphia contained in the City's Comprehensive Annual Financial Report for the Fiscal Year ended June 30, 2008 (the "Fiscal Year 2008 Comprehensive Annual Financial Report").

The City Controller has not participated in the preparation of this Official Statement nor in the preparation of the budget estimates and projections and cash flow statements and forecasts set forth in various tables contained in this Official Statement. Consequently, the City Controller expresses no opinion with respect to any of the data contained in this Official Statement other than what is contained in the Fiscal Year 2008 Comprehensive Annual Financial Report.

Principal Operations

The major operations of the City are conducted through the General Fund. In addition to the General Fund, operations of the City are conducted through two other major governmental funds and 12 minor governmental funds. The two major governmental funds and three of the minor governmental funds are financed solely through grants from the Commonwealth and Federal government. The City's Debt Service Fund and Capital Projects Fund are also included with the minor governmental funds.

Fund Accounting

Funds are groupings of activities that enable the City to maintain control over resources that have been segregated for particular purposes or objectives. All of the funds of the City can be divided into three categories: governmental funds, proprietary funds and fiduciary funds.

Governmental Funds. The governmental funds are used to account for the financial activity of the City's basic services, such as: general government; economic and neighborhood development; public health, welfare and safety; cultural and recreational; and streets, highways and sanitation. The fund financial activities focus on a short-term view of the inflows and outflows of spendable resources, as well as on the balances of spendable resources available at the end of the fiscal year. The financial information presented for the governmental funds is useful in evaluating the City's short term financing requirements.

The City maintains twenty-three individual governmental funds. The City's Comprehensive Annual Financial Report (including for the City's fiscal year ended June 30, 2008), presents data separately for the General Fund, Grants Revenue Fund and Health Choices Behavioral Health Fund, which are considered to be major funds. Data for the remaining eighteen funds are combined into a single aggregated presentation.

Proprietary Funds. The proprietary funds are used to account for the financial activity of the City's operations for which customers are charged a user fee; they provide both a long and short-term view of financial information. The City maintains three enterprise funds that are a type of proprietary funds - airport, water and wastewater operations, and industrial land bank.

Fiduciary Funds. The City is the trustee, or fiduciary, for its employees' pension plans. It is also responsible for PGW's employees' retirement reserve assets. Both of these fiduciary activities are reported in the City's Comprehensive Annual Financial Report (including for the City's fiscal year ended June 30, 2008), as separate financial statements of fiduciary net assets and changes in fiduciary net assets.

Basis of Accounting and Measurement Focus

Governmental funds account for their activities using the current financial resources measurement focus and the modified accrual basis of accounting. Revenues are recognized as soon as they are both measurable and available. Revenues are considered to be available when they are collectible within the current period or soon enough thereafter to pay liabilities of the current period. For this purpose, the City considers revenues to be available if they are collected within 60 days of the end of the current fiscal period. Expenditures are generally recorded when a liability is incurred, as in the case of full accrual accounting. Debt service expenditures, as well as expenditures related to compensated absences and claims and judgments, are recorded only when payment is due; however, those expenditures may be accrued if they are to be liquidated with available resources.

Imposed non-exchange revenues, such as real estate taxes, are recognized when the enforceable legal claim arises and the resources are available. Derived tax revenues, such as wage, business privilege, net profits and earnings taxes, are recognized when the underlying exchange transaction has occurred and the resources are available. Grant revenues are recognized when all the applicable eligibility requirements have been met and the resources are available. All other revenue items are considered to be measurable and available only when cash is received by the City.

Revenue that is considered to be program revenue includes: (1) charges to customers or applicants for goods received, services rendered or privileges provided, (2) operating grants and contributions, and (3) capital grants and contributions. Internally dedicated resources are reported as general revenues rather than as program specific revenues; therefore, all taxes are considered general revenues.

The City's financial statements reflect the following three funds as major Governmental Funds:

The General Fund is the City's primary operating fund. It accounts for all financial resources of the general government, except those required to be accounted for in other funds.

The Health Choices Behavioral Health Fund accounts for resources received from the Commonwealth. These resources are restricted to providing managed behavioral health care to residents of the City.

The Grants Revenue Fund accounts for the resources received from various federal, state and private grantor agencies. The resources are restricted to accomplishing the various objectives of the grantor agencies.

The City also reports on Permanent Funds, which are used to account for resources legally held in trust for use by the park and library systems of the City. There are legal restrictions on the resources of the funds that require the principal to remain intact, while only the earnings may be used for the programs.

The City reports on the following Fiduciary Funds:

The Municipal Pension Fund accumulates resources to provide pension benefit payments to qualified employees of the City and certain other quasi-governmental organizations.

The Philadelphia Gas Works Retirement Reserve Fund accounts for contributions made by PGW to provide pension benefit payments to its qualified employees under its noncontributory pension plan.

The City reports on the following major Proprietary Funds:

The Water Fund accounts for the activities related to the operation of the City's water delivery and sewage systems.

The Aviation Fund accounts for the activities of the City's airports.

Proprietary funds distinguish operating revenues and expenses from non-operating items. Operating revenues and expenses generally result from providing services and producing and delivering goods in connection with a proprietary fund's ongoing operations. The principal operating revenues of the Water Fund are charges for water and sewer service. The principal operating revenue of the Aviation Fund is charges for the use of the airport. Operating expenses for enterprise funds include the cost of sales and services, administrative expenses, and depreciation on capital assets. All revenues and expenses not meeting this definition are reported as nonoperating revenues and expenses.

Legal Compliance

The City's budgetary process accounts for certain transactions on a basis other than generally accepted accounting principles (GAAP). In accordance with the 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, ten Special Revenue Funds (County Liquid Fuels Tax, Special Gasoline Tax, Health Choices Behavioral Health, Hotel Room Rental Tax, Grants Revenue, Community Development, Car Rental Tax, Wage Tax Reduction, Acute Care Hospital Assessment and Housing Trust Funds) and two Enterprise Funds (Water and Aviation Funds), are subject to annual operating budgets adopted by City Council. Included with the Water Fund is the Water Residual Fund. 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 advances and other miscellaneous payments. 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 councilmanic approval. Appropriations that are not expended or encumbered at year-end are lapsed.

The City's capital budget is adopted annually by City Council. The capital budget is appropriated by project for each department. Requests to transfer appropriations between projects must be approved by City Council. Any appropriations that are not obligated at year-end are either lapsed or carried forward to the next fiscal year.

Schedules prepared on the legally enacted basis differ from the generally accepted accounting principles (GAAP) basis in that both expenditures and encumbrances are applied against the current budget, adjustments affecting activity budgeted in prior years are accounted for through fund balance or as reduction of expenditures and certain interfund transfers and reimbursements are budgeted as revenues and expenditures.

Budget Procedure

At least ninety days before the end of the Fiscal Year the operating budget for the next Fiscal Year is prepared by the Mayor and must be submitted to City Council for adoption. The budget, as adopted, must be balanced and provide for discharging any estimated deficit from the current Fiscal Year and make appropriations for all items to be funded with City revenues. The Mayor's budgetary estimates of revenues for the ensuing Fiscal Year and projection of surplus or deficit for the current Fiscal Year may not be altered by City Council. Not later than the passage of the operating budget ordinance, City Council must enact such revenue measures as will, in the opinion of the Mayor, yield sufficient revenues to balance the budget.

At least thirty days before the end of each Fiscal Year, City Council must adopt by ordinance an operating budget and a capital budget for the ensuing Fiscal Year and a capital program for the six ensuing years. If the Mayor disapproves the bill, he must return it to City Council with the reasons for his disapproval at the first meeting thereof held not less than ten days after he receives it. If the Mayor does not return the ordinance within the time required, it becomes law without his approval. If City Council passes the bill by a vote of two-thirds of all of its members within seven days after the bill has been returned with the Mayor's disapproval, it becomes law without his approval. The capital program is prepared annually by the City Planning Commission to present the capital expenditures planned for each of the six ensuing Fiscal Years, including the estimated total cost of each project and the sources of funding (local, state, Federal, and private) estimated to be required to finance each project. The capital program is reviewed by the Mayor and transmitted to City Council for adoption with his recommendation thereon. See Table IV-11 for a summary of the City's capital improvement program for the Fiscal Years 2009 through 2014.

The capital budget ordinance, authorizing in detail the capital expenditures to be made or incurred in the ensuing Fiscal Year from funds that City Council appropriates, is adopted by City Council concurrently with the capital program. The capital budget must be in full conformity with that part of the capital program applicable to the Fiscal Year that it covers.

Awards

For the twenty-eighth consecutive year, the Government Finance Officers Association of the United States and Canada (GFOA) awarded its prestigious Certificate of Achievement for Excellence in Financial Reporting to the City for its Comprehensive Annual Financial Report for the fiscal year ended June 30, 2007. The City received this recognition by publishing a report that was well organized and readable and satisfied both generally accepted accounting principles and applicable legal requirements.

CITY CASH MANAGEMENT AND INVESTMENT POLICIES

Consolidated Cash

The Act of the General Assembly of the Commonwealth of June 25, 1919, P.L. 581, Art. XVII, § 6, gives the City the authority to make temporary inter-fund loans between operating and capital funds.

The Consolidated Cash Account provides for the physical commingling of the cash of all City Funds, except those which, for legal or contractual reasons, cannot be commingled (e.g., the Municipal Pension Fund, sinking funds, sinking fund reserves, funds of PGW, the Water Fund, the Aviation Fund and certain other restricted purpose funds). A separate accounting is maintained for the equity of each member fund in the Consolidated Cash Account. The City manages the Consolidated Cash Account pursuant to the following procedures:

To the extent that any member fund temporarily experiences the equivalent of a cash deficiency, the required advance is made from the Consolidated Cash Account, in the amount necessary to result in a zero balance in the cash equivalent account of the borrowing fund. All subsequent net receipts of a borrowing fund are applied in repayment of the advance.

All advances are made within the budgetary constraints of the borrowing funds. Within the General Fund, this system of inter-fund advances has historically resulted in the temporary use of tax revenues or other operating revenues for capital purposes and the temporary use of capital funds for operating purposes.

Procedures governing the City's cash management operations require the General Fund-related operating fund to borrow initially from the General Fund-related capital fund, and only to the extent there is a deficiency in such fund may the General Fund-related operating fund borrow money from any other funds in the Consolidated Cash Account.

Investment Practices

Cash balances in each of the City's funds are managed to maintain daily liquidity to pay expenses, and make investments that preserve principal while striving to obtain the maximum rate of return. In accordance with the Home Rule Charter, the City Treasurer is the City Official for managing cash collected into the City Treasury. The available cash balances in excess of daily expenses are placed in demand accounts, swept into money market mutual funds, or used to make investments directed by professional money managers. These investments are held in segregated trust accounts at a separate financial institution. Cash balances related to Revenue Bonds for Water and Sewer and the Airport are directly deposited and held separately in trust. A Fiscal Agent manages these cash balances per the related bond documents and the investment practice is guided by administrative direction of the City Treasurer per the Investment Committee and the Investment Policy. In addition, certain operating cash deposits (such as Community Behavioral Health, Special Gas/County Liquid and "911" surcharge) of the City are

restricted by purpose and required to be segregated into accounts in compliance with Federal or State reporting.

Investment guidelines for the City are embodied in legislation approved by City Council appearing in the Philadelphia City Code, Chapter 19. In furtherance of the City, State, and Federal legislative guidelines, the Director of Finance adopted a written Investment Policy (the "Policy") that first went into effect in August 1994 and most recently was revised in April 2001. This Policy supplements other legal requirements and establishes a comprehensive investment policy for the overall administration and effective management of all monetary funds (except the Municipal Pension Fund and PGW Retirement Reserve Fund).

The Policy delineates the authorized investments as approved by City Council Ordinance and the funds to which the Policy applies. The authorized investments include U.S. Government Securities, U.S. Treasuries, U.S. Agencies, Collateralized Certificates of Deposit, Bankers Acceptance Notes, Eurodollar Deposits, Euro Certificates of Deposit, Commercial Paper, Corporate Bonds, Money Market Mutual Funds, Repurchase Agreements and Commonwealth of Pennsylvania securities, all of investment grade rating or better. Each category of instruments, excluding U.S. Government Treasury and Agency securities which carry no limitation, is limited to investment of no more than 25% of the total portfolio, and no more than 10% of the total portfolio per institutional or corporate issuer. The Policy also restricts investments to those having a maximum maturity of two years. Daily liquidity is maintained through the use of SEC-registered money market mutual funds with the balance of funds invested by the City or money managers in accordance with the Policy.

The Policy provides for an ad hoc Investment Committee consisting of the Director of Finance, the City Treasurer and the Deputy City Treasurer with ex-officio membership of a representative of each of the principal operating and capital funds, i.e., Water Fund, Aviation Fund, Philadelphia Gas Works and Philadelphia Municipal Authority. The Investment Committee meets quarterly with each of the investment managers to review each manager's performance to date and to plan for the next quarter. Investment managers are given any changes in investment instructions at these meetings. The Investment Committee approves all modifications to the Policy.

The Policy expressly forbids the use of any derivative investment product whose yield or market value does not follow the normal swings in interest rates. Investment in derivatives such as "inverse floaters," leveraged variable rate debt and interest-only or principal-only Collateralized Mortgage Obligations are specifically forbidden. The use of any other derivative investment products is restricted to identified "core cash" in any fund but never to exceed 25% of any fund's balance at the time of purchase.

General Fund Cash Flow

Because the receipts of General Fund revenues lag behind expenditures during most of each fiscal year, the City issues notes in anticipation of General Fund revenues and makes payments from the Consolidated Cash Account to finance its on-going operations. The City has issued notes in anticipation of the receipt of income by the General Fund in each fiscal year since Fiscal Year 1972 (with a single exception). Each issue was repaid when due, prior to the end of the fiscal year.

The timing imbalance referred to above results from a number of factors, principally the following: (1) real property, business privilege tax and certain other taxes are not due until the latter part of the fiscal year; (2) the City makes the majority of the employer's contribution to the Municipal Pension Fund in the early part of each Fiscal Year; and (3) the City experiences lags in reimbursement from other governmental entities for expenditures initially made by the City in connection with programs funded by other governments.

DISCUSSION OF FINANCIAL OPERATIONS

Fiscal Year 2008 Actual

Results for Fiscal Year 2008 reflect revenues of $3.72 billion, obligations of $3.92 billion and a Fiscal Year 2008 fund balance of $119.5 million on a legally enacted basis (modified accruals), an increase of $35.1 million over the fund balance estimated in the adopted budget, but a decrease of $178.4 million from the Fiscal Year 2007 ending fund balance. The decrease was caused in large part by one-time payments to the City's four unions as part of collective bargaining agreement settlements and reduction in business privilege and real estate transfer tax collections. This increase over the estimate in the adopted budget is largely due to the fact that the Fiscal Year 2007 fund balance was $126 million higher than anticipated when the budget was adopted. The estimate is also $54 million lower than the Fiscal Year 2008 fund balance estimated in the Approved Five Year Plan. This decrease is mainly the result of the lower than expected business privilege tax receipts, and lower state reimbursements.

Fiscal Year 2009 Adopted Budget

The City's Fiscal Year 2009 budget was approved by City Council on May 22, 2008 and signed into law that day. The budget projects estimated revenues of $3.9 billion, obligations of $4.03 billion and an ending fund balance of $62.5 million on the legally enacted basis. This budget was adopted by the City in conjunction with the Seventeenth Five-Year Plan which was approved by PICA on June 17, 2008.

Fiscal Year 2009 Current Estimate

The City's Fiscal Year 2009 current estimate projects revenues of $3.75 billion and obligations of $3.95 billion on a legally enacted basis. Tax revenues are now projected to be $179 million below budget levels. The real estate transfer tax and business privilege tax account for more than $152 million of the reduction. Total general fund revenue is projected to be $138.5 million below budget. Obligations are now projected to be $78.4 million below budgeted levels as the administration took quick action to reduce obligations and reduce the projected deficit. The Fiscal Year 2009 fund balance is projected to be ($60) million.

Effect of Economic Crisis on City Budget

Like other local governments across the country, the City is experiencing declines in tax collections and expected increases in pension costs. On November 6, 2008, Mayor Nutter announced the City's budget-balancing plan to address what would be, unless compensatory action was taken, an estimated $1 billion deficit over the next five years and a $108 million fund balance deficit, out of a $4 billion budget, in Fiscal Year 2009.

The Mayor's plan included, among other things, curtailment of certain nonessential services, suspension of City-funded business and wage tax reductions until fiscal 2015, closing some outdoor pools, eliminating 800 positions either through layoffs or not filling vacancies, and reducing employee overtime costs. On December 4, 2008, City Council approved revenue enhancement legislation which was part of the Mayor's budget-balancing plan. This legislation included halting reductions of City-funded wage and business privilege tax rates until fiscal year 2015. In addition, the legislation included increases to certain fees, including some licensing and inspection fees, false burglar alarm fees and some health related fees. The budget-balancing plan was expected to result in $148 million in savings for Fiscal Year 2009, which, based upon then current revenue estimates, would have resulted in a Fiscal 2009 ending fund balance of $41 million.

However during November and December the city continued to experience declining receipts and further erosion in pension fund earnings performance. On January 15, 2009, Mayor Nutter announced that despite previous actions taken which are described above, the city again faced a five year deficit of over $1 billion and an Fiscal Year 2009 fund balance estimate of ($60) million.

On January 16, 2009, the administration issued a budget call that included budget reductions of 10, 20 and 30 percent from every department. The administration reviewed these responses, engaged in community outreach programs and town hall meetings and conducted citizen and employee surveys to solicit input on the array of options available to balance the budget and Plan. The administration has proposed a 2010 budget and 2010-2014 Five Year Plan that includes staff reductions, anticipated benefit and pension savings and workrule changes, increased fees and temporary increases in the Real Estate and Sales Tax.

Fiscal Year 2010 Proposed Budget

The City's Fiscal Year 2010 budget was presented to City Council on March 19, 2009 and is currently under review. The budget projects estimated revenues of $3.968 billion, obligations of $3.836 billion and an ending fund balance of $96.8 million after discharging the Fiscal Year 2009 fund balance deficit on the legally enacted basis. The budget includes a 1 percent Sales Tax increase and a 16 mill increase in the Real Estate Tax. The Sales Tax increase and several of the assumed changes to the pension system will require State authorization. The administration has developed alternate budget balancing scenarios in the event State authorization does not materialize.

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Table IV-1
City of Philadelphia General Fund
Summary of Operations
(Legal Basis) (Amounts In Millions of USD)

	Actual	Actual	Actual	Actual	Actual	Current Estimate	Proposed Budget
	2004	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
REVENUES							
Real Property Taxes	377.7	392.7	395.8	397.5	402.8	412.8	574.2
Wage and Earnings Tax	1,049.6	1,073.6	1,111.2	1,167.4	1,184.8	1,127.3	1,146.0
Net Profits Tax	13.0	13.7	14.6	15.3	12.5	11.8	12.4
Business Privilege Tax	309.2	379.5	415.5	436.4	398.8	365.7	348.7
Sales Tax	108.0	119.9	127.8	132.6	137.3	128.0	234.7
Other Taxes[(a)]	202.2	250.9	304.1	286.7	260.3	200.9	177.3
Total Taxes	2,059.7	2,230.3	2,369.0	2,435.9	2,396.5	2,246.5	2,493.3
Locally Generated Non-Tax Revenue	207.4	200.9	235.9	247.9	265.8	275.6	276.0
Revenue from Other Governments	801.1	1,054.6	924.5	1,032.9	1,033.4	1,091.2	1,171.1
Receipts from Other City Funds	24.7	26.3	24.9	27.4	27.2	136.0	28.1
Total Revenue	3,092.9	3,512.1	3,554.3	3,744.1	3,722.8	3,749.3	3,968.5
OBLIGATIONS/APPROPRIATIONS							
Personnel Services	1,278.3	1,243.5	1,250.2	1,327.6	1,390.7	1,420.8	1,355.3
Purchase of Services	1,050.3	1,090.1	1,065.7	1,151.6	1,188.7	1,188.8	1,148.1
Materials, Supplies and Equipment	70.6	71.5	82.1	89.1	92.1	87.2	78.3
Employee Benefits	598.9	704.7	760.2	890.3	983.0	965.2	960.2
Indemnities, Contributions and Grants	95.1	113.5	110.9	119.0	120.9	130.3	117.4
City Debt Service	93.7	89.7	82.9	89.1	87.2	108.3	121.9
Other	32.0	36.7	38.6	31.2	32.3	22.7	25.0
Payments to Other City Funds	29.1	36.6	35.4	38.7	24.8	30.0	30.0
Total Obligations/Appropriations	3,248.0	3,386.3	3,426.0	3,736.6	3,919.8	3,953.3	3,836.2
Operating Surplus (Deficit) for the Year	(155.4)	125.8	128.2	7.5	(197.0)	(204.0)	132.3
Net Adjustments – Prior Year	17.3	17.2	30.1	35.9	18.6	24.5	24.5
Funding for Contingencies	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cumulative Fund Balance Prior Year	91.3	(46.8)	96.2	254.5	297.9	119.5	(60.0)
Cumulative Adjusted Year End Fund Balance (Deficit)	(46.8)	96.2	254.5	297.9	119.5	(60.0)	96.8

(a) Includes Real Estate Transfer Tax, Parking Tax, Amusement Tax, and Other Taxes.
FIGURES MAY NOT ADD DUE TO ROUNDING.

Table IV-2
City of Philadelphia
Principal Operating Funds (Debt Related)
Summary of Operations (Legal Basis)
(Amounts in Millions of USD)

	Actual 2004	Actual 2005	Actual 2006	Actual 2007	Actual 2008	Current Estimate 2009	Proposed Budget 2010
REVENUES							
General Fund	3,092.8	3,512.1	3,554.3	3,744.1	3,722.8	3,749.3	3,968.5
Water Fund[a]	438.3	451.4	490.3	519.7	589.7	561.3	613.6
Aviation Fund[b]	241.4	249.0	271.5	268.6	287.9	329.6	364.8
Other Operating Funds[c]	39.0	38.6	41.9	44.9	113.2	45.6	49.2
Total Revenue	3,811.5	4,251.1	4,358.0	4,577.3	4,713.6	4,685.8	4,996.1
OBLIGATIONS/APPROPRIATIONS							
Personnel Services	1,444.7	1,409.0	1,412.9	1,498.2	1,568.9	1,605.8	1,539.5
Purchase of Services	1,197.0	1,250.0	1,233.5	1,328.5	1,441.4	1,415.3	1,398.3
Materials, Supplies and Equipment	119.2	121.9	136.2	145.9	151.1	151.3	163.6
Employee Benefits	662.1	784.9	845.3	990.1	1,095.8	1,076.3	1,081.9
Indemnities, Contributions and Taxes	99.7	117.3	116.5	122.6	127.1	141.3	129.9
Debt Service[d]	344.6	336.8	337.6	348.8	346.7	395.3	429.7
Other	32.0	36.7	38.6	31.2	32.3	22.6	25.0
Payments to Other City Funds	95.5	97.0	119.4	144.9	154.7	114.3	123.6
Total Obligations/Appropriations	3,994.8	4,153.6	4,240.0	4,610.2	4,917.9	4,922.2	4,891.5
Operating Surplus (Deficit) for the Year	(183.4)	97.5	118.0	(32.8)	(204.3)	(236.4)	104.6
Net Adjustments Prior Year	41.0	45.8	60.6	69.6	51.0	52.7	56.7
Funding for Contingencies	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cumulative Fund Balance (Deficit) Prior Year End	132.0	(10.4)	132.9	311.5	348.3	195.0	11.3
Cumulative Adjusted Year End Fund Balance (Deficit)	(10.4)	132.9	311.5	348.3	195.0	11.3	172.6

(a) Revenues of the Water Fund are not legally available for payment of other obligations of the City until, on an annual basis, all revenue bond debt service requirements and covenants relating to those bonds have been satisfied, and then only to the extent of $4,994,000 per year, provided certain further conditions are satisfied. From Fiscal Year 1991 to Fiscal Year 2003, the maximum transfer, per administrative agreement, was $4,138,000. For Fiscal Year 2004, the budgeted transfer was not made. For Fiscal Year 2005, the transferred amount was $4,401,000. For Fiscal Year 2006, 2007 and 2008, the transferred amount was $4,994,000.

(b) Airport revenues are not available for other City purposes.

(c) Includes County Liquid Fuels Tax Fund, Special Gasoline Tax Fund and Water Residual Fund.

(d) Excludes PICA bonds.

FIGURES MAY NOT ADD DUE TO ROUNDING.

Quarterly Reporting to PICA

On November 16, 1992, the City submitted the first of its quarterly reports to PICA. This reporting is required under the PICA Act so that PICA may determine whether the City is in compliance with the then-current Five-Year Plan. Under the PICA Act, a "variance" is deemed to have occurred as of the end of a reporting period if (i) a net adverse change in the fund balance of a covered fund of more than 1% of the revenues budgeted for such fund for that fiscal year is reasonably projected to occur, such projection to be calculated from the beginning of the fiscal year for the entire fiscal year, or (ii) the actual net cash flows of the City for a covered fund are reasonably projected to be less than 95% of the net cash flows of the City for such covered fund for that fiscal year originally forecast at the time of adoption of the budget, such projection to be calculated from the beginning of the fiscal year for the entire fiscal year. The Mayor is required to provide a report to PICA that describes actual or current estimates of revenues, expenditures, and cash flows by covered funds compared to budgeted revenues, expenditures, and cash flows by covered funds for such previous quarterly or monthly period and for the year-to-date period from the beginning of the then-current fiscal year of the City to the last day of the fiscal quarter or month, as the case may be, just ended. Each such report is required to explain any variance existing as of such last day.

PICA may not take any action with respect to the City for variances if the City (i) provides a written explanation of the variance that PICA deems reasonable; (ii) proposes remedial action that PICA believes will restore overall compliance with the then-current Five-Year Plan; (iii) provides information in the immediately succeeding quarterly financial report demonstrating to the reasonable satisfaction of PICA that the City is taking remedial action and otherwise complying with the then-current Five-Year Plan; and (iv) submits monthly supplemental reports as required by the PICA Act.

On February 20, 2009 based on results as reported in the December 31, 2008 Quarterly City Managers Report for December 31, 2008, PICA informed the City that a variance had been declared as defined in Section 4.10(a) of the Intergovernmental Cooperation Agreement. The City is providing monthly information to PICA as requested. PICA has agreed to accept the submission of the Eighteenth Five Year Plan proposal (FY2010-FY2014) as the City's proposed remedial action to address the variance.

REVENUES OF THE CITY

General

In 1932, the Pennsylvania General Assembly adopted an act (commonly referred to as the Sterling Act) under which the City was permitted to levy any tax that was not specifically pre-empted by the Commonwealth. Prior to 1939, the City relied heavily upon the real property tax as the mainstay of its revenue system. Acting under the Sterling Act and other legislation, the City has taken various steps over the years to reduce its reliance on real property taxes as a source of income, including: (1) enacting the wage, earnings, and net profits tax in 1939; (2) introducing a sewer service charge to make the sewage treatment system self-sustaining after 1945; (3) requiring under the Home Rule Charter that the water, sewer, and other utility systems be fully self-sustaining; and (4) enacting in 1952 the Mercantile License Tax (a gross receipts tax on business done within the City), which was replaced as of the commencement of Fiscal Year 1985 by the Business Privilege Tax.

Major Revenue Sources

The City derives its revenues primarily from various taxes, non-tax revenues, and receipts from other governments. See Table IV-3 for revenues by major source for Fiscal Years 1999-2010 and Table IV-4 for General Fund tax revenues for Fiscal Years 2004-2010. The following description does not take into account revenues in the Non-Debt Related Funds. The tax rates for Fiscal Years 1997 through 2007 are contained in the Fiscal Year 2008 Comprehensive Annual Financial Report.

Wage, Earnings, and Net Profits Taxes — These taxes are levied on the wages, earnings, and net profits of all residents of the City and all non-residents employed within the City. The rate for both residents and non-residents was 4.3125% from Fiscal Year 1977 through Fiscal Year 1983. For Fiscal Years 1984 through 1991 the wage and earnings tax rate was 4.96% for residents and 4.3125% for non-residents and the net profits tax rate was 4.96% for both residents and non-residents.

In Fiscal Year 1992, the City reduced the City wage, earnings, and net profits tax on City residents by 1.5% and imposed the PICA Tax on wages, earnings and net profits at the rate of 1.5% on City residents. The table below sets forth the resident and non-resident wage and earnings tax rates for Fiscal Years 1999-2008, and the annual wage and earnings tax receipts in Fiscal Years 1999-2008 and the estimated receipts in Fiscal Year 2009 and budgeted receipts in Fiscal Year 2010.

Fiscal Year	Resident Wage and Earnings Tax Rates*	Non-Resident Wage and Earnings Tax Rates	Annual Wage and Earnings Tax Receipts (including PICA Tax) (Amounts in Millions)
1999	4.6869%	4.0750%	$1,195.6
2000	4.6135	4.0112	1,242.3
2001	4.5635	3.9672	1,332.6
2002	4.5385	3.9462	1,297.3
2003	4.5000	3.9127	1,306.6
2004	4.4625	3.8801	1,347.6
2005	4.3310	3.8197	1,387.5
2006	4.3010	3.7716	1,435.6
2007	4.2600	3.7557	1,510.6
2008	4.2190	3.7242	1,527.5
2009 (Current Estimate) **	3.98 (July 1) 3.93 (January 1)	3.5392 (July 1) 3.50 (January 1)	1,488.7
2010 (Proposed Budget)	3.9296	3.4997	1,516.2

* Includes PICA Tax.
** There are two rate decreases during Fiscal Year 2009.

In the Seventeenth Five-Year Plan, the Mayor approved further reductions in this tax rate for each of the Fiscal Years 2009-2013. The Seventeenth Five-Year Plan approved reducing the wage tax from its current level of 4.2190% for residents and 3.7242% for non-residents to 3.60% for residents and 3.25% for non-residents by Fiscal Year 2013. These reduced rates include rate reductions funded through tax reduction funding provided by the Commonwealth of Pennsylvania from gaming proceeds. In Fiscal Year 2009 there have been two rate reductions: one that took effect July 1, 2008 and the other that took effect January 1, 2009. Each approved Five-Year Plan since the one covering Fiscal Years 1996-2000 has included reductions in this tax rate for each of its fiscal years.

For a discussion of legislation approved by City Council that halts the reduction of City-funded wage tax rates until fiscal year 2015, see "DISCUSSION OF FINANCIAL OPERATIONS-Effect of Economic Crisis on City Budget" in this Appendix IV.

Business Privilege Tax — In May 1984, the City enacted an ordinance substituting the Business Privilege Tax for the Mercantile License Tax. The Business Privilege Tax has been levied since January 1985 on every entity engaging in business in the City.

The Business Privilege Tax is a composite tax. Tax rates vary according to business classification (regulated, non-regulated, persons registered under the Pennsylvania Securities Act of 1972, manufacturing, wholesale, or retail) and method of tax computation employed. The various methods of tax computation are as follows: effective Fiscal Year 1989, all regulated industries, banks, trust companies, insurance companies, and public utilities, among others, were taxed at an annual rate of 3.25 mills on annual receipts not to exceed 6.5% of their net income. The tax on annual receipts and net income of all businesses, other than regulated industries, was levied at 3.25 mills and 6.5%, respectively, provided that persons registered under the Pennsylvania Securities Act of 1972 shall in no event pay a tax of less than 5.711 mills on all taxable receipts plus the lesser of 4.302% of net income or 4.302 mills on gross taxable receipts.

Non-regulated industry manufacturers can opt for a lower 5.395% rate on receipts from sales after deducting the applicable cost of goods. Non-regulated wholesalers may choose a gross receipts tax on wholesale transactions at a lower rate of 7.55% after deducting applicable product and labor costs. Non-regulated retailers have the option of choosing the lower rate of 2.1% on receipts from retail sales after deducting applicable product and labor costs.

All persons subject to both the Business Privilege Tax and the Net Profits Tax are entitled to apply a credit of 60% of their Business Privilege Tax liability against what is due on the Net Profits Tax, which credit may be carried back or forward for up to three years.

In Fiscal Year 1996, the City began a program of reducing the gross receipts portion of the Business Privilege Tax from its previous level of 3.25 mills. The tax rates for tax years 1999-2009 are set forth below.

Tax Year	Business Privilege Tax/Gross Receipts
1999	2.775 mills
2000	2.650 mills
2001	2.525 mills
2002	2.400 mills
2003	2.300 mills
2004	2.100 mills
2005	1.900 mills
2006	1.665 mills
2007	1.540 mills
2008	1.415 mills
2009	1.415 mills

In the Seventeenth Five-Year Plan, the Mayor approved further reductions in the gross receipts portion of the Business Privilege Tax for each of the Fiscal Years 2009-2013. The Seventeenth Five-Year Plan approved reducing the gross receipts portion of the tax from its current rate of 0.1415% to 0.10% in Fiscal Year 2013. In addition, the Mayor approved reducing the percentage of net income portion of the

Business Privilege tax to 6.25% in Fiscal Year 2013 from 6.5% in Fiscal Year 2008. The Fiscal Year 2009 rate was reduced to 6.45%.

For a discussion of legislation approved by City Council that halts the reduction of City-funded business privilege tax rates until fiscal year 2015, see "DISCUSSION OF FINANCIAL OPERATIONS-Effect of Economic Crisis on City Budget" in this Appendix IV.

All business activity is also assessed a one-time $200 licensing fee administered by the Department of Licenses and Inspections.

Real Property Taxes — A real estate tax on all taxable real property is levied on the assessed value of residential and commercial property located within the City's boundaries. From Fiscal Year 2003 through Fiscal Year 2007 the City's portion of the rate was 34.74 mills and the School District's portion was 47.90 mills. In Fiscal Year 2008, City Council shifted 1.69 mills of City tax to the School District. In Fiscal Year 2008, the City's portion of the rate is 33.05 mills and the School District's portion is 49.59 mills. The Fiscal Year 2010 proposed budget assumes a 16 mill increase in the city portion of the real estate tax taking the city rate to 49.05 mills. This increase is assumed to decline to 12 mills (45.05 mills) in Fiscal Year 2011 and to sunset in Fiscal Year 2012.

Sales and Use Tax — In connection with the adoption of the Fiscal Year 1992 Budget, the City adopted a 1% sales and use tax (the "City Sales Tax") for City general revenue purposes. The Commonwealth authorized the levy of this tax under the PICA Act. Vendors are required to pay this sales tax to the Commonwealth Department of Revenue together with the similar Commonwealth sales and use tax. The State Treasurer deposits the collections of this tax in a special fund and disburses the collections, including any investment income earned thereon, less administrative fees of the Commonwealth Department of Revenue, to the City on a monthly basis.

The City Sales Tax is imposed in addition to, and on the same basis as, the Commonwealth's sales and use tax. The City Sales Tax became effective September 28, 1991 and is collected for the City by the Commonwealth Department of Revenue. The Fiscal Year 2010 budget assumes an increase to 2 percent from the current 1 percent rate. This increase requires Commonwealth authorization. The Plan assumes this temporary increase will sunset on June 30, 2012. The table below sets forth the City Sales Tax collected in Fiscal Years 1999 through 2008, estimated collections for Fiscal Year 2009 and budgeted collections for Fiscal Year 2010.

Fiscal Year	City Sales Tax Collections
1999	$101.4 million
2000	103.7 million
2001	111.3 million
2002	108.1 million
2003	108.0 million
2004	108.0 million
2005	119.9 million
2006	127.8 million
2007	132.6 million
2008	137.3 million
2009 (Current Estimate)	128.0 million
2010 (Proposed Budget)	234.7 million

Other Taxes — The City also collects real property transfer taxes, parking lot taxes, and other miscellaneous taxes such as the Amusement Tax.

Other Locally Generated Non-Tax Revenues — These revenues include license fees and permit sales, traffic fines and parking meter receipts, court related fees, stadium revenues, interest earnings and other miscellaneous charges and revenues of the City.

Revenue from Other Governments — The City's Fiscal Year 2009 General Fund current estimate projects that approximately 28.5% of General Fund revenues will be received from other governmental jurisdictions, including: (1) $537 million from the Commonwealth for health, welfare, court, and various other specified purposes; (2) $200 million from the Federal government; and (3) $68.6 million from other governments, in which revenues are primarily rental and loan repayments from the Philadelphia Gas Works and the Convention Center Service Fee offset. In addition, the projected net collections of the PICA Tax of $281.6 million are included in "Revenue from Other Governments." These amounts do not include the substantial amounts of revenues from other governments received by the Grants Revenue Fund, Community Development Fund, and other operating and capital funds of the City.

Revenues from City-Owned Systems

In addition to taxes, the City realizes revenues through the operation of various City-owned systems such as the Water and Wastewater Systems and PGW. The City has issued revenue bonds with respect to the Water and Wastewater Systems and PGW to be paid solely from and secured by a pledge of the respective revenues of these systems. The revenues of the Water and Wastewater Systems and PGW are not legally available for payment of other obligations of the City until, on an annual basis, all revenue bond debt service requirements and covenants relating to those bonds have been satisfied and then, in a limited amount and upon satisfaction of certain other conditions.

Effective June 1991, the revenues of the Water Department were required to be segregated from other funds of the City. Under the City's Restated General Water and Wastewater Revenue Bond Ordinance of 1989 (the "Water Ordinance"), an annual transfer may be made from the Water Fund to the City's General Fund in an amount not to exceed the lesser of (a) all Net Reserve Earnings, as defined below, or (b) $4,994,000. Net Reserve Earnings means the amount of interest earnings during the fiscal year on amounts in the Debt Reserve Account and Subordinated Bond Fund, as defined in the Water Ordinance. Commencing in Fiscal Year 1991, the $4,994,000 amount was reduced to $4,138,000 by administrative agreement that remained in effect through Fiscal Year 2003. No such transfer was made in Fiscal Year 1992; however, the transfer was made in each subsequent year through Fiscal Year 2003. For Fiscal Year 2004, the transfer was to have increased to $4,994,000 but no payment was made. For Fiscal Year 2005, the transferred amount was $4,401,000; for Fiscal Year 2006, the transferred amount was $4,994,000; and for Fiscal Years 2007 and Fiscal Year 2008, the transferred amount was $4,994,000. The revenues of PGW are segregated from other funds of the City. Payments for debt service on Gas Works Revenue Bonds are made directly by PGW. In previous years, PGW has also made an annual payment of $18,000,000 to the City's General Fund. For Fiscal Year 2005 the City agreed to forgo the $18,000,000 payment and for Fiscal Year 2006 and 2007 the City budgeted the receipt of the $18,000,000 payment and the grant back of such amount to PGW. The City's Seventeenth Five-Year Plan assumes that the $18,000,000 payment will be made in each of Fiscal Years 2008 through 2013 and that the City will grant back such payment to PGW in each such Fiscal Year.

Philadelphia Parking Authority

The Philadelphia Parking Authority ("PPA") was established by City ordinance pursuant to the Pennsylvania Parking Authority Law, P.L. 458, No. 208 (June 5, 1947). Various statutes, ordinances, and contracts authorized PPA to plan, design, acquire, hold, construct, improve, maintain and operate, own or lease land and facilities for parking in the City, including such facilities at Philadelphia International Airport (the "Airport"), and to administer the City's on-street parking program through an Agreement of Cooperation ("Agreement of Cooperation") with the City.

Revenues under the Lease Agreement with PPA – PPA owns and operates five parking garages at the Airport, as well as operating a number of surface parking lots at the Airport. The land on which these garages and surface lots are located is leased from the City, acting through the Department of Commerce, Division of Aviation, pursuant to a lease expiring in 2030 (the "Lease Agreement"). The Lease Agreement provides for payment of rent to the City, which is equal to gross receipts less operating expense, debt service on PPA's bonds issued to finance improvements at the Airport and reimbursement to PPA for capital expenditures and prior year operating deficits relating to its Airport operations, if any. The City received transfers of rental payments in Fiscal Years 2003 through 2008 that totaled $11,629,311, $14,539,053, $27,239,000, $30,186,642, $33,184,918, and $33,570,037, respectively. The Fiscal Year 2009 budgeted transfer amount is $35,000,000.

One component of the operating expenses is PPA's administrative costs. In 1999, at the request of the Federal Aviation Administration ("FAA"), PPA and the City entered into a letter agreement (the "FAA Letter Agreement") which contained a formula for calculating PPA's administrative costs and capped such administrative costs at 28% of PPA's total administrative costs for all of its cost centers. PPA owns and/or operates parking facilities at a number of non-Airport locations in the City. These parking facilities are revenue centers for purposes of the FAA Letter Agreement.

Assessment and Collection of Real and Personal Property Taxes

The Board of Revision of Taxes (the "Board") appoints real estate assessors who annually assess all real estate located within the City. The assessors return assessments for each parcel of real estate to the Board. The Board may increase or decrease the property valuations contained in the returns of the assessors in order that such valuations conform with law. After the Board gives proper notice of all changes in property assessments, and after it has heard all assessment appeals, it then makes assessments and certifies the results to the Department of Revenue.

Real estate taxes, if paid by February 28, are discounted by 1%. If the tax is paid during the month of March, the gross amount of tax is due. If the tax is not paid by the last day of March, tax additions of 1.5% per month are added to the tax for each month that the tax remains unpaid through the end of the calendar year. Beginning in January of the succeeding year, the 15% tax additions that accumulated during the last ten months of the preceding years are capitalized and the tax is registered delinquent. Interest is then computed on the new tax base at a rate of 0.5% per month until the real estate tax is fully paid. Commencing in February of the second year, an additional 1% per month penalty is assessed for a maximum of seven months. See the Fiscal Year 2008 Comprehensive Annual Financial Report for assessed and market values of taxable realty in the City and for levies and rates of collections.

During Fiscal Year 1997 and subsequent to the adoption of the Fiscal Year 1998 budget, the City decided to abandon the collection of the Personal Property Tax due to uncertainty as to the outcome of litigation challenging specific aspects of the tax then pending in other jurisdictions of the Commonwealth. As a result, the City realized no Personal Property Tax revenues in Fiscal Year 1998 or in subsequent years. The Personal Property Tax had been levied on the value of certain personal property of the residents of the City.

Table IV-3
City of Philadelphia
Summary of
Principal Operating Funds (Debt Related)
Revenues by Major Source
Fiscal Years 1999-2010 (Legal Basis)
(Amounts in Millions of USD)

Fiscal Year	Real Property Taxes[a]	Wage Earnings & Net Profits Taxes[a]	Business Privilege Tax[a]	Sales and Use	Other Taxes[b]	Total Taxes	Water & Wastewater Charges	Airport Charges	Other Locally Generated Charges	Total Local Revenue	Revenue from Other Govts	Revenue from Other City	Total Revenues
1999	342.6	949.8[c]	254.5	101.4	118.3	1,766.6	290.5	143.2	259.9	2,460.2	639.9	103.1	3,203.2
2000	353.6	985.7[c]	290.1	103.7	123.5	1,856.6	296.1	149.4	258.0	2,560.1	708.3	79.9	3,348.3
2001	363.4	1,059.0[d]	314.0[d]	111.3	130.0[d]	1,977.7	285.8	175.7	251.3	2,690.5	781.7	90.5	3,562.7
2002	376.8	1,019.3	295.8	108.1	148.6	1,945.4	302.8	181.7	257.9	2,687.8	722.5	80.8	3,491.1
2003	361.1	1,025.1	286.1	108.0	156.3	1,936.6	329.6	219.4	327.4	2,813.0	909.7	62.8	3,785.5
2004	377.7	1,062.6	309.2	108.0	202.2	2,059.7	383.1	235.0	207.4	2,885.2	834.2	92.1	3,811.5
2005	392.7	1,087.3	379.5	119.9	250.9	2,230.3	419.7	246.3	200.8	3,097.1	1,082.4	71.6	4,251.1
2006	395.8	1,125.8	415.5	127.8	304.1	2,369.0	460.4	269.4	236.2	3,335.0	953.1	69.9	4,358.0
2007	397.5	1,182.7	436.4	132.6	286.7	2,435.9	486.9	266.0	248.3	3,437.1	1,063.3	77.0	4,577.4
2008	402.8	1,197.3	398.8	137.3	260.3	2,396.5	555.0	275.3	267.5	3,494.3	1,066.2	153.1	4,713.6
2009 (Current Estimate)	412.8	1,127.3	365.7	128.0	212.7	2,246.5.	487.3	325.1	285.7	3,334.6	1,125.8	225.4	4,685.8
2010 (ProposedBudget)	574.2	1,146.0	348.7	234.7	189.7	2,493.3	528.4	355.0	275.8	3,652.5	1,212.7	130.9	4,996.1

(a) See Table 7 in the Fiscal Year 2008 Comprehensive Annual Financial Report for Tax Rates.
(b) Includes Real Estate Transfer Tax, Parking Tax, Amusement Tax, and Other Taxes.
(c) In Fiscal Year 1992, the City reduced the resident Wage and Earnings and Net Profits Taxes from 4.96% to 3.46% and levied the PICA Tax at a rate of 1.50%, the proceeds of which are remitted to PICA for payment of debt service on the PICA bonds and PICA's expenses.
(d) Accounting accrual changes required by GASB #33 resulted in additional one-time tax revenue accruals in Fiscal Year 2001. (Wage Tax, $50.4 million; Business Privilege, $5.2 million; Other Taxes, $4.3 million).

FIGURES MAY NOT ADD DUE TO ROUNDING.

Table IV-4
City of Philadelphia General Fund
Tax Revenues (a)
Fiscal Years 2004-2010
(Amounts in Millions of USD)

	Actual	Actual	Actual	Actual	Actual	Current Estimate	Proposed Budget
	2004	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
REAL PROPERTY TAXES							
Current	332.6	353.2	354.1	367.2	366.5	370.8	532.2
Prior	45.1	39.5	41.7	30.3	36.3	42.0	42.0
Total	377.7	392.7	395.8	397.5	402.8	412.8	574.2
WAGE AND EARNINGS TAX[b]							
Current	1,034.5	1,066.0	1,104.0	1,162.4	1,176.5	1,115.3	1,134.0
Delinquent	15.1	7.6	7.2	5.1	8.3	12.0	12.0
Total	1,049.6	1,073.6	1,111.2	1,167.5	1,184.8	1,127.3	1,146.0
BUSINESS TAXES							
Business Privilege							
Current	269.9	326.7	390.5	401.9	376.1	340.7	323.7
Delinquent	39.2	52.8	25.0	34.5	22.7	25.0	25.0
Sub-Total Business Privilege	309.1	379.5	415.5	436.4	398.8	365.7	348.7
Net Profits Tax							
Current	11.3	12.0	11.8	10.9	9.1	8.3	8.4
Delinquent	1.7	1.7	2.8	4.3	3.4	3.5	4.0
Sub-Total Net Profits Tax	13.0	13.7	14.6	15.3	12.5	11.8	12.4
Total Business Taxes	322.1	393.2	430.1	451.6	411.3	377.5	361.1
OTHER TAXES							
Sales and Use Tax	108.0	119.9	127.8	132.6	137.3	128.0	234.7
Amusement Tax	18.3	13.5	17.0	16.4	18.0	18.4	18.9
Real Property Transfer Tax	141.3	192.3	236.4	217.3	184.0	110.6	84.7
Parking Taxes	42.5	45.0	48.4	50.3	55.5	69.0	70.7
Other Taxes	0.1	0.1	2.3	2.6	2.8	2.9	3.0
Sub-Total Other Taxes	310.2	370.8	431.9	419.2	397.6	328.9	412.0
TOTAL TAXES	2,059.6	2,230.3	2,369.0	2,435.9	2,396.5	2,246.5	2,493.3

(a) See Table 7 in the Fiscal Year 2008 Comprehensive Annual Financial Report for Tax Rates.

(b) Beginning in Fiscal Year 1992, the City reduced the resident Wage and Earnings and Net Profits Tax from 4.96% to 3.46% and levied the PICA Tax at a rate of 1.50%, the proceeds of which are remitted to PICA for payment of debt service on PICA bonds and the PICA expenses. After paying debt service and expenses, net proceeds from the tax are remitted to the City as Revenue from Other Governments.

FIGURES MAY NOT ADD DUE TO ROUNDING

Table IV-5
Ten Largest Certified Market and Assessment Values
of Tax-Abated Properties
Certified Values for 2008

	Location	2008 Certified Market Value	Total Assessment	Total Taxable Assessment	Total Exempt Assessment
1	2201 Park Towne Place	$48,000,000	$15,360,000	$13,452,400	$ 1,907,600
2	819-41 Chestnut Street	$45,200,000	$14,464,000	$ 5,440,000	$ 9,024,000
3	1600-18 Arch Street	$37,661,200	$12,051,584	$ 2,550,400	$ 9,501,184
4	1825-51 North 10th Street	$33,200,000	$10,624,000	$ 0	$10,624,000
5	3118-98 Chestnut Street	$29,861,000	$ 9,555,520	$ 656,075	$ 8,899,445
6	801 Market Street	$30,000,000	$ 9,600,000	$ 1,544,000	$ 8,056,000
7	1915-19 Chestnut Street	$29,264,100	$ 9,364,512	$ 8,956,800	$ 407,712
8	200 West Washington Square	$30,572,000	$ 9,783,040	$ 640,000	$ 9,143,040
9	11000 East Roosevelt Blvd.	$24,277,400	$ 7,768,768	$ 3,680,000	$ 4,088,768
10	3175 John F. Kennedy Blvd.	$26,400,000	$ 8,448,000	$ 2,400,000	$ 6,048,000

Source: City of Philadelphia, Board of Revision of Taxes

EXPENDITURES OF THE CITY

The major City expenditures are for personal services, employee benefits, purchase of services (including payments to SEPTA), and debt service.

Personal Services (Personnel)

As of June 30, 2008, the City employed 27,753 full-time employees with the salaries of 23,111 employees paid from the General Fund. Additional employment is supported by other funds, including the Water Fund and the Aviation Fund.

Additional operating funds for employing personnel are contributed by other governments, primarily for categorical grants, as well as for the conduct of the community development program. These activities are not undertaken if funding is not received.

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The following table sets forth the number of filled full-time positions of the City as of the dates indicated.

Table IV-6
City of Philadelphia
Filled, Full Time Positions — All Operating Funds
at June 30 Actual

	2004	2005	2006	2007	2008	2009*	2010**
General Fund							
Police	7,668	7,368	7,287	7,424	7,367	7,478	7,478
Streets	1,946	1,788	1,858	1,814	1,839	1,888	1,797
Fire	2,337	2,248	2,270	2,399	2,326	2,357	2,328
Health	745	667	662	664	665	746	739
Courts	2,046	2,004	1,936	1,928	1,970	1,945	1,965
Prisons	2,033	2,152	2,225	2,176	2,131	2,400	2,360
Human Services	1,815	1,743	1,703	1,721	1,784	1,858	1,858
All Other	5,170	4,995	4,878	4,941	5,029	5,216	4,982
Total General Fund	23,760	22,965	22,819	23,067	23,111	23,888	23,507
Other Funds	4,659	4,649	4,616	4,598	4,642	5,044	5,044
TOTAL	28,419	27,614	27,435	27,665	27,753	28,932	28,551

*Estimated 2009 includes vacant positions.

** Proposed Budget

Labor Agreements

Four major bargaining units represent City employees for collective bargaining purposes. District Councils 33 and 47 of the American Federation of State, County and Municipal Employees, AFL-CIO represents approximately 15,000 non-uniformed employees. The bargaining units for uniformed employees are the Fraternal Order of Police, Lodge 5 (the "FOP") and the Philadelphia Fire Fighters Association, Local 22, International Association of Fire Fighters AFL-CIO ("IAFF Local 22"), which together represent approximately 9,400 employees. The non-uniformed employees bargain under Act 195 of 1972, which allows for the limited right to strike over collective bargaining impasses. The uniformed employees bargain under Pennsylvania Act 111 of 1968, which provides for final and binding interest arbitration to resolve collective bargaining impasses. All contract expiration dates are June 30 unless otherwise noted.

In September 2004, a collective bargaining agreement was reached with District Council 47. This four-year contract includes a $750 payment to each member with no general wage increase in Fiscal Year 2005 and wage increases of 2, 3 and 4 percent effective July 1 of each succeeding year, respectively. In December 2004, a collective bargaining agreement was reached with District Council 33, which mirrored the agreement previously reached with District Council 47. Each of the collective bargaining agreements included a health benefit reopener provision for the final two years of the agreement. The City concluded negotiations with District Councils 33 and 47 and agreed to increase the per member per month contributions to the unions by fourteen percent in Fiscal Year 2007 and an additional fourteen percent in Fiscal Year 2008.

On June 28, 2006, an arbitration panel issued a 3-year award to the IAFF Local 22. The award granted wage increases of 3.0% effective July 1, 2005, 3.0% effective July 1, 2006, and 4.0% effective July 1, 2007. In addition, the panel granted Local 22 health medical increases of 11.3% effective July 1,

2005, 14.1% effective July 1, 2006, and 14.0% effective July 1, 2007. The arbitration panel also addressed management issues believed by the City to be outside its jurisdiction. On August 24, 2007, the Commonwealth Court issued an opinion affirming in part and revising in part. The Court upheld the medical increases granted by the arbitrator's and revised the decision that limited the City's management rights.

The FOP contract contained a 3% increase in wages effective July 1, 2004, 3% effective July 1, 2005, 3% effective July 1, 2006 and a 4% increase effective July 1, 2007. The award also called for a re-opener for health medical coverage for Fiscal Year 2006 and Fiscal Year 2007.

At the re-opener in August of Fiscal Year 2006, the arbitrators ordered the City to increase FOP healthcare contributions by 15.7 percent and 10 percent in Fiscal Year 2006 and Fiscal Year 2007, respectively. After a City appeal, the Court of Common Pleas remanded the ruling back to arbitration, but the panel reissued its original ruling with no change. The City appealed the ruling to Common Pleas Court on February 13, 2006, and lost. The City has appealed that ruling in Commonwealth Court which ruled in favor of the City. The FOP petitioned the Pennsylvania Supreme Court asking the Court to review the matter, which the Court declined to do. The Mayor and the FOP reached a settlement in which the City agreed to pay the amounts awarded by the arbitrator. Accordingly, the matter has been withdrawn as moot.

On July 10, 2008 the arbitration panel awarded a one-year contract to the FOP effective July 1, 2008. The award calls for a 2 percent wage increase effective July 1, 2008, a 2 percent wage increase effective January 1, 2009 and a 1 percent increase in longevity pay effective January 1, 2009. In addition, the panel reduced the per member per month health medical payment from the current monthly rate of $1,303 per member to $1,165 per member.

On October 17, 2008, an arbitration panel awarded a one-year contract to the IAFF effective July 1, 2008. The award calls for a 2 percent wage increase effective July 1, 2008, a 2 percent wage increase effective January 1, 2009, and a 1 percent increase in longevity pay effective January 1, 2009. In addition, the panel reduced the per member per month health medical payment from the current monthly rate of $1,444 per member to $1,270 per member.

The City has also reached a one year agreement with District Council 33 and District Council 47, which was effective July 1, 2008. The agreement calls for a lump sum bonus of $1,100 per member. The agreement also calls for no increase in the current per member per month health benefit payment. The union memberships have ratified the agreements.

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The following table presents employee wage increases for the Fiscal Years 1998 through 2009.

Table IV-7
City of Philadelphia
Employee Wage Increases
Fiscal Years 1998-2009

Fiscal Year	District Council No. 33	District Council No. 47	Fraternal Order of Police	International Association of Fire Fighters
1998	3.0% (a)	3.0% (a)	4.0% (b)	4.0% (c)
1999	3.0% (a)	3.0% (a)	3.0% (b)	3.0% (c)
2000	4.0% (d)	4.0% (d)	4.0% (e)	4.0% (f)
2001	No increase	No increase	3.0%	3.0%
2002	3.0% (h)	3.0% (h)	4.0%	4.0%
2003	3.0% (i)	3.0% (i)	3.0%	3.0%
2004	3.0%	3.0%	3.5%	3.5%
2005	No increase (j)	No increase (j)	3.0%	3.0%
2006	2.0%	2.0%	3.0%	3.0%
2007	3.0% (k)	3.0% (k)	3.0%	3.0%
2008	4.0% (l)	4.0% (l)	4.0%	4.0%
2009	No increase (m)	No increase (m)	4.0% (n)	4.0% (n)

(a) Third year of a four year contract: 3% effective December 15, 1998.
(b) First year of a two year contract: 3% effective September 15, 1998.
(c) Third year of a four year contract: 3% effective September 15, 1998.
(d) Fourth year of a four year contract: 4% effective March 15, 2000.
(e) Second year of a two year contract: 4% effective September 15, 1999.
(f) Fourth year of a four year contract: 4% effective September 15, 1999.
(g) First year of a four year contract: cash bonus of $1,500 paid in August 2000.
(h) Second year of a four year contract: 3% effective December 15, 2001.
(i) Third year of a four year contract: 3% effective December 15, 2002.
(j) First year of a four year contract: cash bonus of $750 paid in October 2004 to District Council 47 members and in December 2004 to District Council 33 members.
(k) Third year of a four year contract: 3% effective July 1, 2006.
(l) Fourth year of a four year contract: 4% effective July 1, 2007.
(m) Cash bonus of $1,100 paid 15 days after ratification.
(n) One year contract: 2% effective July 1, 2008 and 2% effective January 1, 2009.

Employee Benefits

The City provides various pension, life insurance, health, and medical benefits for its employees. General Fund employee benefit expenditures for Fiscal Years 2004 through 2010 are shown in the following table.

Table IV-8
City of Philadelphia
General Fund Employee Benefit Expenditures
Fiscal Years 2004-2010
(Amounts in Millions of USD)

	Actual	Actual	Actual	Actual	Actual	Current Estimate	Proposed Budget
	2004	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Pension Contribution*	229.4	315.5	346.5	436.8	430.8	461.1	479.1
Health/Medical/Dental	253.7	285.9	291.8	331.5	421.0	368.8	368.8
Social Security	60.6	59.9	60.8	64.1	69.7	69.2	69.2
Other	55.2	43.4	61.1	57.9	61.5	66.1	43.1
Total	598.9	704.7	760.2	890.3	983.0	965.2	960.2

* The Pension Contribution amount includes debt service on the Pension Obligation Bonds, Series 1999.

Municipal Pension Fund (Related to All Funds)

The City is required by the Home Rule Charter to maintain an actuarially sound pension and retirement system covering all officers and employees of the City. Court decisions have interpreted this requirement to mean that the City must make contributions to the Municipal Pension Fund sufficient to fund:

A. Accrued actuarially determined normal costs.

B. Amortization of the unfunded actuarial accrued liability ("UAAL") determined as of July 1, 1985. The portion of that liability attributable to a class action lawsuit by pension fund beneficiaries is amortized in level installments, including interest, over 40 years through June 30, 2009. The remainder of the liability is amortized over 34 years with increasing payments expected to be level as a percentage of each year's aggregate payroll.

C. Amortization in level percent of pay of the changes in the July 1, 1985 liability due to: nonactive member's benefit modifications (10 years); experience gains and losses (15 years); changes in actuarial assumptions (20 years); and active members' benefit modifications (20 years).

The pension fund was actuarially valued every two years through 1984, and beginning with the July 1, 1985 valuation report, is required to be actuarially valued each year.

The July 1, 1980 unfunded liability, as amended by subsequent reports, will be amortized over 38 years through annual contributions which will closely approximate a level percent of payroll. The Pennsylvania Municipal Pension Plan Funding Standard and Recovery Act, enacted December 18, 1984 adopted changes in funding of municipal pensions that have been reflected in the valuation report for July 1, 1985. In particular, this act generally requires that unfunded actuarial accrued liability be funded in annual level dollar payments. The City is permitted to amortize the July 1, 1985 UAAL over 40 years as a level percentage of pay of each year's aggregate payroll ending in 2025.

A July 2004 amendment to Act 205 allowed for 2001 and 2002 calendar year investment losses to be amortized over 30 years, rather than the usual 15.

Based on the City's most recent actuarial report dated as of July 1, 2007, the unfunded accrued liability was $3.77 billion which equals a funding ratio of 53.9%.

Non-uniformed employees become vested in the Municipal Pension Plan upon the completion of ten years of service. Upon retirement, non-uniformed employees may receive up to 80% of their average final compensation depending upon their years of credited service. Uniformed employees become vested in the Municipal Pension Plan upon the completion of ten years of service. Upon retirement, uniformed employees may receive up to 100% of their average final compensation depending upon their years of credited service. The retirement age differs for Plan 67 (age 55) and Plan 87 (age 60).

Effective January 1, 1987 the City adopted a new plan ("Plan 87") to cover employees hired after January 8, 1987, as well as members in the previous Plan who elected to transfer to Plan 87. Except for elected officials, Plan 87 provides for less costly benefits and reduced employee contributions. For elected officials, Plan 87 provides for enhanced benefits, with participating elected officials required to pay for the additional normal cost. Police and Fire personnel became eligible for Plan 87 on July 1, 1988. Because of Court challenges, members of District Council 33 and Locals 2186 and 2187 of District Council 47 were not eligible for Plan 87 until October 2, 1992.

A comprehensive statement of operations of the City Municipal Pension Fund for Fiscal Years 1998 through 2007 is contained in the Fiscal Year 2008 Comprehensive Annual Financial Report.

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Purchase of Services

The City accounts for a number of expenditures as purchase of services. The following table presents major purchases of services in the General Fund in Fiscal Years 2004 through 2010.

TABLE IV-9
CITY OF PHILADELPHIA
PURCHASE OF SERVICE IN THE GENERAL FUND
FISCAL YEARS 2004-2010
(AMOUNTS IN MILLIONS OF USD)

	Actual				Actual	Current Estimate	Proposed Budget
	2004	2005	2006	2007	2008	2009	2010
Human Services (a)	493.7	511.8	467.9	495.3	515.3	498.9	487.2
Public Health	69.1	60.7	61.1	65.5	65.1	71.1	68.6
Public Property (b)	132.4	133.3	137.6	156.3	139.5	142.3	146.1
Streets (c)	53.9	54.6	54.8	58.3	58.4	52.0	45.6
Sinking Fund-Lease Debt (d)	70.8	70.7	77.0	84.3	85.1	91.6	93.7
Legal Services (e)	33.4	33.5	33.6	35.4	37.3	37.3	35.9
First Judicial District	23.0	28.3	24.4	24.8	25.6	22.1	20.9
Licenses & Inspections (f)	6.0	3.1	11.5	11.4	11.9	9.9	8.5
Emergency (g)	12.0	22.1	28.6	31.3	33.9	32.5	31.7
Prisons	80.8	84.9	82.8	87.5	93.6	111.1	116.7
All Other	75.2	87.1	86.4	101.5	123.0	120.0	93.2
Total	1,050.3	1,090.1	1,065.7	1,151.6	1,188.7	1,188.8	1,148.1

(a) Includes payments for care of dependent and delinquent children.
(b) Includes payments for SEPTA, space rentals, utilities, and telecommunications. In Fiscal Year 2008, the telecommunications division was transferred to the Mayor's Office of Information Services (M.O.I.S.). Services purchased for MOIS appear in the table under the category "All Other". In FY2010 telecommunications is budgeted in Public Property.

(c) Includes solid waste disposal costs.
(d) Includes, among other things, Justice Center, Neighborhood Transformation Initiative and Stadium lease debt.
(e) Includes payments to the Defender Association to provide legal representation for indigents.
(f) Includes payments for demolition in Fiscal Year 2006, Fiscal Year 2007, Fiscal Year 2008 and Fiscal Year 2009.
(g) Includes homeless shelter and boarding home payments.

FIGURES MAY NOT ADD DUE TO ROUNDING

City Payments to School District

In each fiscal year since Fiscal Year 1996, the City has made an annual grant of $15 million to the School District. Pursuant to negotiations with the Commonwealth to address the School District's current and future educational and fiscal situation, the Mayor and City Council agreed to provide the School District with an additional annual $20 million beginning in Fiscal Year 2002. In Fiscal Year 2008, the Mayor and City Council agreed to provide an additional $2 million, bringing the total contribution to $37 million. The Fiscal Year 2009 budget includes a $38.5 million contribution.

City Loan to PGW

The City made a loan of $45 million to PGW during Fiscal Year 2001 to assist PGW in meeting its cash flow requirements. This loan was scheduled to mature in Fiscal Year 2007; however, PGW did not make the $45 million payment. PGW repaid $2 million to the City on August 31, 2007. PGW remitted a payment for $20.5 million before December 28, 2007; and PGW remitted a payment for the balance of $22.5 million on August 29, 2008. In addition, in order to assist PGW, (i) the City agreed to forgo the $18 million annual rental payment in Fiscal Year 2005, (ii) for Fiscal Years 2006 and 2007 the City made a grant to PGW equal to the annual rental payment received from PGW in such fiscal years, and (iii) the City's Eighteenth Five-Year Plan contemplates that in each of the Fiscal Years 2009 through 2014, the City will make a grant to PGW equal to the annual rental payment received from PGW in such Fiscal Years.

City Payments to SEPTA

The City's Fiscal Year 2008 operating subsidy payment to SEPTA was $61.3 million. The Fiscal Year 2010 budget projects operating subsidy payments to SEPTA of $64.2 million. The Eighteenth Five-Year Plan provides that the City's contribution to SEPTA will increase to $70.9 million by Fiscal Year 2014.

DEBT OF THE CITY

The Constitution of the Commonwealth provides that the authorized debt of the City "may be increased in such amount that the total debt of said City shall not exceed 13.5% of the average of the annual assessed valuations of the taxable realty therein, during the ten years immediately preceding the year in which such increase is made, but said City shall not increase its indebtedness to an amount exceeding 3.0% upon such average assessed valuation of realty, without the consent of the electors thereof at a public election held in such manner as shall be provided by law." It has been judicially determined that bond authorizations once approved by the voters will not be reduced as a result of a subsequent decline in the average assessed value of City property.

The Constitution of the Commonwealth further provides that there shall be excluded from the computation of debt for purposes of the Constitutional debt limit, debt (herein called "self-supporting debt") incurred for revenue-producing capital improvements that may reasonably be expected to yield revenue in excess of operating expenses sufficient to pay interest and sinking fund charges thereon. In the case of general obligation debt, the amount of such self-supporting debt to be so excluded must be determined by the Court of Common Pleas of Philadelphia County upon petition by the City. Self-supporting debt is general obligation debt of the City, with the only distinction from tax-supported debt being that it is not used in the calculation of the Constitutional debt limit. Self-supporting debt has no lien on any particular revenues.

As of June 30, 2008, the Constitutional debt limitation for tax-supported general obligation debt was approximately $1,417,996,300 (based upon a formula of 13.5% of the assessed value of taxable real estate within the City on a 10 year rolling average). As of June 30, 2008, the City's total amount of authorized general obligation debt was $1,688,913,000, which includes approximately $359,651,000 of self-supporting debt, which does not count against the Constitutional debt limit. As of June 30, 2008, $1,329,262,000 of general obligation debt subject to the constitutional debt limit was authorized, and of this authorized amount, $1,144,477,000 was issued and outstanding. As of June 30, 2008, a balance of $184,785,000 remained authorized and unissued, and after legally authorized deductions for appropriations of approximately $30,855,700 for fiscal year 2009 maturing serial bonds, there remains a balance of $119,590,000 available for future authorization and issuance.

One Hundred and Sixty Five Million Dollars ($165,000,000) of authorized general obligation debt subject to the Constitutional debt limit was utilized by the issuance on the General Obligation Bonds, Series 2008B and $19,785,000 remains authorized and unissued.

The City is also authorized to issue revenue bonds pursuant to The First Class City Revenue Bond Act of 1972. Currently, the City issues revenue bonds to support the Division of Aviation, the Water Department and PGW. Bonds so issued are excluded for purposes of the calculation of the Constitutional debt limit.

Short-Term Debt

The City has issued notes in anticipation of the receipt of income by the General Fund in each fiscal year since Fiscal Year 1972 (with a single exception). Each note issue was repaid when due prior to the end of the fiscal year of issuance. The City issued $350 million of Tax and Revenue Anticipation Notes in November 2008. These notes are scheduled to be repaid on June 30, 2009.

Long-Term Debt

Table IV-10 presents a synopsis of the bonded debt of the City and its component units at the close of Fiscal Year 2008. In addition, for tables setting forth a ten year historical summary of tax-supported debt of the City and School District and the debt service requirements to maturity of the City's outstanding bonded indebtedness as of June 30, 2008, see the Fiscal Year 2008 Comprehensive Annual Financial Report.

Of the total balance of City tax-supported general obligation bonds issued and outstanding at June 30, 2008, approximately 15% is scheduled to mature within 5 years and approximately 34% is scheduled to mature within 10 years.

Other Long-Term Debt Related Obligations

The City has entered into other contracts and leases to support the issuance of debt by public authorities related to the City pursuant to which the City is required to budget and appropriate tax or other general revenues to satisfy such obligations. As of June 30, 2008, the principal amounts of the outstanding bonds of each of these authorities relating to the City's contract and lease obligations were as follows:

PMA	$ 185.9 million
PAID*	$ 1,987.1 million
Parking Authority	$ 16.9million
Redevelopment Authority	$ 265.6million
Convention Center Authority	$ 215.3 million

Source: Office of the Director of Finance

* This includes 100% of Pension Bonds, only 86% applicable to the general fund.

The bonds of the Parking Authority included in the previous table are payable from project revenues, and by the City only if and to the extent that net revenues are inadequate for this purpose. The City paid $2.3 million in Fiscal Year 2006, $1.2 million in Fiscal Year 2007, and $2.0 million in Fiscal Year 2008 toward the repayment of these bonds. See "Revenues of the City – Philadelphia Parking Authority."

The Hospitals Authority and the State Public School Building Authority have issued bonds on behalf of the Community College of Philadelphia ("CCP"). Under the Community College Act, each community college must have a local sponsor, which for CCP is the City. As the local sponsor, the City is obligated to pay up to 50% of the annual capital expenses of the college, which includes debt service. The remaining 50% is paid by the Commonwealth. Additionally, the City annually appropriates funds for a portion of CCP's operating costs (less tuition and less the Commonwealth's payment). The total payment to CCP in fiscal year 2008 was $24,467,924. The current estimate in Fiscal Year 2009 is $26,467,924. This amount represents the portion of operating costs (less student tuition and the Commonwealth payment) and up to half of the annual capital expenses for the year.

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Recent and Upcoming Financings

On April 16, 2008, the City priced $195,170,000 of its General Obligation Refunding Bonds, Series 2008A. The 2008A Bonds, proceeds of which were used to refund all of the City's Series 2003B-1 and B-2 General Obligation Bonds, closed on May 1, 2008.

The City, in conjunction with PAID, replaced the Financial Guaranty Insurance Company ("FGIC") insurance policy on the Philadelphia Authority for Industrial Development Multi-Modal Lease Revenue Refunding Bonds, 2007 Series B with a direct pay letter of credit from J.P. Morgan and Bank of New York. The remarketing of the bonds took place on April 30 and the restructuring closed on May 1, 2008.

On June 9, 2008, the City purchased a Letter of Credit from Wachovia Bank, N.A. related to the Sinking Fund Reserve Account for the 1998B Airport Revenue Bonds. The surety policy was originally provided by FGIC, but because FGIC was downgraded below the 'AA' category, the surety policy no longer met the rating requirements of the General Airport Revenue Bond Ordinance ("GARBO"). The Wachovia Letter of Credit in an amount of $33.1 million meets the requirements of the bond ordinance and replaced the FGIC policy.

The City restructured $78.5 million outstanding Water and Wastewater Revenue Bonds, Series 1997B. The Ambac Assurance Corporation ("Ambac") insurance policy was replaced by a Letter of Credit from Bank of America N.A. The transaction closed on September 10, 2008.

On November 18, 2008, the City priced $350 million of Tax and Revenue Anticipation Notes. The transaction closed on November 25, 2008.

The City restructured $178.6 million in outstanding Airport Revenue Bonds Series 2005C and the sinking fund reserve account in the approximate amount of $18.7 million. The City replaced the MBIA insurance policy and the surety policy for the sinking fund reserve account for the Series 2005C Bonds with a letter of credit for both the Series 2005C Bonds and the reserve account provided by TD Bank. The City closed this transaction on December 23, 2008.

On December 15, 2008 the City priced $165 million of General Obligation Bonds, Series 2008B. These bonds will be used to fund the cost of certain capital projects. The transaction closed on January 6, 2009.

The Airport Revenue Bonds, Series 2005B were insured by MBIA Insurance Corporation ("MBIA"). The Airport Revenue Bonds Series 2005A and 2005B also had MBIA surety policies for the Sinking Fund Reserve Account in the following approximate amounts: $8.3 million, and $4.0 million, respectively. When MBIA was downgraded below the 'AA' category, the surety policies no longer met the requirements of the GARBO. The City together with the Airport refunded the Series 2005B Bonds with the issuance of the 2009A fixed rate bonds. The MBIA reserve account surety policy for the 2005B bonds was replaced with bond proceeds. The City cash funded the 2005A sinking fund reserve account on April 9, 2009. The City closed the Airport Revenue Bonds, Series 2009A transaction on April 14, 2009.

The City and the Water Department are working on restructuring the Water and Wastewater Revenue Refunding Bonds, Series 2005B. The City will replace the Financial Security Assurance ("FSA") insurance policy with a letter of credit from Bank of America N.A. The City anticipates this transaction to close in May, 2009.

The City, in conjunction with PMA, plans to issue about $97 million of General Fund supported debt for a new Youth Center Facility. The City anticipates this transaction to close in the spring of 2009.

The City also has outstanding variable rate debt that is insured by FSA which has more recently experienced problems in the market. The $313.5 million of General Obligation Bonds, Series 2007B are insured by FSA with Dexia as the liquidity provider. The 2003 Variable Rate Series, Water and Wastewater Revenue Refunding Bonds are also insured by FSA insurance with Dexia as the liquidity provider. Both the GO and Water bonds at times have trouble being remarketed and have had a portion become bank bonds. Currently, neither series are bank bonds. Lastly, the PGW 6th Series Revenue Bonds are insured by FSA and had liquidity provided by J.P. Morgan, Wachovia Bank N.A., and Scotia Bank. The liquidity expired in January 2009. All of the 6th Series bonds are owned by the bank. The City, along with the Water Department and PGW, is currently evaluating options to best handle potentially restructuring or refunding these bonds.

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Table IV-10
City of Philadelphia
City-related Bond Indebtedness
June 30, 2008
(Amounts in Thousands of USD)

	Governmental Fund Types				Enterprise Funds			
	General Fund	Municipal Authority Fund	PICA	Total	Water Fund	Aviation Fund	Total	All Funds Total
Bonded Debt Outstanding, July 1, 2007	1,166,400	195,400	622,500	1,984,300	1,762,300	1,161,400	2,923,700	4,908,000
Increases:								
PAR Value of Bonds Issued:								
General Obligation	697,600	-	214,600	912,200	-	-	-	912,200
Revenue	-	-	-	-	217,500	255,400	255,400	255,400
Total Bonds Sold	697,600	-	214,600	912,200	-	255,400	255,400	1,167,600
Decreases								
Matured Bonds:								
General Obligation	34,200	9,500	37,400	81,100	1,200	-	1,200	82,300
General Obligation Refunded	682,800	-	227,600	910,400	-	-	-	910,400
Revenue	-	-	-	-	91,300	32,600	123,900	123,900
Revenue Refunded	-	-	-	-	-	81,400	81,400	81,400
Total Decrease	717,000	9,500	265,000	991,500	92,500	114,000	206,500	1,198,000
Bonded Debt Outstanding, June 30, 2008	1,147,000	185,900	572,100	1,905,000	1,669,800	1,302,800	2,972,600	4,877,600

Source: Office of Director of Finance

CITY CAPITAL IMPROVEMENT PROGRAM

The Capital Improvement Program for Fiscal Years 2009-2014 contemplates a total budget of $7,353,134,000 of which $2,255,793,000 is to be provided from Federal, Commonwealth, and other sources and the remainder through City funding. The following table shows the amounts budgeted each year from various sources of funds for capital projects. City Council adopted the Capital Improvement Program for Fiscal Years 2009-2014 on May 22, 2008.

Table IV-11
City of Philadelphia
Fiscal Years 2009-2014
Capital Improvement Program
(Amounts in Thousands of USD)

CITY FUNDS – TAX SUPPORTED	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2009-2014**
Carried-forward Loans	205,360	0	0	0	0	0	205,360
Operating Revenue	60,907	28,472	28,472	28,472	22,472	22,472	191,267
New Loans	51,763	58,078	54,156	54,071	53,660	54,910	326,638
Pre-financed Loans	38,073	1,000	1,000	1,000	1,000	1,000	43,073
PICA Pre-financed Loans	40,334	0	0	0	0	0	40,334
Tax-supported Subtotal	396,437	87,550	83,628	83,543	77,132	78,382	806,672
CITY FUNDS - SELF-SUSTAINING							
Carried-forward Loans	852,694	0	0	0	0	0	852,694
Operating	113,150	39,088	40,450	42,819	43,196	43,580	322,283
New Loans	325,240	436,660	413,177	545,006	510,336	859,273	3,089,692
Self-Sustaining Subtotal	1,291,084	475,748	453,627	587,825	553,532	902,853	4,264,669
REVOLVING FUNDS	26,000	0	0	0	0	0	26,000
OTHER THAN CITY FUNDS							
Federal	449,248	66,024	72,630	59,768	53,686	59,782	761,138
Federal Off Budget	143,011	189,688	124,800	125,871	108,464	104,000	795,834
State	95,816	10,224	8,284	9,382	7,079	7,225	138,010
State Off Budget	46,831	57,188	38,566	39,273	40,964	44,867	267,689
Other Governments	81,268	500	0	0	0	0	81,768
Other Governments/Off Budget	712	1,513	1,430	1,448	1,086	1,100	7,289
Private	120,955	1,030	21,020	21,020	20,020	20,020	204,065
Other Than City Funds Subtotal	937,841	326,167	266,730	256,762	231,299	236,994	2,255,793
TOTAL	2,651,362	889,465	803,985	928,130	861,963	1,218,229	7,353,134

LITIGATION

Generally, judgments and settlements on claims against the City are payable from the General Fund, except for claims against the Water Department, the Aviation Division, and the Gas Works. Claims against the Water Department are paid first from the Water Fund and only secondarily from the General Fund. Claims against the Aviation Division, to the extent not covered by insurance, are paid first from the Aviation Fund and only secondarily from the General Fund. Claims against the Gas Works, to the extent not covered by insurance, are paid first from Gas Works revenues and only secondarily from the General Fund.

The Act of October 5, 1980, P.L. 693, No. 142, known as the "Political Subdivision Tort Claims Act," (the "Tort Claims Act") establishes a $500,000 aggregate limitation on damages for injury to a person or property 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 repeatedly upheld by the Pennsylvania Supreme Court. In February 1987, an appeal of a decision upholding such constitutionality to the United States Supreme Court was dismissed for want of jurisdiction. However, under Pennsylvania Rule of Civil Procedure 238, delay damages in State Court cases are not subject to the $500,000 limitation. Moreover, the limit on damages is inapplicable to any suit against the City which does not arise under state tort law such as claims made against the City under Federal civil rights laws.

The aggregate loss resulting from general and special litigation claims was $30.2 million for Fiscal Year 2001, $30.0 million for Fiscal Year 2002, $24.1 million for Fiscal Year 2003, $24.5 million for Fiscal Year 2004, $27.5 million for Fiscal Year 2005, $23.0 million for Fiscal Year 2006, $26.6 million for Fiscal Year 2007 and $30.0 million for Fiscal Year 2008. Estimates of settlements and judgments from the General Fund are $38.1 million, $24.5 million, $24.5 million, $24.5 million, and $24.5 million for Fiscal Years 2009 through 2013, respectively. In budgeting for settlements and judgments in the annual Operating Budget and projecting settlements and judgments for each Five-Year Plan, the City bases its estimates on past experience and on an analysis of estimated potential liabilities and the timing of outcomes, to the extent a proceeding is sufficiently advanced to permit a projection of the timing of a result. General and special litigation claims are budgeted separately from back-pay awards and similar settlements relating to labor disputes. Usually, some of the costs arising from labor litigation are reported as part of current payroll expenses. For Fiscal Year 2008, payments for claims arising from labor settlements in the General Fund were $1.11 million of which $0.85 million was paid from the Indemnities account, and $0.26 million from the Operating budgets of the affected departments. Actual claims paid out from the General Fund for settlements and judgments averaged $26.3 million per year over the five years from Fiscal Year 2004 through Fiscal Year 2008.

In addition to routine litigation incidental to performance of the City's governmental functions and litigation arising in the ordinary course relating to contract and tort claims and alleged violations of law, certain special litigation matters are currently being litigated and/or appealed and adverse final outcomes of such litigation could have a substantial or long-term adverse effect on the City's General Fund. These proceedings involve: environmental-related actions and proceedings in which it has been or may be alleged that the City is liable for damages, including but not limited to property damage and bodily injury, or that the City should pay fines or penalties or the costs of response or remediation, because of the alleged generation, transport, or disposal of toxic or otherwise hazardous substances by the City, or the alleged disposal of such substances on or to City-owned property; a class action suit alleging that the City failed to properly oversee management of funds in the deferred compensation plan of City employees; civil rights claims; a pay dispute with former and current paramedics; and a federal lawsuit filed by twenty-four homeowners in the Osage-Pine neighborhood whose homes were destroyed in the MOVE altercation of 1985.

The ultimate outcome and fiscal impact, if any, on the City's General Fund of the claims and proceedings described in the preceding paragraph are not currently predictable. Various claims in addition to the lawsuits described above have been asserted against the Water Department and in some cases lawsuits have been instituted. Many of these Water Department claims have been reduced to judgment or otherwise settled in a manner requiring payment by the Water Department. The aggregate loss for Fiscal Year 2003 which resulted from these claims and lawsuits was $3.9 million, $2.9 million for Fiscal Year 2004, $2.4 million for Fiscal Year 2005 $4.2 million for Fiscal Year 2006, $2.5 million in Fiscal Year 2007 and $4.6 million in Fiscal Year 2008. The Water Department's budget for Fiscal Year 2009 contains an appropriation for Water Department claims in the amount of $6.5 million, although the current estimate, based on the average of the last three fiscal years' expenditures, is for only $4 million. The Water Fund is the first source of payment for any of the claims against the Water Department.

ADDITIONAL INFORMATION

Current City Practices

It is the City's practice to file its Comprehensive Annual Financial Report ("CAFR"), which contains the audited combined financial statements of the City, with a Repository as soon as practicable after delivery of such report. The CAFR for the City's fiscal year ended June 30, 2008 was deposited with a Repository on February 24, 2009. The CAFR is prepared by the Director of Finance of the City in conformance with guidelines adopted by the Governmental Accounting Standards Board and the American Institute of Certified Public Accountants' audit guide, Audits of State and Local Government Units. Upon written request to the Office of the Director of Finance and payment of the costs of duplication and mailing, the City will make available copies of the CAFR for the Fiscal Year ended June 30, 2008. Such a request should be addressed to: Office of the Director of Finance, Municipal Services Building, Suite 1300, 1401 John F. Kennedy Boulevard, Philadelphia, PA 19102. The CAFR is also available online at www.phila.gov/investor, the City's website ("City Website" or "Website"). The City also expects to provide financial and other information from time to time to Moody's Investors Service, Standard & Poor's Ratings Services, a division of The McGraw-Hill Companies, Inc. and Fitch Ratings, in connection with the securities ratings assigned by those rating agencies to bonds or notes of the City.

The foregoing statement as to filing or furnishing of additional information reflects the City's current practices, but is not a contractual obligation to the holders of the City's bonds or notes.

The City Website contains information in addition to that set forth in the CAFR. The "Terms of Use" statement of the City Website, incorporated herein by this reference, provides, among other things, that the information contained therein is provided for the convenience of the user, that the City is not obligated to update such information, and that the information may not provide all information that may be of interest to investors.

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CITY SOCIOECONOMIC INFORMATION

Introduction

The City includes within its boundaries an area of approximately 130 square miles and a resident population of approximately 1.45 million according to the U.S. Census Bureau, 2006 Population Estimates. The City is in the heart of a nine-county metropolitan area with approximately 5.1 million residents. Air, rail, highway, and water routes provide easy access to the City.

The City is strategically located on the east coast with easy access to markets, resources, government centers, and transportation. The City's metropolitan area is the nation's fourth largest in the retail market with over 2,400 retail stores.

Quality of Life

The City is rich in history, art, architecture, and entertainment. World-class cultural and historic attractions include the Philadelphia Museum of Art (which houses the third largest art collection in the United States), the Philadelphia Orchestra, Academy of Music, Pennsylvania Ballet, the Constitution Center, the Kimmel Center (which had over 1 million people in attendance in 2007), Pennsylvania Academy of Fine Arts, Franklin Institute, Mann Music Center, Opera Company of Philadelphia, and the Rodin Museum. The South Philadelphia sports complex, currently consisting of Lincoln Financial Field, Citizens Bank Park, the Wachovia Spectrum and the Wachovia Center, is home to the Philadelphia 76ers, Flyers, Phillies and Eagles. The City also offers its residents and visitors America's most historic square mile, which includes Independence Hall and the Liberty Bell, as well as Fairmount Park, which spans 8,000 acres and includes Pennypack Park and the country's first zoo.

The City is a center for health, education, and science facilities with the nation's largest concentration of healthcare resources within a 100-mile radius. There are presently more than 30 hospitals, seven medical schools, two dental schools, two pharmacy schools, as well as schools of optometry, podiatry and veterinary medicine, and the Philadelphia Center for Health Care Sciences in West Philadelphia. The City is one of the largest health care and health care education centers in the world, and a number of the nation's largest pharmaceutical companies are located in the Philadelphia area.

The City has the second largest concentration of students on the East Coast with eighty degree granting institutions of higher education and a total enrollment of over 300,000 students. Included among these institutions are the University of Pennsylvania, Temple University, Drexel University, St. Joseph's University, and LaSalle University. Within a short drive from the City are such schools as Villanova University, Bryn Mawr College, Haverford College, Swarthmore College, Lincoln University, and the Camden Campus of Rutgers University. The undergraduate and graduate programs at these institutions help provide a well-educated and trained work force to the Philadelphia community.

Hospitals and Medical Centers

The City also has major research facilities, including those located at its universities, the medical schools, the Wistar Institute, the Fox Chase Cancer Center, and the University City Science Center. The Children's Hospital of Philadelphia (ranked number one in U.S. children's hospitals) has recently completed the construction of a new $100 million biomedical research facility located within the Philadelphia Center for Health Care Sciences in West Philadelphia. A Comprehensive Cancer Center is also located at the University of Pennsylvania.

Hospitals and Medical Centers: The following table presents the most recent published data regarding hospitals and medical centers in Philadelphia. Due to mergers, consolidations and closures that have occurred or may occur in the future, this table is accurate only as of its publication date.

Table IV-12
City of Philadelphia
Hospitals and Medical Centers

(As of October 2008)

Institution	Beds
Albert Einstein	424
Chestnut Hill	143
Frankford [1]	477
Jeane [3]	176
Kensington	35
Mercy Hospital of Philadelphia	180
Methodist Hospital Division, TJUH	202
Nazareth	195
Northeastern Temple East	187
Pennsylvania	410
Presbyterian	223
Roxborough Memorial	137
St. Joseph's	146
Veteran's Affairs Medical Ctr Phila	137
Hahnemann University	497
Hosp of the Univ of Pennsylvania	743
Temple [2]	746
Thomas Jefferson	694
Children's [4]	431
Fox Chase Cancer Center	100
Girard	106
Kindred - Philadelphia	52
Shriner's	35
St. Agnes Continuing Care	58
St. Christopher's	124
Belmont	147
Fairmount BHS	180
Friends	192
Magee Rehabilitation	96
MossRehab	166

Source: Delaware Valley Healthcare Council of HAP, Monthly Utilization Report-Summary Stats, October 2008

(1) Frankford includes data for all three divisions — Frankford, Torresdale and Bucks County
(2) Temple includes data for Episcopal Hospital.
(3) Jeanes Hospital Closed NICU Unit as of April 30, 2007 and OB as of May 31, 2007
(4) Children's Seashore House is now consolidated into CHOP's data

Children's Hospital Expansion. The Children's Hospital of Philadelphia is expanding its research facilities in West Philadelphia. The $150 million first phase of the new complex will be completed shortly; while the $235 million second phase is expected to open in 2009.

University of Pennsylvania. A major new $232 million cancer research and treatment center is under construction at the University of Pennsylvania and is expected to be complete by 2009.

The Fox Chase Cancer Center. The Center is a non-profit institution, which is expanding its campus in the northeast section of the City. The Center's 25-year Master Plan is over $1 billion, providing over 2.7 million square feet of space dedicated to research and patient care.

Demographics

During the ten-year period between 1990 and 2000, the population of the City decreased from 1,585,577 to 1,517,550. During the same period, the population of Pennsylvania increased by 3.4%, less than one-third the national rate of increase.

Table IV-13
Population
City, Pennsylvania & Nation

	1990	2000	2007 (est.)	% Change 1990-2000	% Change 2000-2007
Philadelphia	1,585,577	1,517,550	1,449,634	-4.3%	-4.5%
Pennsylvania	11,881,643	12,281,054	12,432,792	3.4%	1.2%
United States	248,709,873	281,421,906	301,621,157	13.2%	7.2%

Source: U.S. Census Bureau, 2007 Population Estimates, Census 2000, 1990 Census.

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Table IV-13
Population Age Distribution

Philadelphia

Age	1990	% of Total	2000	% of Total	2006 (est)	% of Total
0-24	563,816	35.6	551,308	36.3	525,846	36.3
25-44	490,224	30.9	444,774	29.3	393,440	27.2
45-64	290,803	18.3	307,746	20.2	340,675	23.5
65-84	217,913	13.7	186,383	12.3	159,246	11
85 & up	22,801	1.4	27,339	1.8	29,187	2
Total	1,585,577	100	1,517,550	100	1,448,394	100

Pennsylvania

Age	1990	% of Total	2000	% of Total	2006 (est)	% of Total
0-24	4,021,585	33.8	4,016,670	32.6	4,008,762	32.2
25-44	3,657,323	30.8	3,508,562	28.6	3,216,804	25.9
45-64	2,373,629	20	2,836,657	23.1	3,331,821	26.8
65-84	1,657,270	13.9	1,681,598	13.7	1,611,325	13
85 & up	171,836	1.4	237,567	1.9	271,909	2.2
Total	11,881,643	100	12,281,054	100	12,440,621	100

United States

Age	1990	% of Total	2000	% of Total	2006 (est)	% of Total
0-24	90,342,198	36.3	99,437,266	35.3	103,465,661	34.6
25-44	80,754,835	32.5	85,040,251	30.2	83,798,230	28
45-64	46,371,009	18.6	61,952,636	22	74,943,590	25
65-84	28,161,666	11.3	30,752,166	11	32,184,226	10.7
85 & up	3,080,165	1.2	4,239,587	1.5	5,006,778	1.7
Total	248,709,873	100	281,421,906	100	299,398,485	100

Source: U.S. Dept. of Commerce, Bureau of the Census.

The Economy

Philadelphia's economy is composed of diverse industries, with virtually all classes of industrial and commercial businesses represented. The City is a major business and personal service center with strengths in insurance, law, finance, health, education, and utilities.

The cost of living in Philadelphia is relatively moderate compared to other major metropolitan areas. The City, as one of the country's education centers, offers the business community a large, diverse, and industrious labor pool.

Table IV-14
Office Rental Rates in Cities
Throughout the United States

(In $ Per Square Foot)

	January 2004	January 2005	May 2006	November 2006	May 2007	May 2008	November 2008
Atlanta	23.09	21.92	20.08	20.56	20.16	21.76	21.23
Chicago	29.97	28.47	23.77	22.97	22.44	24.75	24.78
Dallas	20.58	19.71	17.43	16.47	17.20	22.96	23.72
Denver	17.84	17.24	19.03	20.37	22.17	27.15	27.55
Houston	19.29	18.21	19.15	19.52	21.53	28.92	26.83
Los Angeles	25.56	26.55	23.12	22.59	23.74	30.52	30.51
New York	45.51	45.16	55.15	62.07	69.44	103.43	98.08
Philadelphia	23.24	21.97	22.42	22.96	22.60	24.35	25.26
Phoenix	20.38	19.39	24.29	26.19	27.32	29.14	29.17
Portland	20.59	19.65	21.58	22.41	23.00	25.85	27.62
San Francisco	27.15	27.75	30.62	31.11	35.81	49.71	48.57
St. Louis	20.52	19.91	21.12	21.75	21.21	22.82	22.42
Tampa	19.23	18.01	20.54	21.13	22.46	25.30	26.11
Washington, D.C.	31.05	35.95	42.74	43.58	44.00	51.05	51.26

Source: CB Richard Ellis, Global Market Rents Report; Global MarketView: Office Occupancy Costs Report.

Employment

The employment and unemployment rates and the total number of jobs within the City are reflected in Tables IV-15 and IV-16, respectively.

The employment changes within the City principally have been due to declines in the manufacturing sector and the relatively stronger performance of the service economy. The City's and region's economies are diversified, with strong representation in the health care, government, and education sectors but without the domination of any single employer or industry.

In March 2000, the Philadelphia Authority for Industrial Development ("PAID") took ownership of more than 1,000 acres at the site of the former Philadelphia Navy Shipyard, Naval Station. Naval Hospital and Defense Supply Center and has begun to implement aggressive redevelopment activities. To date, at least 47 companies have leased or purchased in excess of 2 million square feet of facilities at the complex, now known as the Philadelphia Naval Business Center ("PNBC"). In addition to this employment, the Navy has retained more than 2 million square feet of facilities. Together, the private and Navy facilities employ more than 7,000 people. Long term plans call for more than 10 million square feet of industrial and commercial space at PNBC, with employment targeted between 15,000-20,000.

Table IV-15
Labor Force Data Annual Average
Based on Residency (not seasonally adjusted)

	2002	2003	2004	2005	2006	2007	2008
Philadelphia (000)*							
Labor Force	635.2	622.6	619.1	617.7	615.4	614.7	627.2
Employment	588.5	575.7	573.9	576.2	577.3	577.8	582.3
Unemployment	46.6	46.9	45.2	41.4	38.1	37.0	44.9
Unemployment Rate (%)	7.3	7.5	7.3	6.7	6.2	6.0	7.2
Philadelphia PMSA (000)**							
Labor Force	2,898.4	2,879.2	2,893.1	2,924.8	2,954.5	2,948.2	2,986.2
Employment	2,743.1	2,722.4	2,746.1	2,786.6	2,821.7	2,822.8	2,826.3
Unemployment	155.2	156.8	147.1	138.2	132.7	125.4	159.9
Unemployment Rate (%)	5.4	5.4	5.1	4.7	4.5	4.3	5.4
Pennsylvania (000)							
Labor Force	6,218.0	6,145.0	6,205.0	6,257.0	6,290.0	6,287.0	6,395.0
Employment	5,869.0	5,796.0	5,868.0	5,946.0	6,003.0	6,013.0	6,051.0
Unemployment	349.0	349.0	338.0	311.0	287.0	274.0	344.0
Unemployment Rate (%)	5.6	5.7	5.4	5.0	4.6	4.4	5.4
United States (000,000)							
Labor Force	144.9	146.5	147.4	149.3	151.4	153.1	154.3
Employment	136.5	137.7	139.3	141.7	144.4	146.0	145.4
Unemployment	8.4	8.8	8.1	7.6	7.0	7.1	8.9
Unemployment Rate (%)	5.8	6.0	5.5	5.1	4.6	4.6	5.8

Source: Center for Workforce Information and Analysis, PA Dept of Labor and Industry, 2009.

* Philadelphia County

** The Philadelphia PMSA includes Philadelphia-Camden-Wilmington, PA, NJ, DE, MD Metro Stat Area.

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Table IV-16
Philadelphia County
Total Monthly Employment and Monthly Unemployment Rates
Based on Residency
2002 – 2008

	Total Employment in 000's							Unemployment Rate %						
Month	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**
January	589.9	580.5	574.5	576.0	576.4	580.7	582.1	6.9	7.5	7.5	6.9	6.2	6.1	6.7
February	591.3	580.3	574.2	574.3	576.9	580.0	576.6	7.1	7.5	7.3	7.2	6.4	5.9	6.8
March	589.5	579.7	572.8	573.1	577.2	579.4	576.3	7.2	7.3	7.7	7.0	6.3	5.8	6.7
April	589.9	578.9	573.4	575.7	578.0	577.4	580.1	7.4	7.5	7.4	6.8	6.4	5.9	6.8
May	591.2	576.1	570.7	577.5	577.8	576.1	582.2	7.3	7.5	7.5	6.7	6.2	6.0	7.0
June	590.6	575.9	571.5	575.5	578.4	578.2	580.2	7.3	7.7	7.5	6.6	6.2	6.0	7.0
July	588.3	573.4	574.3	577.8	576.0	578.5	577.0	7.5	7.6	7.4	6.4	6.3	6.0	7.0
August	589.2	573.7	573.6	576.6	577.5	578.0	577.7	7.4	7.6	7.3	6.5	6.3	6.0	7.9
September	590.4	573.1	574.6	577.5	577.3	577.2	578.6	7.3	7.7	7.1	6.6	6.1	6.1	7.5
October	586.8	573.1	574.9	576.9	578.7	576.3	579.4	7.4	7.6	7.1	6.5	5.9	6.1	7.7
November	583.5	573.3	576.3	576.5	577.3	577.7	573.6	7.6	7.5	6.9	6.7	6.0	6.0	8.0
December	582.0	570.7	576.0	577.9	576.7	574.0	572.6	7.6	7.4	6.9	6.5	6.0	6.3	8.6

Source: Center for Workforce Information and Analysis, PA Dept of Labor and Industry, 2009 (monthly Seasonally Adjusted Labor Force), Philadelphia County.

Table IV-17
Philadelphia City
Non-Farm Payroll Employment*

(Amounts in Thousands)

	2002	**2003**	**2004**	**2005**	**2006**	**2007**	**2008****
Total Non-Farm	683.5	671.3	657.9	660.3	662.5	662.4	660.9
Natural Resources, Construction & Mining	12.9	12.3	11.4	12.0	12.4	11.8	11.2
Manufacturing	37.7	34.0	32.6	31.2	29.9	28.3	26.5
Trade, Transportation & Utilities	98.5	95.8	90.9	90.0	88.5	88.0	88.4
Information	17.0	15.9	13.6	13.2	12.8	12.9	12.9
Financial Activities	52.3	50.7	49.0	48.2	47.7	47.1	46.1
Professional &Business Services	82.9	80.9	80.3	82.4	84.2	85.3	84.0
Education & Health Services	181.0	185.3	184.1	186.8	192.2	196.4	202.9
Leisure & Hospitality	54.2	52.9	54.6	56.6	58.0	58.4	57.4
Other Services	29.9	29.0	28.5	28.5	28.2	28.2	28.3
Government	117.1	114.7	113.0	111.4	108.6	105.9	103.2

Source: Bureau of Labor Statistics, 2009.

* Includes persons employed within the City, without regard to residency.
** Preliminary, December 2008.

Table IV-18
City of Philadelphia
Largest Employers in Philadelphia
June 30, 2008
(Listed Alphabetically)

Albert Einstein Medical
Children's Hospital of Philadelphia
City of Philadelphia
School District of Philadelphia
Southeastern Pennsylvania Transportation Authority
Temple University
Thomas Jefferson University Hospitals
United States Postal Service
University of Pennsylvania
University of Pennsylvania Hospital

Source: Philadelphia Department of Revenue

Table IV-19
Fortune 500
Largest Corporations
With Headquarters in Philadelphia, 2008

Corporation	Type of Industry	Ranking	Revenues ($ Millions)
Sunoco	Petroleum Refining	56	$42,101.0
Comcast	Telecommunications	79	$30,895.0
Cigna	Health Care/Insurance	141	$17,623.0
ARAMARK	Diversified Outsourcing Services	216	$12,384.3
Rohm & Haas	Chemical	295	$8,911.0
Crown Holdings	Metal Products	325	$7,727.0
Sovereign Bancorp	Financial	469	$5,010.7

Source: Fortune Magazine website, May 2008.

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Income

The following table presents data relating to per-capita income for the City, the PMSA, and the United States. It illustrates that, for the past few years, real per-capita income has generally outpaced the urban cost of living index, suggesting that on average, the newly created service jobs have generated positive real income growth for City wage earners.

TABLE IV-20
CONSUMER PRICE INDICES AND MEDIAN HOUSEHOLD EFFECTIVE BUYING INCOME

	1990	2000	2002	2003	2004	2005	2006	2007	2008
CPLLl United States [(a)]	130.7	172.2	179.9	184.0	188.9	195.3	201.6	207.3	215.3
CPL U Philadelphia PMSA[(a)]	135.8	176.5	184.9	188.8	196.5	204.2	212.1	216.7	224.1
Buying Income[(b)]									
Philadelphia	$24,880	$31,621	$29,995	$28,015	$28,150	$29,269	$30,748	$31,292	$30,746
Philadelphia Metro Area[*]	$33,277	$47,152	$43,800	$41,820	$42,852	$44,060	$45,395	$46,413	$46,900
United States	$27,912	$37,233	$38,365	$38,035	$38,201	$39,324	$39,324	$40,710	$41,792

[*] Statistic is a measure of the Philadelphia, Camden & Wilmington Metropolitan Area.

Source: (a) Consumer Price Index - All Urban Consumers. U.S. Bureau of Labor Statistics.
(b) Sales & Marketing Management's 2007 Survey of Buying Power.

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Table IV-21
Number of Households by Income Range in Philadelphia County

	Number of Households*			Percentage of Households*		
Income	**1990**	**2000**	**2006 (est)**	**1990**	**2000**	**2006 (est)**
Under $ 9,999	136,335	109,237	95,227	22.6	18.5	17.2
$10,000-14,999	59,331	49,035	49,864	9.9	8.3	9.0
$15,000-24,999	108,405	89,059	73,887	18.1	15.0	13.3
$25,000-49,999	190,237	171,215	145,764	31.7	29.0	26.3
$50,000 and over	106,432	171,737	189,306	17.6	29.1	34.2
Total	600,740	590,283	554,048	100.0	100.0	100.0

Source: U.S. Department of Commerce, Bureau of the Census.
* A household includes all the persons who occupy a housing unit.

Number of Households by Income Range in United States

	Number of Households (000's)			Percentage of Households		
Income	**1990**	**2000**	**2006 (est)**	**1990**	**2000**	**2006 (est)**
Under $ 9,999	14,214	10,067	8,898	15.5	9.5	8.0
$10,000-14,999	8,133	6,657	6,639	8.8	6.3	5.9
$15,000-24,999	16,124	13,536	12,721	17.5	12.8	11.3
$25,000-49,999	31,003	30,965	28,959	33.7	29.3	26.0
$50,000 and over	22,519	44,312	54,398	24.5	42.1	48.8
Total	91,994	105,537	111,615	100.0%	100.0%	100.0%

Source: U.S. Department of Commerce, Economics and Statistics Administration, 2000 Census of Population. Figures may not add due to rounding.

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Retail Sales

The following table reflects taxable sales for Philadelphia from fiscal years 1997 to 2007.

Table IV-22
Philadelphia
Taxable Retail Sales 1997-2007
($000's)

Fiscal Year	Taxable Sales
1997	9,637,833
1998	8,276,083
1999	9,604,970
2000	10,432,800
2001	11,107,100
2002	10,980,914
2003	10,933,524
2004	11,172,231
2005	12,001,439
2006	12,839,137
2007	13,643,582

Source: Figures determined by dividing the Philadelphia local sales tax reported by the Pennsylvania Department of Revenue by the local sales tax rate of 0.01.

Transportation

The residents of the City and surrounding counties are served by a commuter transportation system operated by SEPTA. This system includes two subway lines, a network of buses and trolleys, and a commuter rail network joining Center City and other areas of the City to the airport and to the surrounding counties. A high speed train line runs from southern New Jersey to Center City and is operated by the Delaware River Port Authority. An important addition to the area's transportation system was the opening of the airport high speed line between Center City and the Philadelphia International Airport in 1985. The line places the airport less than 25 minutes from the Center City business district and connects directly with the commuter rail network and the Convention Center, which opened in June 1993. The opening of the commuter rail tunnel in 1984 provided a unified City transportation system linking the commuter rail system, the SEPTA bus, trolley, and subway lines, the high speed line to New Jersey, and the airport high speed line.

Amtrak, SEPTA, Norfolk Southern, CSX Transportation, Conrail and the Canadian Pacific provide inter-city commuter and freight rail services connecting Philadelphia to the other major cities and markets in the United States. More than 100 truck lines serve the Philadelphia area.

The City now has one of the most accessible downtown areas in the nation with respect to highway transportation by virtue of I 95; the Vine Street Expressway (I 676), running east-to-west through the Central Business District between I 76 and I 95; and the "Blue Route" (I 476) in suburban Delaware and Montgomery Counties which connects the Pennsylvania Turnpike and I 95 and thereby feeds into the Schuylkill Expressway (I 76) and thus into Center City Philadelphia.

The Philadelphia International Airport (PHL) and Northeast Philadelphia Airport (PNE) comprise the Philadelphia Airport System (the "Airport System"). The Airport System is owned by the City of Philadelphia and is operated by the Department of Commerce's Division of Aviation. PHL is located 7.2 miles southwest of Center City; and PNE, a smaller reliever airport, is located 10 miles northeast of

Center City. PHL is accessible from major highways within the City and from surrounding communities and SEPTA's Airport rail line. PHL provides its passengers with service on 11 domestic carriers, two of which also provide international service, and 13 regional carriers, while five foreign flag carriers also provide international service. In addition, there are four all-cargo carriers. PHL serves as a key connecting hub for US Airways.

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 58 percent of its water from the Delaware River and the balance from the Schuylkill River. The water system serves approximately 472,600 accounts through 3,137 miles of mains, three water treatment plants, 15 pumping stations and provides fire protection through more than 25,000 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 471,000. The wastewater and stormwater systems contain three water pollution control plants, a biosolids processing facility, 13 pumping stations, and approximately 3,652 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.

Municipal Solid Waste Disposal

The City is responsible for collecting solid waste, including recycling, from residential households and some commercial establishments. On average, approximately 3,000 tons of solid waste per day is collected by the City. Municipal solid waste is disposed of through a combination of recycling processing facilities, private and City transfer stations within the City limits, and at various landfills operated outside the City limits. The City significantly reduced its waste disposal costs over the last decade. The current disposal contract, which began July 1, 2005, continues this trend. With three one-year City options, the contract can be extended through Fiscal Year 2012. Disposal rates escalate at a relatively low rate of approximately three percent per year over the contract term, and multiple vendors maximize operational flexibility and efficiencies.

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Housing

While the City's housing market has remained relatively stable, recently home values have gone up, as shown on the table below:

Table IV-23
Characteristics of Housing Units

	1990	2000	2006 (est)
Total Housing Units			
Philadelphia County	674,899	661,958	660,389
Pennsylvania	4,938,140	5,249,750	5,453,647
Percent Owner-Occupied			
Philadelphia County	62.0%	59.3%	58.2%
Pennsylvania	70.6%	71.3%	71.7%
Median Value of Owner-Occupied Housing			
Philadelphia County	$49,400	$59,700	$115,500
Pennsylvania	$69,700	$97,000	$145,200
Number/Average Persons per Housing Unit			
Philadelphia County	2.56	2.65	2.69
Pennsylvania	2.72	2.62	2.62

Source: U.S. Department of Commerce, Bureau of the Census.

Promoting Economic Development

Mission

The goal of the City's economic development strategy is to create, maintain, and develop: (1) jobs by fostering an improved business environment; (2) increases in population; and (3) enhanced quality of life within the City of Philadelphia—all in order to grow the City's tax base.

Background

In response to the national recession, in 2009 the City is poised to launch several reforms aimed at enhancing its competitive position. By reorienting economic development services to provide transparency and better address customer service needs, Philadelphia will strive to become the business location of choice. This new business climate, coupled with recent cultural additions, neighborhood reinvestment and a renewed sense of civic pride, is designed to enhance Philadelphia's position as a world-class city.

Philadelphia's Competitive Advantages

Philadelphia's competitive advantages as a business location are based on size, strategic location, relative affordability, cultural and recreational amenities, and its growing strength in key knowledge industries. The City of Philadelphia, the fifth-largest city in the nation with the third largest downtown population, is at the center of the sixth largest metropolitan region. Our region includes the fourth largest retail sales market in the nation, as well as a diverse network of business suppliers and complementary industries.

Accessibility

Philadelphia is in a key position to access regional and international markets, due to the transportation infrastructure centered here, including Philadelphia International Airport, AMTRAK's Northeast Corridor service, major interstate highway access, regional SEPTA service and the port. The capacity of Philadelphia's transportation infrastructure is demonstrated by its median commuting time, which is 19 percent lower than the national metropolitan average. Recent analysis has shown that employees also benefit: Commuters to suburban firms, nearly all of whom drive to work, spend over $6,200 per year in vehicle expenses. By contrast, 70 percent of downtown office workers use public transit to get to work, and the annual cost of a SEPTA regional rail pass is just $2,172. In addition, 37 percent of downtown residents walk to work, the highest percentage of any major American city.

Culture

As a major urban center with a rich historical legacy, Philadelphia is increasingly gaining national recognition for its cultural and recreational advantages, which include the many tourism assets concentrated within city limits. Independence National Historical Park, the Philadelphia Art Museum, and the Franklin Institute, as well as recent developments, such as the construction of the stunning Kimmel Center for the Performing Arts and the National Constitution Center, are increasingly drawing national attention. The development of new first-class sports facilities, as well as continued access and development along the City's Delaware and Schuylkill River waterfronts, adds to this array.

Affordability

Philadelphia remains affordable when compared to its peers, as noted in the chart below.

Cost of Living 2008 (Third Quarter)

Index	Philadelphia, PA	Washington-Arlington – Arlington, DC-VA	Boston, MA	New York (Manhattan), NY	National Average
Composite (100%)	124.1	137.7	133.7	220.3	100.0

Source: Council for Community and Economic Research ACCRA Cost of Living Index

The Council for Community and Economic Research determines "Cost of Living" by weighing various living expenses including: cost of groceries, housing, utilities, transportation and health. The national average cost for each index area is set at "100", and the indices for each place are then calculated based upon their relation to that average. With lower composite indices indicating lower cost of living, Philadelphia's composite index of 124.1 is an indication of how our region matches up to other east coast peer metropolitan regions.

Educational Attainment

Philadelphia captures a significant portion of the region's educational employment and enrollment because of its major colleges and universities. The City houses 40 percent of all students during their studies, and the Philadelphia region retains a strong share of its graduates (55 percent) and an even greater share of graduates who are originally from the region (82 percent). The region retains 26 percent of non-native graduates, based on a survey of the class of 2005. On average, the region's workforce over age 25 is better educated (with four-year college degrees) than those in other metropolitan areas across the U.S. (32 percent, compared to 27 percent). At the same time, the City has one of the

lowest educational attainment rates in the nation, with only 20.7 percent of its 25-years-or-older population possessing a bachelor's degree or higher in 2006.

Real Estate Market

Despite challenges in the national economy, Philadelphia's central business district (CBD), encompassing 41.9 million rentable square feet, shows stable office market conditions. In January 2008 Grubb & Ellis ranked Philadelphia 6th in both office and retail for top markets to invest in this year, the city's first-ever appearance on the list. The Center City office market has seen positive results in recent years, with 1 million square feet of net absorption in 2006, 992,000 square feet in 2007 and approximately 876,000 square feet of positive net absorption in 2008. This third year in a row of positive absorption since 2005 has left the Center City direct vacancy rate at approximately 8.8 percent through the fourth quarter of 2008, down from vacancy rates of 9.01 percent for 2007 and 10.4 percent in 2006. The CBD's overall vacancy rate is 10.0%, compared to the national average of 10.6 percent. As building owners make substantial capital investments and 'trophy' locations are in demand, Class A asking rental rates in the CBD have risen from $25.85 in 2006 to $27.43 per square foot in 2008. A concerted attraction and retention campaign involving the combined efforts of the City, the Philadelphia Industrial Development Corporation (PIDC), the Center City District, the Greater Philadelphia Chamber of Commerce, and the Commonwealth has sustained these market conditions.

Amidst the national slowdown in real estate, Philadelphia's single-family property market remains consistent but is showing some signs of strain due to threats of increased foreclosures and a stagnant buyers market. However, the rental real estate market continues to be positioned favorably. Unburdened by a glut of speculative multifamily projects outstripping tenant demand, Philadelphia has maintained a low apartment vacancy rate and has fared well when compared to other regions. In addition, according to a January, 2008 assessment of U.S. property markets by Moody's Investor Service, in 2007 Philadelphia's multifamily sector improved the most of the 60 monitored metro areas.

Major Industry Sectors

When compared to the average sector concentration in Pennsylvania counties, Philadelphia has a higher concentration of employment in six sectors, as noted in the chart below.

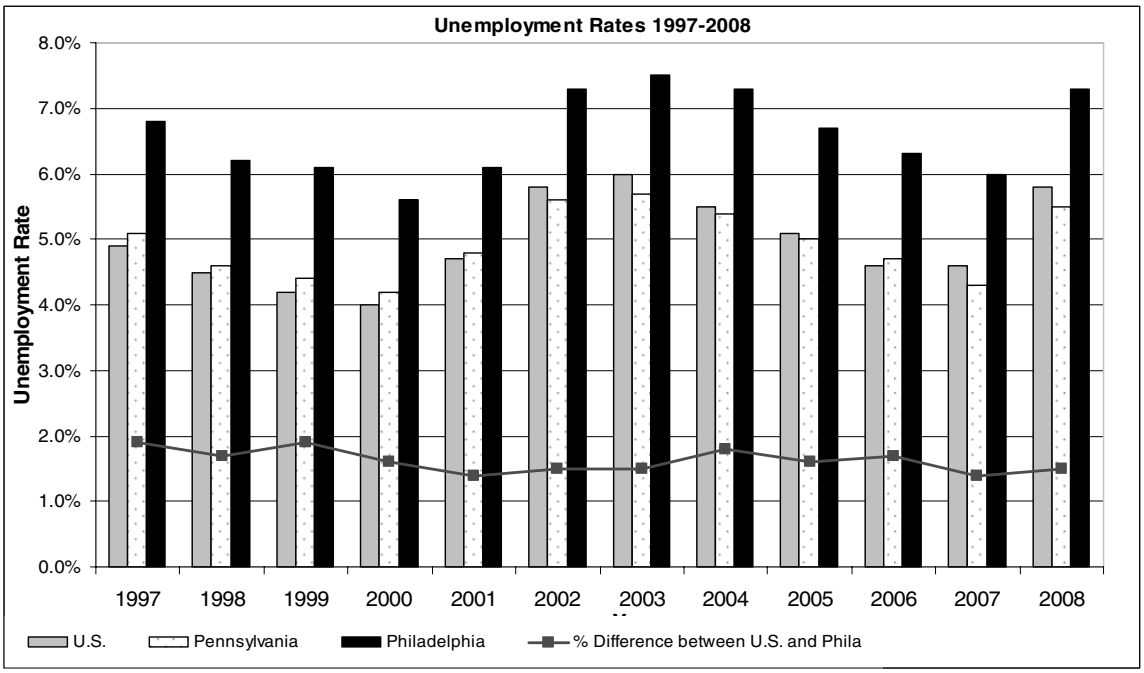
Philadelphia Industry Concentrations Compared to Pennsylvania

Industry	Pennsylvania	Philadelphia County
Education and Health Services	1.34	2.27
Financial Activities	0.97	1.22
Other Services	0.98	1.06
Professional and Business Services	0.91	0.99
Leisure and Hospitality	0.87	0.94
Information	0.82	0.90
Trade, Transportation, and Utilities	0.99	0.69
Manufacturing	1.10	0.44
Construction	0.80	0.33
Unclassified	0.01	0.02
Natural Resources and Mining	0.55	0.00

Source BLS: 2007 Location Quotient, 2006 Quarterly Census of Employment and Wages Data. Ratio of analysis-industry employment in the analysis area to base-industry employment in the analysis area divided by the ratio of analysis-industry employment in the base area to base-industry employment in the base area.

Philadelphia has maintained an above-average concentration of employment in Education and Health Services, Financial Activities, Other Services, Professional Business Services, Leisure and Hospitality as well as Information Services. The employment base has undergone a gradual shift over the last decade, most notably marked by growth in leisure/hospitality and education/health services sector employment.

Despite a continued rise in unemployment over the past year, the overall gap between local and national unemployment has shrunk considerably due to deteriorating market conditions brought on by the nation's financial crisis.



Source: Bureau of Labor Statistics, 2008 (2008 data based on preliminary 12 month averages (Jan. – Dec.)

As indicated in the chart below, until this year's economic downturn the City has consistently had an unemployment rate between 1.4 to 1.9 percent higher than the national average.

Year	U.S.	Pennsylvania	Philadelphia	% Difference between U.S. and Phila
1997	4.9%	5.1%	6.8%	1.9%
1998	4.5%	4.6%	6.2%	1.7%
1999	4.2%	4.4%	6.1%	1.9%
2000	4.0%	4.2%	5.6%	1.6%
2001	4.7%	4.8%	6.1%	1.4%
2002	5.8%	5.6%	7.3%	1.5%
2003	6.0%	5.7%	7.5%	1.5%
2004	5.5%	5.4%	7.3%	1.8%
2005	5.1%	5.0%	6.7%	1.6%
2006	4.6%	4.7%	6.3%	1.7%
2007	4.6%	4.4%	6.0%	1.4%
2008*	5.8%	5.5%	7.3%	1.5%

Source: Bureau of Labor Statistics (BLS).2008.
**2008 Preliminary estimate based on 12 month average (Jan. – Dec.)*

The jobs report is mixed. As shown in the chart below, the local economy has reflected a trend toward growth in particular sectors. Overall job growth in the City has decreased slightly in 2008 and continues to be sluggish.

Cluster Employment Data: City of Philadelphia
2003-2008 (in thousands)

Sector	2003	2004	2005	2006	2007	2008*	% Change from 2003-2008	Avg Annual % Change
Construction & Mining	12.3	11.4	12	12.6	11.8	11.9	-3.3%	-0.6%
Manufacturing	34	32.6	31.2	30	28.3	27.3	-19.7%	-3.3%
Trade, Transportation, & Utilities	95.8	90.9	90	88.6	88.0	87.2	-9.0%	-1.5%
Information	15.9	13.6	13.2	12.7	12.9	13.1	-17.6%	-2.9%
Financial Activities	50.7	49	48.2	47.6	47.1	46.5	-8.3%	-1.4%
Professional & Business Services	80.9	80.3	82.4	84.1	85.3	85.5	5.7%	1.0%
Education & Health Services	185.3	184.1	186.8	192	196.4	199.4	7.6%	1.3%
Leisure & Hospitality	52.9	54.6	56.6	57.6	58.4	58.0	9.6%	1.6%
Other Services	29	28.5	28.5	28.2	28.2	28.3	-2.4%	-0.4%
Government	114.7	113	111.4	108.4	105.9	104.2	-9.2%	-1.5%
Total	671.5	658	660.3	661.8	662.4	661.4	-1.5%	-0.3%

Source: Bureau of Labor Statistics.
Note: All years have been restated based on current BLS data, retrieved 2.18.2008 from data.bls.gov.
* 2008 Preliminary estimates based on 12 month average (Jan. – Dec.)

From 2003 to 2008, employment in Philadelphia's Education and Health Services sector increased by 7.6 percent. In addition, the Leisure and Hospitality sector captured growth of 9.6 percent, and a 5.7 percent growth rate occurred in Professional & Businesses Services. As the country rebounds from recessionary conditions, the City anticipates continued growth in these three sectors, all of which will continue to play a large role in Philadelphia's future.

One sector of the economy that shows great promise is the "knowledge industry," also referred to as the "knowledge economy." In the knowledge industry, which relies on the supply of new college graduates, companies apply emerging technologies to deliver high-quality, knowledge-based services. The knowledge industry includes sectors as diverse as financial services, engineering, health care, insurance, law, life sciences, printing, publishing, and academia. A January 2002 report by the Philadelphia Federal Reserve Bank found that Philadelphia ranked first among a comparison group of 14 major metropolitan areas in its concentration of Education sector employment, and third in life, physical, social sciences, and healthcare professionals. These advantages equip Philadelphia to continue to build its knowledge industries. The Education sector not only provides stable support to the local economy, but also generates a steady supply of potential knowledge workers.

While Philadelphia has a strong core of knowledge-based industries, the City must capitalize on these advantages to ensure future growth and dynamism. Within the knowledge economy is another sector of great importance to Philadelphia and the region, the life sciences, which includes health care, research, biotechnology, and pharmaceuticals. Philadelphia is capitalizing on the region's opportunity to

become an incubator for research generated by life sciences and educational institutions. Several sites now foster incubator opportunities, including the Philadelphia Navy Yard, the Science Center in West Philadelphia, and the west bank of the Schuylkill River bordered by the University of Pennsylvania, Children's Hospital of Pennsylvania and Drexel University.

Philadelphia's economy enjoys a large market share of for-profit creative industry companies which are technology-driven, known as businesses representing the "creative economy." A subset of the knowledge industry, the sector includes architecture, communications, design and merchandising, digital media, engineering, fashion design, graphic arts, information technology, interior and industrial design, marketing, music, film and video production, multimedia design, photography, planning product design and software development. Philadelphia supports several initiatives with the goal of increasing employment in this sector and fostering population growth in the City as a result.

Philadelphia International Airport

Philadelphia International Airport served 31.8 million passengers, including 4.0 million international travelers, in calendar year 2008. In 2007, PHL ranked seventeenth in the nation in terms of total passengers and is presently the tenth busiest in the world for aircraft operations, according to data reported by Airports Council International North America. The regional economic impact of the Airport is $14 billion annually PHL opened a new commuter terminal in 2001, a new international terminal in May 2003, and recently completed the extension of Runway 17-35 to increase airfield capacity.

In 2005, the Airport issued three series of Airport Revenue Bonds which included $125 million in fixed-rate Series 2005A bonds, $41 million in variable-rate Series 2005B bonds and $189.5 million in variable-rate Series 2005C bonds. Proceeds of the 2005A and B bonds have enabled the Airport to undertake critical infrastructure projects, such as expansion of Terminals D and E, improvements to Terminal A East, expansion of security checkpoints at Terminals B and C, and resurfacing of Runway 9R-27L. Proceeds of the 2005C bonds were used to refund the Airport's Series 1995A revenue bonds.

In August of 2007, the City issued the 2007A Bonds and the 2007B Bonds. Proceeds from the 2007A Bonds provide funding for several new capital projects including international terminal gate expansion, design work for the expansion of Terminal F, design of a new in-line baggage system for Terminal B/C, and an infrastructure improvement program. The 2007B Bonds refunded the Series 1997B Airport Revenue Bonds.

Philadelphia Industrial Development Corporation

Philadelphia Industrial Development Corporation (PIDC) is a private, not-for-profit Pennsylvania corporation, founded in 1958 by the City of Philadelphia and the Greater Philadelphia Chamber of Commerce to promote economic development throughout the City. The many programs provided by PIDC include (i) direct mortgage funding in a subordinate position at reduced interest rates for fixed asset improvement to companies who intend to build or expand in Philadelphia; (ii) tax-exempt bond financing to eligible borrowers through the Philadelphia Authority for Industrial Development (PAID); (iii) offering of fully improved parcels of land for sale in more than a dozen designated industrial parks and districts across the City; and (iv) offering of development assistance and project management to a range of Philadelphia's development and non-profit corporations.

Financing Programs

PIDC offers a variety of Financing Programs to assist economic development for all segments of the Philadelphia market. Primary categories include:

PIDC Loan Programs: Largely funded by federal, state, and local government sources, PIDC loan programs generally offer subordinated financing and below-market rates which encourage investment in Philadelphia. Specific terms and uses vary and may cover infrastructure costs, land acquisition, building construction, machinery/equipment purchase, or working capital. During 2008, PIDC settled 37 loan transactions and provided approximately $55 million of funding to projects valued at $237 million.

PAID Bond Program: PIDC also manages the Philadelphia Authority for Industrial Development (PAID). PAID issues, as a conduit, tax-exempt bonds for qualified manufacturing and not-for-profit and other projects. PAID is also a conduit for taxable issues. During calendar year 2008, PAID settled 25 bond issues for $389.8 million in financing and total project costs of $419.3 million.

Real Estate Services

On behalf of the City of Philadelphia, PIDC is responsible for acquiring, improving and selling industrial and commercial land in strategic locations throughout the City. Over the years, PIDC has successfully leveraged economic development on more than 2,000 acres of such land.

- Industrial Land: PIDC parcels are competitively priced, zoned for immediate development, environmentally clean, and fully improved with roads and utilities. Many of these sites are located in established Northeast, West, and Southwest Philadelphia industrial park settings with excellent access to transportation and workforce. Others are situated in redeveloping commercial neighborhood corridors.

- Most of PIDC's properties are in designated incentive areas, which include specific entitlements to tax abatements, low interest loans and other benefits. Of particular note are the Keystone Opportunity Zones (KOZs), which abate business taxes for varying terms.

- Public Property Sales: In 2005, PIDC entered into an agreement with the City's Department of Public Property to market the City's surplus real estate throughout Philadelphia. During 2008, PIDC completed 8 different transactions with a combined sale price of $5.996 million. Since this effort began, PIDC has completed the sale of 27 properties resulting in approximately $14 million for the City's General Fund.

- Developer Selection: When demand is present, PIDC also manages developer selection and sales of key real estate assets utilizing conventional RFQ/RFP methodology. Currently, PIDC is developing a handful of RFQ/RFP documents for sites that are likely to be in demand when the real estate market rebounds.

- In summary, PIDC closed 12 land sales, totaling 44.3 acres in 2008. This level of activity is consistent with 2008 and represents the impacts of the overall slowdown in the national and regional economy. In Fiscal Year 2009, PIDC working along with the City of Philadelphia's Commerce Department and the City Planning Commission will complete a study of Philadelphia's industrial land inventory, characteristics, and projected demand to develop a new industrial land policy to serve as a guide for the nature, location and scale of industrial land acquisition and development for the foreseeable future.

The Navy Yard

During the past decade, the United States Department of Defense has downsized significantly in the Philadelphia area, resulting in substantial excess real estate in the city. PIDC is responsible for

converting these former military properties to civilian use, and many of the dispositions realized during 2003-2006 included development sites from this portfolio.

Located on the Delaware River at the south end of Broad Street, The Navy Yard is the largest former Defense Department asset, with 1,000 acres and 6.5 million square feet of existing industrial and office space. Since the ownership transfer in March 2000, PIDC has been responsible for planning, operations and development of this massive property.

Initial emphasis was on upgrading roads and utilities systems with over $25 million of infrastructure investment. Development of the Aker Philadelphia Shipyard, a $300 million state-of-the-art facility, was funded by federal, state, and local sources. Successful leasing and development efforts have resulted in more than 80 companies and three Navy operations occupying more than 4.5 million square feet of space and employing more than 7,000 people. In September 2004, PIDC and the City released an updated Navy Yard Master Plan, which focuses on mixed use development on 400 acres east of Broad Street and envisions over $2 billion of private investment in office, research, retail, residential, and recreational projects. To date, major progress was achieved in implementation of the Master Plan:

- Industrial Anchors: The Navy Yard continues to be a vital industrial and manufacturing center, with the Aker Philadelphia Shipyard as a major anchor activity. Aker employs 1,300 in its commercial shipbuilding operation and is in the midst of $2 billion worth of ship orders. This robust activity also supports a number of supplier and related industrial and manufacturing companies located at The Navy Yard. The US Navy also retains significant industrial facilities to support its foundry and propeller shop with nearly 800 employees. Building on the skilled workforce and range of industrial supplier companies located at The Navy Yard, an affiliate of Boston Ship repair leased a dry-dock, pier and related facilities in 2007 and will commence commercial and military ship repair functions in 2008. Also in 2007, Tasty Baking Company announced plans for, and began construction on, a new 350,000 SF bakery and distribution center at The Navy Yard. This facility will be operational in 2009. This facility, along with an additional 200,000 SF of speculative flex and industrial space, is being developed in the Navy Yard Commerce Center by Liberty Property Trust and Synterra Partners.

- Navy Yard Corporate Center: In 2003, PIDC selected a team led by Liberty Property Trust and Synterra Partners to develop 72 acres with 1.4 million square feet of Class A office space. Liberty/Synterra has developed three buildings, (i) a 77,000-square-foot, multi-tenant speculative building which is now 100 percent leased, (ii) a 47,000 square foot build-to-suit headquarters for Unique Industries and (iii) a 95,000 square foot office building currently under construction. The third building will be a multi-tenant building to include Tasty Baking Company's corporate headquarters as the anchor tenant and will open in 2009 with more than 70% of the space now leased..

- Additional Corporate Office Activity: The Navy Yard's shift from a federal, industrial property to a private sector business park with corporate/research future has defined itself in recent years with a combination of headquarters relocations by Vitetta Architects and Engineers, Unique Industries, and Barthco International. In 2006, Urban Outfitters, a major retailer of clothing, furnishings and accessories completed its $115 million corporate campus, an award-winning historic conversion of approximately 300,000 SF of former industrial facilities now housing more than 900 employees.

- Research and Development: In addition to the development of general corporate office facilities, The Navy Yard has established an important market segment in technology and R&D activity. This activity is anchored by the Naval Ship Systems Engineering Station, an

1,800 person federal research lab that houses the Navy's premier research organization focusing on power, energy, fuel cells, propulsion, IT and systems integration. In order to complement and expand this research base, the Commonwealth designated the Navy Yard as a Keystone Innovation Zone (KIZ), providing access to variety of state incentives for technology development. The KIZ team led by PIDC includes the U.S. Navy, Penn State University, the Delaware Valley Industrial Resource Center (DVIRC), the City of Philadelphia and the Ben Franklin Technology Partners of Southeastern Pennsylvania. Early initiatives of the KIZ have resulted in Penn State establishing a Navy Yard location for its graduate level engineering program; the relocation of Ben Franklin Technology Partners' Corporate Office to The Navy Yard; the development of the Building 100 Innovation Center by Ben Franklin, DVIRC and PIDC to house early stage technology companies focused on power and energy related research; and a cadre of 12 KIZ related companies with offices at The Navy Yard. PIDC and Penn State have also prepared initial plans for a $70 million, 120,000 SF Energy Engineering and Technology Innovation Center that will provide Penn State with a major research presence at The Navy Yard.

The Navy Yard also supports a significant and growing life sciences community. In 2004, AppTec Laboratory Services, a Minneapolis based provider of contract testing and manufacturing services to the pharmaceutical sector, developed a new, 75,000 SF office and lab facility at The Navy Yard. Established with approximately 40 employees initially, AppTec now has more than 260 employees at The Navy Yard. In 2008, WuXi Pharmaceuticals acquired AppTec and now houses its North American contract testing operation at The Navy Yard. Phoenix IP Ventures, an intellectual property Merchant Bank focused in the life sciences area, established its corporate headquarters at The Navy Yard, where it also houses operations for its growing base of companies.

Additional Projects under Construction

The following table lists additional projects currently under construction in the City for the City/Public sector.

Table IV-25

Projects under Construction

Project	Estimated Cost
City Hall Exterior Renovation Project	$90,000,000
Presidents House	$8,400,000
Robin Hood Dell Restoration	$5,500,000
Emergency Standby Generators	$4,600,000
Herron & Gambrel Playground Improvements	$2,600,000
Philadelphia Industrial Correctional Center Security Upgrade Project	$ 2,100,000
Fire Point Source Capture	$ 11,000,000
Waterworks Dredging Enhancement	$1,000,000

Source: Office of Budget and Program Evaluation, January 2009

APPENDIX V

FORM OF OPINION OF CO-BOND COUNSEL

FORM OF OPINION OF CO-BOND COUNSEL

Re: $_____ City of Philadelphia, Pennsylvania
Water and Wastewater Revenue Bonds, Series 2009A

Ladies and Gentlemen:

We have acted as Co-Bond Counsel to the City of Philadelphia (the "City") in connection with the issuance by the City of $_____ aggregate principal amount of its Water and Wastewater Revenue Bonds, Series 2009A (the "Series 2009A Bonds"). The Series 2009A Bonds are issued under and pursuant to (a) The First Class City Revenue Bond Act, P.L. 955, Act No. 234 of the General Assembly of the Commonwealth of Pennsylvania, approved October 18, 1972 (the "Act"); (b) the City's Restated General Water and Wastewater Revenue Bond Ordinance of 1989 approved June 24, 1993, as amended (the "General Ordinance"), as supplemented by (i) the First Supplemental Ordinance approved June 24, 1993 authorizing the issuance of Water and Wastewater Revenue Bonds, Series 1993 (the "Series 1993 Bonds"), (ii) the Second Supplemental Ordinance approved May 9, 1994 authorizing the issuance of Water and Wastewater Revenue Bonds, Series 1995 (the "Series 1995 Bonds"), (iii) the Third Supplemental Ordinance approved October 27, 1997 authorizing the issuance of Water and Wastewater Revenue Bonds, Series 1997A and Water and Wastewater Revenue Bonds, Variable Rate Series 1997B (the "Series 1997B Bonds"), (iv) the Fourth Supplemental Ordinance approved December 11, 1998 authorizing the issuance of Water and Wastewater Revenue Bonds, Series 1998 (the "Series 1998 Bonds"), (v) the Fifth Supplemental Ordinance approved December 11, 1998 authorizing the issuance of Water and Wastewater Revenue Bonds, Series 1999, (vi) the Sixth Supplemental Ordinance approved December 11, 1998 authorizing the issuance of Water and Wastewater Revenue Bonds, Series 1999A (the "1999A Pennvest Loan"), (vii) the Seventh Supplemental Ordinance approved May 10, 2001 authorizing the issuance of Water and Wastewater Revenue Bonds, Series 2001A and Water and Wastewater Revenue Refunding Bonds, Series 2001B (collectively, the "Series 2001 Bonds"), (viii) the Eighth Supplemental Ordinance approved November 22, 2002 authorizing the issuance of the Water and Wastewater Revenue Bonds, Series 2005A (the "Series 2005A Bonds"), (ix) the Ninth Supplemental Ordinance approved November 22, 2002 authorizing the issuance of Water and Wastewater Revenue Refunding Bonds, Variable Rate Series 2003 (the "Series 2003 Bonds") and Water and Wastewater Revenue Refunding Bonds, Variable Rate Series 2005B (the "Series 2005B Bonds"), (x) the Tenth Supplemental Ordinance approved November 16, 2006 authorizing the issuance of the Water and Wastewater Revenue Refunding Bonds, Series 2007A and Water and Wastewater Revenue Refunding Bonds, Series 2007B (collectively, the "Series 2007 Bonds"), and (xi) the Eleventh Supplemental Ordinance approved November 16, 2006 (the "Eleventh Supplemental Ordinance") authorizing the issuance of the Series 2009A Bonds, and as amended by an Ordinance approved on January 23, 2007; and (c) the Bond Committee Determination dated _____, 2009 (the "Bond Committee Determination"). Capitalized terms used but not defined herein have the meanings assigned to such terms in the General Ordinance.

The Series 2009A Bonds are being issued for the purpose of providing funds, which, together with other available funds of the Water Department, will be applied to (a) fund capital improvements to the City's Water and Wastewater Systems, (b) fund the Debt Reserve Account of the Sinking Fund and (c) pay costs of issuance relating to the Series 2009A Bonds.

The City has previously issued, pursuant to the General Ordinance, and there are outstanding Water and Wastewater Revenue Bonds, consisting of the Series 1993 Bonds, the Series 1995 Bonds, the Series 1997B Bonds, the Series 1998 Bonds, the 1999A Pennvest Loan, the Series 2001 Bonds, the Series 2003 Bonds, the Series 2005A Bonds, the Series 2005B Bonds and the Series 2007 Bonds (collectively, the "Outstanding Bonds"). The Outstanding Bonds, the Series 2009A Bonds and all other Water and Wastewater Revenue Bonds hereafter issued by the City under the General Ordinance are and will be equally and ratably secured to the extent provided in the General Ordinance and the Act by the pledge of, and the security interest created in, all Project Revenues derived from the System and all amounts on deposit in or standing to the credit of the funds and accounts (other than the Rebate Fund) established pursuant to the General Ordinance.

The City has covenanted in the Eleventh Supplemental Ordinance and the Bond Committee Determination that it will make or permit no investment or other use of the proceeds of the Series 2009A Bonds that would cause the Series 2009A Bonds to be "arbitrage bonds" under Section 148 of the Internal Revenue Code of 1986, as amended (the "Code"), and the rules promulgated thereunder, and that it will comply with the requirements of said Section throughout the term of the Series 2009A Bonds. The City has further covenanted that it will comply with the requirements of the Code that must be met after the issuance of the Series 2009A Bonds in order that interest on the Series 2009A Bonds be excluded from gross income for federal income tax purposes. An officer of the City has executed a certificate stating the reasonable expectations of the City on the date of issue of the Series 2009A Bonds as to future events that are material for purposes of Section 148 of the Code pertaining to arbitrage bonds. We have reviewed this certificate, and in our opinion the Series 2009A Bonds are not arbitrage bonds. The City is filing with the Internal Revenue Service a report of the issuance of the Series 2009A Bonds as required by Section 149(e) of the Code as a condition of the exclusion from gross income of the interest on the Series 2009A Bonds for federal income tax purposes. We have not undertaken to monitor compliance with respect to the aforesaid covenants or to advise any party as to changes in the law that may affect the exclusion of interest on the Series 2009A Bonds from gross income for federal income tax purposes.

We have examined such proceedings, documents, statutes and decisions, as we consider necessary as the basis for this opinion, including, *inter alia*, the Act, the General Ordinance, the Eleventh Supplemental Ordinance, the Bond Committee Determination, and an executed and authenticated Series 2009A Bond. We assume that all other Series 2009A Bonds have been similarly executed and authenticated. We also assume that all documents, records, certifications and other instruments examined by us are genuine (including the signatures thereon), accurate and complete and we have not undertaken, by independent investigation, to verify the factual matters set forth in any such documents, records, certifications or other instruments.

Based on the foregoing, it is our opinion that:

1. The City has the power under the Constitution and the laws of the Commonwealth of Pennsylvania (the "Commonwealth") to perform its obligations under the General Ordinance, the Eleventh Supplemental Ordinance, the Bond Committee Determination and the Series 2009A Bonds.

2. Under the Constitution and the laws of the Commonwealth, including the Act, the City, is authorized to issue the Series 2009A Bonds, and the terms of the Series 2009A Bonds comply with the requirements of the Act, the General Ordinance, the Eleventh Supplemental Ordinance and the Bond Committee Determination.

3. The purposes for which the Series 2009A Bonds have been issued are lawful purposes under the Act and the General Ordinance.

4. The General Ordinance and the Eleventh Supplemental Ordinance have been duly enacted, and the Bond Committee Determination has been duly authorized, executed and delivered by the City and each is a legal, valid and binding obligation of the City enforceable in accordance with its terms, except as the rights created thereunder and the enforcement thereof may be limited by bankruptcy, insolvency, moratorium or other laws or legal or equitable principles affecting the enforcement of creditors' rights.

5. The Series 2009A Bonds have been duly authorized, executed, authenticated, issued and delivered and are legal, valid and binding obligations of the City, enforceable in accordance with their terms, except as enforcement may be limited as described in paragraph 4 above.

6. Under the Act and the General Ordinance, the Series 2009A Bonds constitute special obligations of the City payable solely from Project Revenues and all amounts on deposit in or standing to the credit of the funds and accounts (other than the Rebate Fund) established pursuant to the General Ordinance, together with interest earnings, if any, on amounts in such funds and accounts (other than the Rebate Fund). The Series 2009A Bonds do not pledge the credit or taxing power or create any debt or charge against the tax or general revenues of the City or create any lien against property of the City other than all amounts on deposit in or standing to the credit of the funds and accounts (other than the Rebate Fund) established pursuant to the General Ordinance, together with interest earnings on amounts in such funds and accounts (other than the Rebate Fund).

7. Interest on the Series 2009A Bonds is excludable from gross income for purposes of federal income tax under existing laws as enacted and construed on the date of the initial delivery of the Series 2009A Bonds, assuming the accuracy of the certifications of the City and continuing compliance by the City with the requirements of the Code. Interest on the Series 2009A Bonds is exempt from individual and corporate federal alternative minimum tax ("AMT") and is not includable in adjusted current earnings for purposes of corporate AMT. Bond Counsel expresses no opinion regarding other Federal tax consequences relating to ownership or disposition of, or the accrual or receipt of interest on, the Series 2009A Bonds.

In rendering this opinion, we have assumed compliance by the City with the covenants contained in the General Ordinance, the Eleventh Supplemental Ordinance and the Bond Committee Determination that are intended to comply with the requirements in the Code relating to actions to be taken by the City in respect of the Series 2009A Bonds after the issuance thereof to the extent necessary to effect or maintain the federal exclusion from gross income of the interest on the Series 2009A Bonds. Failure to comply with such covenants could cause the interest of the Series 2009A Bonds to be includable in gross income retroactively to the date of issuance of the Series 2009A Bonds.

8. Under the laws of the Commonwealth, as enacted and construed on the date of the issuance of the Series 2009A Bonds, the Series 2009A Bonds are exempt from personal property taxes in Pennsylvania and interest on the Series 2009A Bonds is exempt from Pennsylvania personal income tax and Pennsylvania corporate net income tax.

We render this opinion as of the date hereof on the basis of federal law and the laws of the Commonwealth as enacted and construed on the date hereof. We express no opinion as to any matter not set forth in the numbered paragraphs herein, including, without limitation, the accuracy or completeness of the preliminary or final official statement or other documents prepared or statements

made in connection with the offering and sale of the Series 2009A Bonds, and make no representation that we have independently verified the contents thereof.

Very truly yours,

APPENDIX VI

FORM OF CONTINUING DISCLOSURE AGREEMENT

CONTINUING DISCLOSURE AGREEMENT

THE CITY OF PHILADELPHIA, PENNSYLVANIA
WATER AND WASTEWATER REVENUE BONDS, SERIES 2009A

This Continuing Disclosure Agreement ("Disclosure Agreement") is executed and delivered as of this ___ day of _____, 2009 by and between The City of Philadelphia, a corporation and body politic existing under the laws of the Commonwealth of Pennsylvania (the "City") and Digital Assurance Certification, L.L.C., as dissemination agent (the "Dissemination Agent"), in connection with the issuance and sale by the City of $_____ aggregate principal amount of its Water and Wastewater Revenue Bonds, Series 2009A (the "Bonds").

The Bonds are being issued under The First Class City Revenue Bond Act, P.L. 955, Act No. 234 of the General Assembly of the Commonwealth of Pennsylvania, approved October 18, 1972 (the "Act") and the City's Restated General Water and Wastewater Revenue Bond Ordinance of 1989, approved June 24, 1993 (the "Restated General Ordinance"), as supplemented by (i) the First Supplemental Ordinance approved June 24, 1993 (the "First Supplemental Ordinance"), authorizing the issuance of Water and Wastewater Revenue Bonds, Series 1993, (ii) the Second Supplemental Ordinance approved May 9, 1994 (the "Second Supplemental Ordinance"), authorizing the issuance of Water and Wastewater Revenue Bonds, Series 1995, (iii) the Third Supplemental Ordinance approved October 27, 1997 (the "Third Supplemental Ordinance"), authorizing the issuance of Water and Wastewater Revenue Bonds, Series 1997A and Water and Wastewater Revenue Bonds, Variable Rate Series 1997B, (iv) the Fourth Supplemental Ordinance approved December 11, 1998 (the "Fourth Supplemental Ordinance"), authorizing the issuance of Water and Wastewater Revenue Bonds, Series 1998, (v) the Fifth Supplemental Ordinance approved December 11, 1998 (the "Fifth Supplemental Ordinance"), authorizing the issuance of Water and Wastewater Revenue Bonds, Series 1999, (vi) the Sixth Supplemental Ordinance approved December 11, 1998 (the "Sixth Supplemental Ordinance"), authorizing the issuance of Water and Wastewater Revenue Bonds, Series 1999A, (vii) the Seventh Supplemental Ordinance approved May 10, 2001 (the "Seventh Supplemental Ordinance"), authorizing the issuance of Water and Wastewater Revenue Bonds, Series 2001A and Water and Wastewater Revenue Refunding Bonds, Series 2001B, (viii) the Eighth Supplemental Ordinance approved November 22, 2002 (the "Eighth Supplemental Ordinance"), authorizing the issuance of the Water and Wastewater Revenue Bonds, Series 2005A, (ix) the Ninth Supplemental Ordinance approved November 22, 2002 (the "Ninth Supplemental Ordinance"), authorizing the issuance of Water and Wastewater Revenue Refunding Bonds, Variable Rate Series 2003 and Water and Wastewater Revenue Refunding Bonds, Variable Rate Series 2005B, (x) the Tenth Supplemental Ordinance approved November 16, 2006 (the "Tenth Supplemental Ordinance") authorizing the issuance of the Water and Wastewater Revenue Refunding Bonds, Series 2007A and Series 2007B and (xi) the Eleventh Supplemental Ordinance approved November 16, 2006 (the "Eleventh Supplemental Ordinance") authorizing the issuance of the Bonds and an additional $180,000,000 in aggregate principal amount (exclusive of original issue discount) of Water and Wastewater Revenue Bonds to finance certain capital projects for the Water Department. The Restated General Ordinance, as supplemented and amended by any amendment thereto contained in the First Supplemental Ordinance, the Second Supplemental Ordinance, the Third Supplemental Ordinance, the Fourth Supplemental Ordinance, the Fifth Supplemental Ordinance, the Sixth Supplemental Ordinance, the Seventh Supplemental Ordinance, the Eighth Supplemental Ordinance, the Ninth Supplemental Ordinance, the Tenth Supplemental Ordinance and the Eleventh Supplemental Ordinance, and as amended by an Ordinance approved on January 23, 2007 are herein referenced to as the "General Ordinance."

In consideration of the mutual covenants, promises and agreements contained herein and intending to be legally bound hereby, the parties hereto agree as follows:

Section 1. Definitions.

In this Disclosure Agreement and any agreement supplemental hereto (except as otherwise expressly provided or unless the context clearly requires otherwise) terms defined in the recitals hereto shall have such meanings throughout this Disclosure Agreement, and, in addition, the following terms shall have the meanings specified below:

"Annual Financial Information" shall mean the financial information or operating data with respect to the Water Department, delivered at least annually pursuant to Section 3 hereof, substantially similar to the type set forth in Exhibit A attached hereto and in accordance with the Rule. The financial statements comprising the Annual Financial Information are prepared according to accounting methods and procedures which conform to generally accepted accounting principles for governmental units as prescribed by the Governmental Accounting Standards Board.

"Bond Committee Determination" shall mean the Bond Committee Determination dated _____, 2009, by and among the Mayor, City Controller and the City Solicitor of the City of Philadelphia, Pennsylvania relating to the Bonds.

"Business Day" or "Business Days" shall mean any day other than a Saturday or Sunday or, in the City, a legal holiday or a day on which banking institutions are authorized by law to close or a day on which the Dissemination Agent is closed.

"Disclosure Representative" shall mean the Director of Finance of the City, the City Treasurer, or such other official or employee of the City as the Director of Finance or City Treasurer shall designate in writing to the Dissemination Agent.

"EMMA" means the Electronic Municipal Market Access system.

"Fiscal Agent" shall mean U.S. Bank National Association, Philadelphia, Pennsylvania, as fiscal agent under the Fiscal Agent Agreement.

"Material Event" shall mean any of the events listed in Section 4(a) of this Disclosure Agreement, if material within the meaning of the Rule.

"MSRB" shall mean the Municipal Securities Rulemaking Board.

"National Repository" shall mean any nationally recognized municipal securities information repository now or hereafter designated as such by the Securities and Exchange Commission for purposes of the Rule. The National Repositories currently approved by the Securities and Exchange Commission can be found at *www.sec.gov/info/municipal/nrmsir.htm*. Pursuant to an amendment to the Rule, beginning on July 1, 2009, EMMA will be the sole National Repository.

"Official Statement" shall mean the City's Official Statement dated _____, 2009 relating to the Bonds.

"Participating Underwriters" shall mean any of the original underwriters of the Bonds required to comply with the Rule in connection with the purchase and reoffering of the Bonds.

"Registered Owner" or "Registered Owners" shall mean the person or persons in whose name a Bond is registered on the books of the City maintained by the Fiscal Agent in accordance with the General Ordinance. For so long as the Bonds shall be registered in the name of the Securities Depository

or its nominee, the term "Registered Owners" shall also mean and include, for the purposes of this Disclosure Agreement, beneficial owners and the owners of book-entry credits evidencing a beneficial ownership interest in the Bonds; provided, however, that the Dissemination Agent shall have no obligation to provide notice hereunder to owners of book-entry credits in the Bonds, except those who have filed their names and addresses with the Dissemination Agent for the purpose of receiving notices or giving direction under this Disclosure Agreement.

"Rule" shall mean Rule 15c2-12 promulgated by the Securities and Exchange Commission under the Securities Exchange Act of 1934, as amended, as such rule may be amended from time to time.

"Securities Depository" shall mean The Depository Trust Company, New York, New York, or its nominee, Cede & Co., or any successor thereto appointed pursuant to the General Ordinance.

"State Information Depository" shall mean any public or private repository designated by the Commonwealth of Pennsylvania as a state information depository within the meaning of the Rule. As of the date of this Disclosure Agreement, there is no State Information Depository.

"Water Department" shall mean the Water Department of The City of Philadelphia.

Section 2. **Authorization and Purpose of Agreement.** This Disclosure Agreement is authorized to be executed and delivered by the City pursuant to the General Ordinance in order to enable the Participating Underwriters to comply with the requirements of the Rule.

Section 3. **Provision and Filing of Annual Financial Information.**

(a) Within 240 days of the close of each fiscal year of the City, commencing with the fiscal year ended June 30, 2009, the Disclosure Representative shall file with the Dissemination Agent Annual Financial Information for such fiscal year. The Dissemination Agent shall file promptly upon receipt thereof the Annual Financial Information with each National Repository and with the State Information Depository, if any. The Annual Financial Information shall be in the form of the City's Comprehensive Annual Financial Report and, to the extent such information is not included therein, will include the other information set forth on Exhibit A, and will contain unaudited financial statements if audited financial statements are not available.

(b) As soon as audited financial statements for the City are available, commencing with the audited financial statements for the fiscal year ended June 30, 2009, the Disclosure Representative shall file the audited financial statements with the Dissemination Agent. The Dissemination Agent shall file promptly upon receipt thereof the audited financial statements with each National Repository and the State Information Depository, if any.

Section 4. **Material Events.**

(a) The City agrees that it shall provide through the Dissemination Agent, in a timely manner, each National Repository or to the MSRB and to the State Information Depository, if any, notice of the occurrence of any of the following events with respect to the Bonds if material within the meaning of the Rule (each a "Material Event"):

(1) principal and interest payment delinquencies;

(2) non-payment related defaults;

(3) unscheduled draws on debt service reserves reflecting financial difficulties;

(4) unscheduled draws on credit enhancements, if any, reflecting financial difficulties;

(5) substitution of credit or liquidity providers, if any, or their failure to perform;

(6) adverse tax opinions or events affecting the tax-exempt status of the Bonds;

(7) modifications to the rights of the holders of the Bonds;

(8) bond calls;

(9) defeasances;

(10) release, substitution, or sale of property securing repayment of the Bonds; and

(11) rating changes.

The foregoing eleven events are quoted from the Rule. No mandatory redemption shall be deemed a material event.

(b) Whenever the City concludes that a Material Event has occurred, the Disclosure Representative shall promptly notify the Dissemination Agent in writing of such occurrence, specifying the Material Event. Such notice shall instruct the Dissemination Agent to file a notice of such occurrence with each National Repository or the MSRB and the State Information Depository, if any. Upon receipt, the Dissemination Agent shall promptly file such notice with each National Repository or the MSRB and the State Information Depository, if any. In addition, the Dissemination Agent shall file with each National Repository or the MSRB and the State Information Depository, if any, notice of any failure by the City or the Dissemination Agent to timely file the Annual Financial Information as provided in Section 3 hereof, including any failure by the City or the Disclosure Representative to provide the Annual Financial Information on or before the date specified in Section 3(a) hereof, no later than noon of the following business day. Any filing with each National Repository, the MSRB and the State Information Depository, if any, shall be accompanied by the form annexed hereto as Exhibit B and made a part hereof.

(c) Notwithstanding the foregoing, the Dissemination Agent shall, promptly after obtaining actual knowledge of an event listed in clauses (a)(1), (3), (4), (5), (8) or (9) of this Section 4, notify the Disclosure Representative of the occurrence of such event and shall, within three Business Days after giving notice to the Disclosure Representative, file notice of such occurrence with the MSRB and the State Information Depository, if any, unless the Disclosure Representative gives the Dissemination Agent written instructions not to file such notice because the event has not occurred or the event is not material within the meaning of the Rule.

(d) The Dissemination Agent shall prepare an affidavit of mailing for each notice delivered pursuant to clauses (b) and (c) of this Section 4 and shall deliver such affidavit to the City no later than three Business Days following the date of delivery of such notice.

(e) The Dissemination Agent shall request the return from each National Repository, the MSRB and the State Information Depository, if any, of acknowledgement or receipt of any notice delivered to each National Repository, the MSRB and the State Information Depository, if any. Upon the return of all completed acknowledgements of a notice, the Dissemination Agent shall prepare an affidavit

of receipt specifying the date and hour of receipt of such notice by each recipient to the extent such information has been provided to the Dissemination Agent. Such affidavit of receipt shall be delivered to the City no later than three Business Days following the date of receipt by the Dissemination Agent of the last completed acknowledgement.

Section 5. Amendment; Waiver.

(a) Notwithstanding any other provision of this Disclosure Agreement, the City and the Dissemination Agent may amend this Disclosure Agreement or waive any of the provisions hereof by a writing executed by each of the parties hereto, provided that no such amendment or waiver shall be executed by the parties hereto or be effective unless:

(i) the amendment or waiver is made in connection with a change in circumstances that arises from a change in legal requirements, change in law or change in identity, nature or status of the Water Department, the City or the governmental operations conducted by the City;

(ii) this Disclosure Agreement, as amended by the amendment or waiver, would have been the written undertaking contemplated by the Rule at the time of original issuance of the Bonds, after taking into account any amendments or interpretations of the Rule, as well as any change in circumstances; and

(iii) the amendment or waiver does not materially impair the interests of the Registered Owners of the Bonds.

(b) Evidence of compliance with the conditions set forth in clause (a) of this Section 5 shall be satisfied by the delivery to the Dissemination Agent of an opinion of counsel having recognized experience and skill in the issuance of municipal securities and federal securities law, acceptable to both the City and the Dissemination Agent, to the effect that the amendment or waiver satisfies the conditions set forth in clauses (a)(i), (a)(ii), and (a)(iii) of this Section 5.

(c) Notice of any amendment or waiver containing an explanation of the reasons therefor shall be given by the Disclosure Representative to the Dissemination Agent upon execution of the amendment or waiver and the Dissemination Agent shall promptly file such notice with each National Repository, the MSRB and the State Information Depository, if any. The Dissemination Agent shall also send notice of the amendment or waiver to each Registered Owner, including owners of book-entry credits who have filed their names and addresses with the Dissemination Agent.

Section 6. Other Information.

(a) Nothing in this Disclosure Agreement shall preclude the City from disseminating any other information with respect to the City or the Bonds, using the means of communication provided in this Disclosure Agreement or otherwise, in addition to the Annual Financial Information and the notices of Material Events specifically provided for herein, nor shall the City be relieved of complying with any applicable law relating to the availability and inspection of public records. Any election by the City to furnish any information not specifically provided for herein in any notice given pursuant to this Disclosure Agreement or by the means of communication provided for herein shall not be deemed to be an additional contractual undertaking and the City shall have no obligation to furnish such information in any subsequent notice or by the same means of communication.

(b) Nothing in this Disclosure Agreement shall relieve the Dissemination Agent of any of its duties and obligations under the General Ordinance or the Bond Committee Determination.

(c) Except as expressly set forth in this Disclosure Agreement, the Dissemination Agent shall have no responsibility for any continuing disclosure to the Registered Owners, the MSRB, any National Repository or any State Information Depository.

Section 7. Default.

(a) In the event that the City or the Dissemination Agent fails to comply with any provision of this Disclosure Agreement, the Dissemination Agent or any Registered Owner of the Bonds shall have the right, by mandamus, suit, action or proceeding at law or in equity, to compel the City or the Dissemination Agent to perform each and every term, provision and covenant contained in this Disclosure Agreement. The Dissemination Agent shall be under no obligation to take any action in respect of any default hereunder unless it has received the direction in writing to do so by the Registered Owners of at least 25% of the outstanding principal amount of the Bonds and if, in the Dissemination Agent's opinion, such action may tend to involve expense or liability, unless it is also furnished with indemnity and security for expenses satisfactory to it.

(b) A default under the Disclosure Agreement shall not be or be deemed to be an Event of Default under the Bonds, the General Ordinance or the Act and the sole remedy in the event of a failure by the City or the Dissemination Agent to comply with the provisions hereof shall be the action to compel performance described in Section 7(a) above.

Section 8. Concerning the Dissemination Agent.

(a) The Dissemination Agent accepts and agrees to perform the duties imposed on it by this Disclosure Agreement, but only upon the terms and conditions set forth herein. The Dissemination Agent shall have only such duties in its capacity as are specifically set forth in this Disclosure Agreement. The Dissemination Agent may execute any powers hereunder and perform any duties required of it through attorneys, agents, and other experts, officers, or employees selected by it, and the written advice of such counsel or other experts shall be full and complete authorization and protection in respect of any action taken, suffered or omitted by it hereunder in good faith and in reliance thereon. The Dissemination Agent shall not be answerable for the default or misconduct of any attorney, agent, expert or employee selected by it with reasonable care. The Dissemination Agent shall not be answerable for the exercise of any discretion or power under this Disclosure Agreement or liable to the City or any other person for actions taken hereunder, except only its own willful misconduct or negligence.

(b) The City shall pay the Dissemination Agent reasonable compensation for its services hereunder, and also all its reasonable expenses and disbursements, including reasonable fees and expenses of its counsel or other experts, as shall be agreed upon by the Dissemination Agent and the City. Nothing in this Section 8(b) shall be deemed to constitute a waiver of governmental immunity by the City. The provisions of this Section 8(b) shall survive termination of this Disclosure Agreement.

(c) The Dissemination Agent may act on any resolution, notice, telegram, request, consent, waiver, certificate, statement, affidavit, or other paper or document which it in good faith believes to be genuine and to have been passed or signed by the proper persons or to have been prepared and furnished pursuant to any of the provisions of this Disclosure Agreement; and the Dissemination Agent shall be under no duty to make any investigation as to any statement contained in any such instrument, but may accept the same as conclusive evidence of the accuracy of such statement in the absence of actual notice to the contrary. The Dissemination Agent shall be under no obligation to institute any suit, or to take any action under this Disclosure Agreement, or to enter any appearance or in any way defend in any suit in which it may be made a defendant, or to take any steps in the execution of the duties hereby created or in the enforcement of any rights and powers hereunder, until it shall be indemnified by the Registered

Owners to its satisfaction against any and all costs and expenses, outlays and counsel fees and expenses and other reasonable disbursements, and against all liability; the Dissemination Agent may, nevertheless, begin suit, or appear in and defend suit, or do anything else in its judgment proper to be done by it as such Dissemination Agent, without indemnity.

Section 9. Term of Disclosure Agreement.

This Disclosure Agreement shall terminate upon (1) payment or provision for payment in full of the Bonds; (2) repeal or rescission of Section (b)(5) of the Rule; or (3) a final determination that Section (b)(5) of the Rule is invalid or unenforceable.

Section 10. Beneficiaries.

This Disclosure Agreement shall inure solely to the benefit of the City, the Dissemination Agent and the Registered Owners from time to time of the Bonds and nothing herein contained shall confer any right upon any other person.

Section 11. Notices and Filings.

(a) Any written notice to or demand may be served, presented or made to the persons named below and shall be sufficiently given or filed for all purposes of this Disclosure Agreement if deposited in the United States mail, first class postage prepaid, or in a recognized form of overnight mail or by telecopy with confirmation of receipt, addressed:

(i) to each National Repository and the State Information Depository, if any, at its address listed for such National Repository by the Security and Exchange Commission at *www.sec.gov/info/municipal/nrmsir.htm*. Beginning on July 1, 2009, EMMA will be the sole National Respository.

(ii) to the Dissemination Agent at:

Digital Assurance Certification, LLC
390 North Orange Avenue, Suite 1750
Orlando, FL 32801
Attention: [Jenny Emami]
Fax: (407) 515-6513

(iii) to the City or the Disclosure Representative at:

The City of Philadelphia
Office of the Director of Finance
Municipal Services Building
1401 J.F. Kennedy Boulevard, Suite 1330
Philadelphia, PA 19102
Attention: Director of Finance
Fax: (215) 568-1947 or;

Office of the City Treasurer
640 Municipal Services Building
1401 John F. Kennedy Boulevard
Philadelphia, PA 19102
Attention: City Treasurer
Fax: (215) 686-3815

(iv) to the MSRB at:

Municipal Securities Rulemaking Board
1900 Duke Street, Suite 600
Alexandria, VA 22314
Attention: CDI
Fax No.: (703) 797-6700

or such other addresses as may be designated in writing to all parties hereto.

(b) Any filing under this Disclosure Agreement may be made to the National Repositories and State Information Depositories solely by transmitting such filing to the Texas Municipal Advisory Council (the "MAC") as provided at *http://www.disclosureusa.org* unless the United States Securities and Exchange Commission has withdrawn the interpretive advice in its letter to the MAC dated September 7, 2004 and reaffirmed in a letter dated October 3, 2008. Beginning on July 1, 2009, no further filings described in this Section 11(b) shall be made with the MAC.

Section 12. No Personal Recourse.

No personal recourse shall be had for any claim based on this Disclosure Agreement against any member, officer, or employee, past, present or future, of the City (including without limitation, the Disclosure Representative), or of any successor body as such, either directly or through the City or any such successor body, under any constitutional provisions, statute or rule of law or by the enforcement of any assessment or penalty or otherwise.

Section 13. Controlling Law.

The laws of the Commonwealth of Pennsylvania shall govern the construction and interpretation of this Disclosure Agreement.

Section 14. Removal and Resignation of the Dissemination Agent.

The City has appointed the Dissemination Agent as exclusive Dissemination Agent under this Disclosure Agreement. The City may, upon 30 days' written notice to the Dissemination Agent and the Fiscal Agent, replace or appoint a successor Dissemination Agent. Upon termination of the

Dissemination Agent's services as Dissemination Agent, whether by notice of the City or the Dissemination Agent, the City agrees to appoint a successor Dissemination Agent or, alternately, agrees to assume all responsibilities of Dissemination Agent under this Disclosure Agreement for the benefit of the holders of the Bonds. Notwithstanding any replacement or appointment of a successor, the City shall remain liable until payment in full for any and all sums owed and payable to the Dissemination Agent. The Dissemination Agent may resign at any time by providing thirty days' prior written notice to the City.

Section 15. Successors and Assigns.

All of the covenants, promises and agreements contained in this Disclosure Agreement by or on behalf of the City or by or on behalf of the Dissemination Agent shall bind and inure to the benefit of their respective successors and assigns, whether so expressed or not.

Section 16. Headings for Convenience Only.

The descriptive headings of this Disclosure Agreement are inserted for convenience of reference only and shall not control or affect the meaning or construction of any of the provisions hereof.

Section 17. Counterparts.

This Disclosure Agreement may be executed in any number of counterparts, each of which when so executed and delivered shall be an original, but such counterparts shall together constitute but one and the same instrument.

Section 18. Entire Agreement.

This Disclosure Agreement sets forth the entire understanding and agreement of the City and the Dissemination Agent with respect to the matters herein contemplated and no modification or amendment of or supplement to this Disclosure Agreement shall be valid or effective unless the same is in writing and signed by the parties hereto.

IN WITNESS WHEREOF, THE CITY OF PHILADELPHIA, PENNSYLVANIA has caused this Disclosure Agreement to be executed by the Director of Finance and DIGITAL ASSURANCE CERTIFICATION, L.L.C., as Dissemination Agent, has caused this Disclosure Agreement to be executed by one of its duly authorized officers, all as of the day and year first above written.

THE CITY OF PHILADELPHIA, PENNSYLVANIA

By:_____
Director of Finance

DIGITAL ASSURANCE CERTIFICATION, L.L.C., as Dissemination Agent

By:_____
Authorized Officer

EXHIBIT A

1. Commencing with the fiscal year ending June 30, 2009, a copy of the Comprehensive Annual Financial Report ("CAFR"), which contains the audited combined financial statements of the City, prepared by the office of the Director of Finance of the City in conformance with guidelines adopted by the Governmental Accounting Standards Board and the American Institute of Certified Public Accountants' audit guide, Audits of State and Local Government Units; and

2. Commencing with the Fiscal Year of the Water Department ending June 30, 2009, to the extent such information is not contained in the CAFR, an update of the information set forth in the financial statements of the Water Department for the Fiscal Years ended June 30, 2008 and June 30, 2007 included in Appendix I to the Official Statement.

EXHIBIT B
MUNICIPAL SECONDARY MARKET DISCLOSURE
INFORMATION COVER SHEET

This cover sheet and material event notice should be sent to the Municipal Securities Rulemaking Board, Nationally Recognized Municipal Securities Information Repositories, and the State Information Depository, if applicable, pursuant to Securities and Exchange Commission Rule 15c2-12 or any analogous state statute.

Issuer's and/or Other Obligated Person's Name: _____

CUSIP Numbers (attach additional sheet if necessary):_____

☐ Nine-Digit CUSIP Number(s) to which this material event notice relates:

☐ Information relates to all securities issued by issuer having the following six-digit numbers: _____

Number of pages attached material event notice:_____

Description of Material Events Notice (Check One)

1. ____ Principal and interest payment delinquencies
2. ____ Non-Payment related defaults
3. ____ Unscheduled draws on debt service reserves reflecting financial difficulties
4. ____ Unscheduled draws on credit enhancements reflecting financial difficulties
5. ____ Substitution of credit or liquidity providers, or their failure to perform
6. ____ Adverse tax opinions or events affecting the tax-exempt status of the security
7. ____ Modifications to rights of securities holders
8. ____ Bond calls
9. ____ Defeasances
10. ____ Release, substitution, or sale of property securing repayment of the security
11. ____ Rating changes
12. ____ Failure to provide annual financial information as required
13. ____ Other material event notice (specify) _____

14. Financial information: Please check all appropriate boxes: *

CAFR

(a) includes does not include Annual Financial Information

(b) audited? Yes No

Annual Financial Information: Audited: Yes No

Operating Data

Fiscal Period Covered: _____

*Financial Information should not be filed with the MSRB.

I hereby represent that I am authorized by the Issuer and/or Other Obligated Person as an agent of either to distribute this information publicly:

Signature: _____

Name: _____Title: _____

Employer: _____

Address: _____

City, State, Zip Code: _____

Voice Telephone Number ( ): _____

Please print the material event notice attached to this cover sheet in 10-point type or larger.

The cover sheet and notice may be faxed to the MSRB at (703) 797-6700. Contact the MSRB at (703) 797-6600 with questions regarding this form or the dissemination of this notice.