

NEW ISSUE – BOOK-ENTRY ONLY

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 will not be a preference item for purposes of either individual or corporate federal alternative minimum tax; however, interest paid to corporate holders of the Bonds may be subject to alternative minimum tax under circumstances described under "TAX EXEMPTION" herein. Under the laws of the Commonwealth of Pennsylvania as enacted and construed on the date of issuance of 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. For a more complete discussion, see "TAX EXEMPTION" herein.



\$345,035,000

**The City of Philadelphia, Pennsylvania
Water and Wastewater Revenue Refunding Bonds**

\$191,440,000 Series 2007A

\$153,595,000 Series 2007B

Dated: Date of Delivery

Due: As shown on the inside front cover

The City of Philadelphia, Pennsylvania Water and Wastewater Revenue Refunding Bonds, Series 2007A (the "Series A Bonds") and the City of Philadelphia, Pennsylvania Water and Wastewater Revenue Refunding Bonds, Series 2007B (the "Series B Bonds," and together with the Series A Bonds, the "Bonds") of The City of Philadelphia, a corporation and body politic existing under the laws of the Commonwealth of Pennsylvania (the "City") are being issued 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, will be applied (i) to currently refund a portion of the City's Water and Wastewater Revenue Bonds, Series 1997A and to advance refund a portion of the City's Water and Wastewater Revenue Bonds, Series 2001A, and (ii) 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 Sewer Revenue Bonds currently outstanding in the aggregate principal amount of \$47,200,000 issued under the Prior Ordinance (as defined herein) (consisting of the City's Water and Sewer Revenue Bonds, Fourteenth Series) which are subject to the provisions of the General Ordinance, (ii) the City's Water and Wastewater Revenue Bonds currently outstanding in the aggregate principal amount of \$1,745,089,391 issued under the General Ordinance (as defined herein) (consisting of all or portions of the City's Water and Wastewater Revenue Bonds, Series 1993, Series 1995, Series 1997A, Series 1997B, Series 1998, Series 1999A, Series 2001A, Series 2001B, Series 2003, Series 2005A and Series 2005B), and (iii) all Water and Wastewater Revenue Bonds hereafter issued, by a pledge of and security interest in all Project Revenues (as defined herein) derived from the City's Water and Wastewater Systems (as defined herein) 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 Series A Bonds will be payable semiannually on February 1 and August 1 of each year beginning August 1, 2007, and interest on the Series B Bonds will be payable semiannually on May 1 and November 1 of each year beginning November 1, 2007.

The Bonds are subject to optional and mandatory sinking fund redemption prior to their respective stated maturities as described herein.

The scheduled payment of principal of and interest on the Bonds when due will be guaranteed under a financial guaranty insurance policy to be issued concurrently with the delivery of the Bonds by Ambac Assurance Corporation. See "BOND INSURANCE" and APPENDIX VI – "SPECIMEN BOND INSURANCE POLICY" herein.

Ambac

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 Andre C. Dasent, P.C., Co-Bond Counsel, both of Philadelphia, Pennsylvania. Certain legal matters will be passed upon for the Underwriters by Cozen O'Connor and Booth & Tucker, LLP, both of Philadelphia, Pennsylvania. Certain legal matters will be passed upon for the City by the City Solicitor. It is expected that the Bonds in definitive form will be available for delivery to DTC in New York, New York on or about May 9, 2007.

Siebert Brandford Shank & Co., LLC

Citigroup

UBS Investment Bank

Lehman Brothers

Loop Capital Markets, LLC

Morgan Stanley

Popular Securities

March 15, 2007

\$345,035,000
The City of Philadelphia, Pennsylvania
Water and Wastewater Revenue Refunding Bonds

\$191,440,000 Series 2007A

<u>Maturity</u> <u>(August 1)</u>	<u>Principal</u>	<u>Interest</u> <u>Rate</u>	<u>Yield</u>	<u>CUSIP</u>	<u>Maturity</u> <u>(August 1)</u>	<u>Principal</u>	<u>Interest</u> <u>Rate</u>	<u>Yield</u>	<u>CUSIP</u>
2007	\$2,815,000	4.500%	3.500%	717893RC7	2018	\$10,430,000	5.000%	3.900%*	717893RP8
2008	4,300,000	4.000	3.590	717893RD5	2019	10,965,000	5.000	3.940*	717893RQ6
2009	4,480,000	4.000	3.620	717893RE3	2020	11,530,000	5.000	3.980*	717893RR4
2010	4,665,000	4.000	3.630	717893RF0	2021	12,120,000	5.000	4.000*	717893RS2
2011	4,795,000	5.000	3.630	717893RG8	2022	12,740,000	5.000	4.020*	717893RT0
2012	7,730,000	5.000	3.660	717893RH6	2023	13,360,000	4.500	4.300*	717893RU7
2013	8,125,000	5.000	3.700	717893RJ2	2024	13,985,000	4.500	4.320*	717893RV5
2014	8,540,000	5.000	3.740	717893RK9	2025	14,615,000	4.500	4.340*	717893RW3
2015	8,980,000	5.000	3.770	717893RL7	2026	15,300,000	4.500	4.350*	717893RX1
2016	9,440,000	5.000	3.810	717893RM5	2027	2,600,000	4.500	4.360*	717893RY9
2017	9,925,000	5.000	3.850	717893RN3					

* Priced to first call of August 1, 2017.

\$153,595,000 Series 2007B

<u>Maturity</u> <u>(November 1)</u>	<u>Principal</u>	<u>Interest</u> <u>Rate</u>	<u>Yield</u>	<u>CUSIP</u>	<u>Maturity</u> <u>(November 1)</u>	<u>Principal</u>	<u>Interest</u> <u>Rate</u>	<u>Yield</u>	<u>CUSIP</u>
2007	\$ 90,000	4.000%	3.550%	717893RZ6	2015	\$ 255,000	4.000%	3.770%	717893SH5
2008	195,000	4.000	3.590	717893SA0	2016	265,000	4.000	3.810	717893SJ1
2009	200,000	4.000	3.620	717893SB8	2017	275,000	4.000	3.850	717893SK8
2010	210,000	4.000	3.630	717893SC6	2018	285,000	4.000	3.900+	717893SL6
2011	220,000	4.000	3.630	717893SD4	2019	300,000	5.000	3.940+	717893SM4
2012	225,000	4.000	3.660	717893SE2	2020	7,840,000	5.000	3.980+	717893SN2
2013	235,000	4.000	3.700	717893SF9	2023	9,095,000	4.500	4.300+	717893SQ5
2014	245,000	4.000	3.740	717893SG7	2024	9,530,000	4.500	4.320+	717893SR3

\$8,940,000 5.000% Term Bonds due November 1, 2022, Priced at 108.311% to Yield 4.020%[†] – CUSIP: 717893SP7
 \$57,735,000 4.250% Term Bonds due November 1, 2031, Priced at 96.745% to Yield 4.470% – CUSIP: 717893SS1
 \$57,455,000 4.750% Term Bonds due November 1, 2031, Priced at 103.762% to Yield 4.300%[†] – CUSIP: 717893ST9

[†] Priced to first call of November 1, 2017.



THE CITY OF PHILADELPHIA, PENNSYLVANIA

MAYOR

HONORABLE JOHN F. STREET

MAYOR'S CHIEF OF STAFF

Joyce S. Wilkerson

MAYOR'S CABINET

Vincent J. Jannetti Acting Secretary of Financial Oversight and Director of Finance
Romulo L. Diaz, Jr. City Solicitor
Pedro A. Ramos Managing Director
Loree D. Jones Secretary of External Affairs
Stephanie W. Naidoff City Representative and Director of Commerce
Jacqueline Barnett Secretary of Education
Sylvester M. Johnson Police Commissioner/Secretary of Public Safety
Janice Woodcock Executive Director of City Planning Commission and
Secretary of Strategic Planning and Initiatives
Terry Phillis Chief Information Officer
Kevin R. Hanna Secretary of Housing and Neighborhood Preservation

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
Philip C. Downs, Water Information Center Director
Keith J. Jones, Acting General Counsel to the Water Department
Marleen Duley, Deputy Revenue Commissioner
Teresa Vollmer, General Manager, Human Resources
Ed Grusheski, General Manager, Public Affairs
Stephen J. Furtek, General Manager, Planning and Engineering

Consulting Engineer

Black & Veatch Corporation, Kansas City, Missouri

Financial Advisors

First Southwest Company
and
Phoenix Capital Partners, LLP

No dealer, broker, salesperson or other person has been authorized by 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. 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 thereto, is intended to be deposited with one or more nationally recognized municipal securities information repositories.

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. The information and expressions of opinion herein are subject to change without notice, and neither the 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.

Other than with respect to information concerning Ambac Assurance Corporation (the “Bond Insurer”) contained under the caption “BOND INSURANCE” and APPENDIX VI – “SPECIMEN BOND INSURANCE POLICY” herein, none of the information in this Official Statement has been supplied or verified by the Bond Insurer and the Bond Insurer makes no representation or warranty, express or implied, as to (i) the accuracy or completeness of such information; (ii) the validity of the Bonds; or (iii) the tax exempt status of the interest on the Bonds.

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 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

\$345,035,000

**The City of Philadelphia, Pennsylvania
Water and Wastewater Revenue Refunding Bonds**

\$191,440,000 Series 2007A

\$153,595,000 Series 2007B

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, a corporation and body politic existing under the laws of the Commonwealth of Pennsylvania (the “City”) of its Water and Wastewater Revenue Refunding Bonds, Series 2007A (the “Series A Bonds”) and its Water and Wastewater Revenue Refunding Bonds, Series 2007B (the “Series B Bonds,” and together with the Series A Bonds, the “Bonds”). Unless otherwise indicated, capitalized terms used in this Official Statement are defined in APPENDIX III – “SUMMARIES OF CERTAIN AUTHORIZATIONS FOR THE BONDS” (hereinafter referred to as the “SUMMARIES”).

The Bonds are being issued for the purpose of providing funds which, together with other available funds of the Water Department (defined below), will be applied (i) to currently refund a portion of the City’s Water and Wastewater Revenue Bonds, Series 1997A and to advance refund a portion of the City’s Water and Wastewater Revenue Bonds, Series 2001A and (ii) to pay costs of issuance relating to the Bonds. See “PLAN OF FINANCE.”

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” or “PWD”) 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 (as hereinafter defined), 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 (as defined herein). See “THE WATER DEPARTMENT.”

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.

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 Project of the Water and Wastewater Systems. Such engineering evaluations mandated by the General Ordinance as a condition to the issuance of the Bonds and updated for the offering 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 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 8, 2005, as updated on March 2, 2007 (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."

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 and Water and Wastewater Revenue Bonds, Variable Rate Series 1997B (collectively, the "Series 1997 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 Loan"), (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 (collectively, 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 Bonds and (xi) the Eleventh Supplemental Ordinance approved November 16, 2006 (the “Eleventh Supplemental Ordinance”) authorizing the issuance of an additional \$325,000,000 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 (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 challenges to the validity of the proceedings were filed by the deadline.

Outstanding and Additional Indebtedness

Pursuant to the City’s General Water and Sewer Revenue Bond Ordinance of 1974, approved May 16, 1974 (Bill No. 1263), as amended and supplemented (the “Prior Ordinance”), the City has previously issued and there are outstanding, as of March 1, 2007, \$47,200,000 aggregate principal amount of Water and Sewer Revenue Bonds consisting of the Fourteenth Series (the “Water and Sewer Revenue Bonds”).

In addition to the Water and Sewer Revenue Bonds authorized and issued pursuant to the Prior Ordinance, the City has previously issued and there are outstanding, as of March 1, 2007, \$1,745,089,391 aggregate principal amount of Water and Wastewater Revenue Bonds (consisting of the Series 1993 Bonds, the Series 1995 Bonds, the Series 1997A Bonds, the Series 1997B Bonds, the Series 1998 Bonds, the 1999 Pennvest Loan, the Series 2001A Bonds, the Series 2001B Bonds, the Series 2003 Bonds, the Series 2005A Bonds and the Series 2005B Bonds) pursuant to the General Ordinance. Upon the issuance of the Series 1993 Bonds, the General Ordinance superseded the Prior Ordinance; and the outstanding Water and Sewer Revenue Bonds became subject to the General Ordinance and no longer subject to the Prior Ordinance. The Water and Sewer Revenue Bonds, the Series 1993 Bonds, the Series 1995 Bonds, the Series 1997A 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 and the Series 2005B Bonds are herein referred to as the “Outstanding Bonds.”

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 anticipates issuing such bonds in Fiscal Year 2008 and has entered into the 2007 Swap Agreements (as defined below) relating to \$180,000,000 aggregate principal amount of such bonds. See “SECURITY FOR THE BONDS – Swap Agreements” and “– Additional Bonds.”

The Outstanding Bonds and the Bonds will be equally and ratably secured under the General Ordinance. As of March 1, 2007, the 1999 Pennvest Loan was outstanding in the amount of \$1,479,391.30 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 Loan 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 March 1, 2007, the City had outstanding \$6,078,815.28 aggregate principal amount of general obligation bonds (the “General Obligation Bonds”) attributable to the Water and Wastewater Systems, which consisted of general obligation bonds issued in 1993 and a loan from Pennvest (the “1993 Pennvest Loan”) to the City for Water Department purposes. The General Obligation Bonds, along with the 1993 Pennvest Loan, attributable to the Water and Wastewater Systems, 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.

Plan of Finance

The proceeds of the Bonds will be used (i) to currently refund a portion of the City’s Water and Wastewater Revenue Bonds, Series 1997A and to advance refund a portion of the City’s Water and Wastewater Revenue Bonds, Series 2001A and (ii) to pay costs of issuance relating to the Bonds. See “PLAN OF FINANCE” below.

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 the SUMMARIES.

The City may issue additional bonds on a parity with the Bonds and may elect to secure other obligations on a parity with the Bonds pursuant to the terms of the General Ordinance. 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 under the General Ordinance to finance certain capital projects of the Water Department.

For further details concerning security for the Bonds, see “SECURITY FOR THE BONDS.”

Bond Insurance

The scheduled payment of principal and interest on the Bonds when due will be insured by a financial guaranty insurance policy (the “Financial Guaranty Insurance Policy”) to be issued, simultaneously with the delivery of the Bonds, by Ambac Assurance Corporation (“Ambac Assurance” or the “Bond Insurer”). See “BOND INSURANCE” and APPENDIX VI – “SPECIMEN BOND INSURANCE POLICY.”

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, 2006, are available from the Office of the Director of Finance, Suite 1330, Municipal Services Building, 1401 J.F. Kennedy Boulevard, Philadelphia, Pennsylvania 19102. A copy of the financial statements of the City for the Fiscal Year ended June 30, 2006 may be downloaded at <http://www.phila.gov/reports/reports2.html#budget>.

Financial statements of the Water Fund for the Fiscal Years ended June 30, 2006 and 2005, 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 Tenth Supplemental Ordinance (including definitions of certain terms) are attached hereto as APPENDIX III. Certain information concerning the City is attached hereto as APPENDIX IV. APPENDIX V hereto is the form of opinion of Co-Bond Counsel to be delivered in connection with the issuance and delivery of the Bonds. APPENDIX VI hereto contains a specimen of the Bond Insurance Policy. APPENDIX VII contains a form of Continuing Disclosure Agreement.

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 Series A Bonds are being used to currently refund the Series 1997A Bonds shown below (the “Refunded 1997A Bonds”) and to pay costs of issuance relating to the Bonds. The proceeds of the Series B Bonds are being used to advance refund the Series 2001A Bonds shown below (the “Refunded 2001A Bonds”) and to pay costs of issuance relating to the Bonds. The refunding of the Refunded 1997A Bonds and the Refunded 2001A Bonds will produce debt service savings in each Fiscal Year during which the Bonds are outstanding.

Series 1997A Bonds to be Refunded**Series 2001A Bonds to be Refunded**

<u>Maturity Date</u> <u>(August 1)</u>	<u>Principal Amount</u>	<u>Maturity Date</u> <u>(November 1)</u>	<u>Principal Amount</u>
2008	\$ 6,130,000	2020	\$ 7,525,000
2009	6,460,000	2022	8,325,000
2010	6,810,000	2023	8,785,000
2011	7,165,000	2024	9,270,000
2012	7,535,000	2031 [†]	114,140,000
2013	7,920,000		
2014	8,325,000		
2015	8,755,000		
2016	9,200,000		
2017	9,675,000		
2022	56,335,000		
2027	59,140,000		

[†] Represents sinking fund payments due in 2029, 2030 and 2031.

The proceeds of the Bonds used to refund the Refunded 1997A Bonds and the Refunded 2001A Bonds will be irrevocably deposited in an escrow fund (the “Escrow Funds”) for each series to be held by U.S. Bank National Association, as escrow agent (the “Escrow Agent”), pursuant to an escrow deposit agreement between the City and the Escrow Agent. The bond proceeds deposited in the Escrow Funds will be invested in Qualified Escrow Securities (as defined in the General Ordinance) maturing at such times and bearing interest at such rates as to be sufficient to pay the principal or redemption price, if any, of and interest on the Refunded 1997A Bonds and the Refunded 2001A Bonds. See “VERIFICATION OF MATHEMATICAL COMPUTATIONS” herein.

ESTIMATED SOURCES AND USES OF FUNDS

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

	<u>Series A Bonds</u>	<u>Series B Bonds</u>	<u>Total</u>
<u>Sources of Funds:</u>			
Par Amount of the Bonds	\$ 191,440,000	\$ 153,595,000	\$ 345,035,000
Net Original Issue Premium	<u>10,499,363</u>	<u>2,062,056</u>	<u>12,561,419</u>
Total Sources of Funds	<u>\$ 201,939,363</u>	<u>\$ 155,657,056</u>	<u>\$ 357,596,419</u>
<u>Uses of Funds:</u>			
Current Refunding of 1997A Bonds	\$ 199,867,851	--	\$ 199,867,851
Advance Refunding of 2001A Bonds	--	\$ 153,848,440	153,848,440
Costs of Issuance*	<u>2,071,512</u>	<u>1,808,616</u>	<u>3,880,128</u>
Total Uses of Funds	<u>\$ 201,939,363</u>	<u>\$ 155,657,056</u>	<u>\$ 357,596,419</u>

* Includes underwriters’ discount, bond insurance premium, legal, printing and 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 issuable in denominations of \$5,000 or any integral multiple thereof and will mature in the years and in the amounts set forth in the inside front cover hereof. The Bonds will be dated, and will bear interest from the Date of Delivery. Interest on the Series A Bonds will be payable semiannually on February 1 and August 1 (each, a “Series A Interest Payment Date”) each year commencing August 1, 2007, and interest on the Series B Bonds will be payable semiannually on May 1 and November 1 (each, a “Series B Interest Payment Date,” and together with each Series A Interest Payment Date, an “Interest Payment Date”) each year commencing November 1, 2007. 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 Series A Bonds will be each January 15 and July 15, commencing on July 15, 2007, and the Record Date for the Series B Bonds will be each April 15 and October 15, commencing on October 15, 2007. 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 – Series A Bonds. The Series A Bonds maturing on or prior to August 1, 2017, are not subject to optional redemption prior to maturity. The Series A Bonds maturing after August 1, 2017, are subject to optional redemption prior to maturity on or after August 1, 2017, 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 Series A Bonds to be redeemed, plus accrued interest to the redemption date.

Optional Redemption – Series B Bonds. The Series B Bonds maturing on or prior to November 1, 2017, are not subject to optional redemption prior to maturity. The Series B Bonds maturing after November 1, 2017, are subject to optional redemption prior to maturity on or after November 1, 2017, 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 Series B Bonds to be redeemed, plus accrued interest to the redemption date.

Mandatory Sinking Fund Redemption – Series A Bonds. The Series A Bonds are not subject to mandatory sinking fund redemption prior to maturity.

Mandatory Sinking Fund Redemption – Series B Bonds. The Series B Bonds maturing on November 1, 2022, and November 1, 2031, are subject to mandatory sinking fund redemption prior to maturity, as drawn by lot by the Fiscal Agent, on November 1 of the following years at a redemption price equal to 100% of the principal amounts set forth below.

Series B Bonds Maturing November 1, 2022		Series B Bonds Maturing November 1, 2031 Bearing Interest at 4.250%		Series B Bonds Maturing November 1, 2031 Bearing Interest at 4.750%	
<u>Year</u>	<u>Principal Amount of Mandatory Sinking Fund Redemption</u>	<u>Year</u>	<u>Principal Amount of Mandatory Sinking Fund Redemption</u>	<u>Year</u>	<u>Principal Amount of Mandatory Sinking Fund Redemption</u>
2021	\$ 300,000	2025	\$ 100,000.00	2025	\$ 100,000.00
2022*	8,640,000	2026	105,000.00	2026	105,000.00
		2027	110,000.00	2027	110,000.00
		2028	115,000.00	2028	115,000.00
		2029	18,245,000.00	2029	18,155,000.00
		2030	19,090,000.00	2030	18,995,000.00
		2031*	19,970,000.00	2031*	19,875,000.00

*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 30 days nor more than 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.

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Debt Service Requirements

Fiscal Year Ending June 30	Aggregate Debt Service on Outstanding Bonds ^{1, 2, 3, 4}	Aggregate Debt Service on 1993 Bonds (Pennvest Loan) ⁵	Aggregate Debt Service on 2007A Bonds	Aggregate Debt Service on 2007B Bonds	Total Debt Service
2007	\$ 172,162,077	\$ 1,226,982	\$ -	\$ -	\$ 173,389,059
2008	156,815,625	1,226,982	9,392,034	6,915,998	174,350,639
2009	150,868,207	1,226,982	13,211,500	7,170,475	172,477,164
2010	150,885,900	1,226,982	13,215,900	7,167,575	172,496,357
2011	150,475,560	1,226,982	13,218,000	7,169,375	172,089,917
2012	150,248,902	<u>1,022,486</u>	13,134,825	7,170,775	171,576,988
2013	150,768,430		15,756,700	7,166,875	173,692,005
2014	150,948,833		15,755,325	7,167,675	173,871,833
2015	151,241,202		15,753,700	7,168,075	174,162,977
2016	151,708,328		15,755,700	7,168,075	174,632,103
2017	66,344,471		15,755,200	7,167,675	89,267,346
2018	66,497,532		15,756,075	7,166,875	89,420,482
2019	48,314,220		15,752,200	7,165,675	71,232,095
2020	48,351,404		15,752,325	7,167,475	71,271,204
2021	41,106,895		15,754,950	14,503,975	71,365,820
2022	48,944,401		15,753,700	6,760,475	71,458,576
2023	40,934,753		15,752,200	14,876,975	71,563,928
2024	25,121,792		15,753,100	14,911,338	55,786,230
2025	25,151,885		15,762,838	14,927,275	55,841,997
2026	34,718,504		15,749,338	5,378,350	55,846,191
2027	34,764,831		15,761,250	5,379,125	55,905,206
2028	34,822,435		<u>2,658,500</u>	5,379,450	42,860,385
2029	51,368,000			5,379,325	56,747,325
2030	16,094,625			40,725,263	56,819,888
2031	16,077,875			40,734,581	56,812,456
2032	16,066,250			<u>40,741,394</u>	56,807,644
2033	16,048,250				16,048,250
2034	16,032,375				16,032,375
2035	16,016,875				16,016,875
2036	<u>15,995,125</u>				<u>15,995,125</u>
Total	<u>\$ 2,214,895,562</u>	<u>\$ 7,157,396</u>	<u>\$ 301,155,360</u>	<u>\$ 302,630,124</u>	<u>\$ 2,825,838,440</u>

¹ Does not include debt service on the Refunded 1997A Bonds and the Refunded 2001A Bonds.

² Assumes an interest rate on the Series 1997B Bonds (which bear interest at a variable rate) of 3.078%, representing the average interest rate on the Series 1997B Bonds during the period of March 1, 2005 to March 1, 2007.

³ Interest calculated at fixed swap rate of 4.52% per annum for the 2003 Bonds; actual results may vary.

⁴ Interest calculated at fixed swap rate of 4.53% per annum for the 2005B Bonds; actual results may vary.

⁵ General obligation, self-liquidating debt of the City payable out of the Water and Wastewater Funds after the payment of the Water and Wastewater Revenue Bonds.

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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 will be issued for each maturity of the Bonds, 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 2.2 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, in turn, is owned by a number of Direct Participants of DTC and Members of the National Securities Clearing Corporation, Fixed Income Clearing Corporation and Emerging Markets Clearing Corporation (NSCC, FICC, and EMCC, also subsidiaries of DTCC), as well as by the New York Stock Exchange, Inc., the American Stock Exchange LLC, and the National Association of Securities Dealers, Inc. 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.

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 Procedures. Under its usual procedures, DTC mails an Omnibus Proxy to 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 Issuer or 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 to DTC.

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.

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. See the SUMMARIES. The Fiscal Agent shall hold and apply the Project Revenues and funds and accounts, in trust, for the equal and ratable benefit and security of all 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.

Swap Agreements

On December 5, 2002, the City entered into an ISDA Master Agreement and 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”).

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 a 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,” 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 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 interest 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 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 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.

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.

Water and Wastewater Funds

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

- Revenue Fund;
- Sinking Fund;
 - Debt Service Account;
 - Charges Account; and
 - Debt Reserve Account;
- Subordinated Bond Fund;
- Rate Stabilization Fund;
- Residual Fund;
 - Special Water Infrastructure Account; and
- Construction Fund;
 - Existing Projects Account;
 - Bond Proceeds Account; and
 - 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 flow of funds 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.

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. See "LITIGATION AND CLAIMS" herein. "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 City is planning on providing a surety bond or an insurance policy in lieu of approximately \$130 million of the funds and investments currently held in the Debt Reserve Account. Execution of the transaction is dependent, among other things, upon the City's obtaining a qualified surety bond and the expenditure of the released funds is subject to City Council's adoption of the Fiscal Year 2008 Water Fund operating budget. There can be no assurance that the transaction will be completed. Such substitution would reduce Net Reserve Earnings below that which would be expected if such substitution did not occur. See "Debt Reserve Account" below.

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), 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) transfer to the Residual Fund any amount remaining on deposit in the Revenue Fund.

Debt Reserve Account

The General Ordinance establishes within the Sinking Fund a Debt Reserve Account which may 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 City is planning on providing a surety bond or an insurance policy in lieu of approximately \$130 million of the funds and investments currently held in the Debt Reserve Account in accordance with the General Ordinance. Execution of the transaction is dependent, among other things, upon the City's obtaining a qualified surety bond and the expenditure of the released funds is subject to City Council's adoption of the Fiscal Year 2008 Water Fund operating budget. 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 the SUMMARIES – "The Restated General Water and Wastewater Revenue Bond Ordinance of 1989 – Debt Reserve Account."

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 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 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 Financial Security Assurance Inc. ("FSA"), for so long as the Series 2003 Bonds, the Series 2005A Bonds and the Series 2005B Bonds insured by the 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 Bonds and the 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 Water and Wastewater Revenue Bonds are to be issued; provided that if interest on the additional Water and Wastewater Revenue 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 the SUMMARIES for a discussion of the circumstances under which additional Water and Wastewater Revenue Bonds may be issued under the General Ordinance.

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 under the General Ordinance to finance certain capital projects of the Water Department. The City anticipates issuing such bonds in Fiscal Year 2008. The City has entered into the 2007 Swap Agreements relating to \$180,000,000 aggregate principal amount of such bonds. See “Swap Agreements” above.

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 the SUMMARIES.

BOND INSURANCE

Payment Pursuant to Financial Guaranty Insurance Policy

Ambac Assurance has made a commitment to issue the Financial Guaranty Insurance Policy, effective as of the date of issuance of the Bonds. Under the terms of the Financial Guaranty Insurance Policy, Ambac Assurance will pay to The Bank of New York, in New York, New York, or any successor thereto (the “Insurance Trustee”), that portion of the principal of and interest on the Bonds that shall become Due for Payment but shall be unpaid by reason of Nonpayment by the Obligor (as such terms are defined in the Financial Guaranty Insurance Policy). Ambac Assurance will make such payments to the Insurance Trustee on the later of the date on which such principal and/or interest becomes Due for Payment or within one business day following the date on which Ambac Assurance shall have received notice of Nonpayment from the Fiscal Agent. The insurance will extend for the term of the Bonds and, once issued, cannot be canceled by Ambac Assurance.

The Financial Guaranty Insurance Policy will insure payment only on stated maturity dates and on mandatory sinking fund installment dates, in the case of principal, and on stated dates for payment, in the case of interest. If the Bonds become subject to mandatory redemption and insufficient funds are available for redemption of all outstanding Bonds, Ambac Assurance will remain obligated to pay the principal of and interest on outstanding Bonds on the originally scheduled interest and principal payment dates, including mandatory sinking fund redemption dates. In the event of any acceleration of the principal of the Bonds, the insured payments will be made at such times and in such amounts as would have been made had there not been an acceleration, except to the extent that Ambac Assurance elects, in

its sole discretion, to pay all or a portion of the accelerated principal and interest accrued thereon to the date of acceleration (to the extent unpaid by the Obligor). Upon payment of all such accelerated principal and interest accrued to the acceleration date, Ambac Assurance's obligations under the Financial Guaranty Insurance Policy shall be fully discharged.

In the event the Fiscal Agent has notice that any payment of principal of or interest on a Bond that has become Due for Payment and that is made to a holder by or on behalf of the Obligor has been deemed a preferential transfer and theretofore recovered from its registered owner pursuant to the United States Bankruptcy Code in accordance with a final, non-appealable order of a court of competent jurisdiction, such registered owner will be entitled to payment from Ambac Assurance to the extent of such recovery if sufficient funds are not otherwise available.

The Financial Guaranty Insurance Policy does **not** insure any risk other than Nonpayment (as set forth in the Financial Guaranty Insurance Policy). Specifically, the Financial Guaranty Insurance Policy does **not** cover:

1. payment on acceleration, as a result of a call for redemption (other than mandatory sinking fund redemption) or as a result of any other advancement of maturity;
2. payment of any redemption, prepayment or acceleration premium; and
3. nonpayment of principal or interest caused by the insolvency or negligence of the Fiscal Agent or Bond Registrar, if any.

If it becomes necessary to call upon the Financial Guaranty Insurance Policy, payment of principal requires surrender of the Bonds to the Insurance Trustee together with an appropriate instrument of assignment so as to permit ownership of such Bonds to be registered in the name of Ambac Assurance to the extent of the payment under the Financial Guaranty Insurance Policy. Payment of interest pursuant to the Financial Guaranty Insurance Policy requires proof of holder entitlement to interest payments and an appropriate assignment of the holder's right to payment to Ambac Assurance.

Upon payment of the insurance benefits, Ambac Assurance will become the owner of the Bond, appurtenant coupon, if any, or right to payment of the principal of or interest on such Bond and will be fully subrogated to the surrendering holder's rights to payment.

Ambac Assurance Corporation

Ambac Assurance is a Wisconsin-domiciled stock insurance corporation regulated by the Office of the Commissioner of Insurance of the State of Wisconsin, and is licensed to do business in 50 states, the District of Columbia, the Territory of Guam, the Commonwealth of Puerto Rico and the U.S. Virgin Islands, with admitted assets of approximately **\$10,015,000,000** (unaudited) and statutory capital of approximately **\$6,371,000,000** (unaudited) as of **December 31, 2006**. Statutory capital consists of Ambac Assurance's policyholders' surplus and statutory contingency reserve. Standard & Poor's Ratings Services, a division of The McGraw-Hill Companies, Inc. ("S&P"), Moody's Investors Service, Inc. ("Moody's") and Fitch Ratings ("Fitch") have each assigned a triple-A financial strength rating to Ambac Assurance.

Ambac Assurance has obtained a ruling from the Internal Revenue Service to the effect that the insuring of an obligation by Ambac Assurance will not affect the treatment for federal income tax purposes of interest on such obligation and that insurance proceeds representing maturing interest paid by Ambac Assurance under policy provisions substantially identical to those contained in the Financial

Guaranty Insurance Policy shall be treated for federal income tax purposes in the same manner as if such payments were made by the Obligor.

Ambac Assurance makes no representation regarding the Bonds or the advisability of investing in the Bonds and makes no representation regarding, nor has it participated in the preparation of, this Official Statement other than the information supplied by Ambac Assurance and presented under the heading "BONDS INSURANCE."

Available Information

The parent company of Ambac Assurance, Ambac Financial Group, Inc. (the "Company"), is subject to the informational requirements of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and in accordance therewith files reports, proxy statements and other information with the Securities and Exchange Commission (the "SEC"). These reports, proxy statements and other information can be read and copied at the SEC's public reference room at 100 F Street, N.E., Room 1580, Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the public reference room. The SEC maintains an internet site at <http://www.sec.gov> that contains reports, proxy and information statements and other information regarding companies that file electronically with the SEC, including the Company. These reports, proxy statements and other information can also be read at the offices of the New York Stock Exchange, Inc., 20 Broad Street, New York, New York 10005.

Copies of Ambac Assurance's financial statements prepared in accordance with statutory accounting standards are available from Ambac Assurance. The address of Ambac Assurance's administrative offices is One State Street Plaza, 19th Floor, New York, New York 10004, and its telephone number is (212) 668-0340.

Incorporation of Certain Documents by Reference

The following document filed by the Company with the SEC (File No. 1-10777) is incorporated by reference in this Official Statement:

The Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2006 and filed on March 1, 2007.

All documents subsequently filed by the Company pursuant to the requirements of the Exchange Act after the date of this Official Statement will be available for inspection in the same manner as described above in "**Available Information.**"

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 the SUMMARIES. 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, 2006, AND 2005" 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 ("WRB"). 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 Water Commissioner in August 2004. Mr. Clare previously served as General Manager of Finance since 2003, 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 A. 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.

Philip C. Downs was appointed Manager of the Water Department's Information Science & Technology Division in October 2003. He received a B.S. degree in Civil Engineering from Drexel University. He joined the Water Department in June 1968 and worked as a Systems Analyst in both the Engineering Computing Center and Data Management Unit. His most recent position in Information Science and Technology was as Water Information Center Manager of Support.

Keith J. Jones was appointed Acting Divisional Deputy City Solicitor and General Counsel to the Philadelphia Water Department in February 2006. He has served as a City Solicitor in the City's Law Department, Water Division, since 2000. He holds a B.A. from Rider University, an M.S. in Environmental Studies from the University of Pennsylvania, and a J.D. from Temple University. Prior to joining the Law Department, Mr. Jones practiced Environmental Law with a large Philadelphia law firm and clerked for the Pennsylvania Court of Common Pleas.

Marleen Duley was appointed Deputy Revenue Commissioner in charge of the Water Revenue Bureau in February 2003. She holds a B.S. degree in Management from LaSalle University. Prior to her appointment as Deputy Revenue Commissioner, Mrs. Duley was Divisional Manager of the Taxpayer Services and Collections Division of the Tax Revenue Bureau. She has previously served in a similar

capacity in the Customer Service and Collections Division of the Water Revenue Bureau. She has extensive municipal customer service and collections expertise gained through 22 years of working in increasingly responsible management positions.

Teresa R. Vollmer was appointed General Manager for Human Resources Administration in August, 2006. She holds a B.A. degree in History from Temple University and is a Certified Compensation Professional and a Certified Human Resources Professional. Prior to her appointment as General Manager for Human Resources Administration, she worked in the City's Personnel Department, where she held a variety of human resources positions, most recently as a hiring manager overseeing classification, compensation, and selection activities for the City's promotional job classes. She currently serves on several committees, including the Comparable Worth Committee and the Pay Evaluation Committee.

Ed Grusheski was appointed General Manager of the Public Affairs Division in May 1999. He holds a B.S. degree in Foreign Service from Georgetown University and an M.A. in American Civilization from the University of Pennsylvania. Mr. Grusheski joined the Water Department in 1988 as Director of the Water Works Interpretive Center, a project of the Public Affairs Division. He currently serves on several committees, including the Pennsylvania Department of Environmental Protection's Coastal Zone Management Steering Committee and is a board member of the Fairmount Park Commission's Fund for the Water Works.

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.

Personnel

As of December, 2006, the Water Department employed approximately 1,911 permanent employees, of whom 1,456 are represented by District Council 33, and 250 by District Council 47, both of the American Federation of State, County and Municipal Employees. The balance of 205 employees represents the Water Department's upper management, supervisory and senior engineering and administrative personnel are not eligible for union membership. There are approximately 176 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 has entered into collective bargaining agreements with District Councils 33 and 47, effective July 1, 2004, each of which will terminate on June 30, 2008.

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 Mayor's Office of Information Services 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 seventeen City departments and agencies, including the Revenue Department and the Department of Public Property, provide additional services to the Water Department for which they are paid at the close of each Fiscal Year. Total interfund charges from these departments totaled \$7,191,745 for Fiscal Year 2006. 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 City is the largest customer of the Water Department. 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 contained in the Engineering Report forecast that the City's annual projected charges to be paid to the Water Department of \$29,679,000 for Fiscal Year 2007 and \$30,704,000 in Fiscal year 2008. City payments to the Water Fund are made as of the close of each Fiscal Year.

The total interdepartmental direct obligations incurred by the Water Department for non-water department services for 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 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 2007, budgeted appropriations for non-water department activities were \$307,810,930. This includes \$178,825,690 in debt service and related expenses and \$65,119,200 in fringe benefits. The Engineering Report projects interdepartmental charges of \$53,675,000 (excluding senior debt service of \$173,831,000 and fringe benefits of \$67,457,000) in Fiscal Year 2008.

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 1,672,000 as of the 2000 census, of which 1,518,000 were in the City and 154,000 were in Bucks County. On June 29, 2000 the Water Department entered into a contract with Aqua Pennsylvania, a division of Aqua America ("Aqua Pennsylvania"), formerly Philadelphia Suburban Water Company, 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 Tincum Township, Delaware County and another in Cheltenham Township, Montgomery County. The Tincum interconnection allows for an average daily draw of 4.5 MGD and became operational in November 2001. 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 June 2006, the Water System served approximately 475,300 retail customer accounts through 3,014 miles of mains and provided fire protection through approximately 25,200 fire hydrants. In addition, there were, as of June 2006, approximately 16,200 water/wastewater accounts in non-service status due to service shutoffs for non-payment.

The City obtains approximately 56% of its water from the Delaware River and the balance from the Schuylkill River. The City is currently authorized by applicable regulatory authorities to withdraw up to 390 MGD from the Delaware River and up to 258 MGD from the Schuylkill River. 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 is 546 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 2006, the Water System distributed 92,650 MG of water at an average rate of 253.8 MGD. The maximum daily water production requirement experienced by the Water System in Fiscal Year 2006 was 300 MG and occurred on August 14, 2005.

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 74.4 MGD at the close of Fiscal Year 2006. 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 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. The Water Department has 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.

The Water Department was also the first water utility in the United States to adopt the new 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, which cause excess production costs for water utilities. 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 or other reasons. For systems not confronting such pressures, AWWA recommends targeting an ILI of no more than 8.0. Achieving this level would mean targeting an additional Real Loss reduction of 11.2 MGD for the Water Department.

Component	FY2006	FY2005	FY2004	FY2003	FY2002	FY2001	FY2000
Water Supplied, MGD	253.8	260.3	263.0	270.2	263.0	270.2	280.5
Billed Consumption, MGD (may include some unmetered consumption)	177.0	176.9	176.9	183.4	178.2	181.7	185.8
Non-revenue Water, MGD	74.4	83.3	86.1	86.7	84.8	85.8	91.9
Percent Non-revenue Water by volume	32.7	34.6	35.4	32.1	32.2	32.1	33.1
Percent Non-revenue Water by cost	13.0	12.4	12.1	11.9	13.1	12.7	12.3
Unbilled Authorized Consumption, MGD	2.4	2.3	2.4	3.0	2.5	2.4	3.0
Unbilled Authorized Consumption Costs	\$191,000	\$155,200	\$159,700	\$180,400	\$145,900	\$134,500	\$149,000
Apparent Losses, MGD	15.1	14.1	11.1	13.3	13.1	14.5	18.6
Apparent Losses costs	\$20,276,000	\$19,100,000	\$10,937,000	\$10,014,000	\$9,036,000	\$9,324,000	\$13,751,000
Real Losses, MGD	59.2	66.9	72.6	70.5	69.2	68.9	70.1
Real Losses costs	\$4,229,000	\$3,950,000	\$4,075,000	\$3,682,000	\$3,369,000	\$3,375,000	\$2,965,000
Infrastructure Leakage Index, dimensionless	9.9	11.0	12.1	11.9	13.1	12.7	12.3

Philadelphia Water Department – Water Revenue Bureau Annual Water Audit Summary

Fiscal Year	Water Recovered, MGD	Revenue Recovered
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	14,070,000

In Fiscal Year 2006 hydrant availability was 98.9%. 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 2006, PWD coordinated with the Philadelphia Fire Department to inspect virtually all of the City's 25,200 fire hydrants; and PWD conducted 5,042 repairs and painted 3,114 hydrants. In addition, 1,207 tamper-proof hydrant locks were installed on hydrants. Over 62% of the Water 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.

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. This multi-functional team has updated all standard operating procedures and is improving as-built documentation of reservoir facilities. 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. Currently the Strategic Planning Group is studying 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 Strategic Planning Group is concentrating on the replacement of East Park Reservoir by the year 2013. During Fiscal Year 2006, the PWD worked with the consulting group CH2M Hill to develop a transmission system (main sizes equal or greater than 16-inch diameter) hydraulic model developed from PWD's new Geographic Information System. The model has been calibrated and water supply scenarios are being modeled to assist the decision-making process for the design capacity of the next-generation East Park Reservoir.

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 initiated 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 has promulgated two sister rules, the Interim Enhanced Surface Water Treatment Rule ("IESWTR") and the Stage 1 Disinfectant/Disinfection Byproduct Rule ("D/DBP"), both of which took effect January 1, 2002. The Water Department has complied with these rules by implementing improvements at its treatment facilities. Several major changes contribute to the Water Department's continuing tradition of supplying safe and healthy drinking water: the introduction of 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 Disinfectants 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 complies 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.

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 completed several phases of that program and in 2004 was awarded the Five Year Director's Award for achieving a finished water quality of less than 0.10 ntu, which meets PfSW goals for five straight years. The finished water effluent turbidity at all three plants averages less than 0.06 ntu, which is five times lower than the current 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 personnel are notified of actions taken. This also includes notification and involvement from the primary agency (PaDEP), in addition to the City's Health Department. It is important to note that these efforts are all for events that are not covered by regulations (sub-regulatory events).

Lead and Copper Rule Compliance History

Beginning in 1992, the Water Department has conducted eight 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, the Water Department met the action levels for both lead and copper.

Lead and Copper Monitoring History

Year	Samples required	Homes sampled	Lead		Copper	
			90 th Percentile	Action level	90 th 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	107	0.009 mg/L		0.3 mg/L	

Following the initial sampling period, the PaDEP allowed the Water Department to go to reduced monitoring. Currently, PWD has to conduct LCR monitoring every three years. The Water Department did not exceed the AL for copper in any of the eight rounds of sampling.

Water Treatment Pilot Studies

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 from drinking water. This AWWARF sponsored research has been completed and it was successful. An AWWARF report describing the results of this study was published in fall of 2006.

In Fiscal Year 2006 and Fiscal Year 2007 pilot plant studies will focus the effectiveness of coagulants other than ferric chloride. The Water Department is stressing the evaluation of alternative coagulants in comparison to ferric chloride on the basis of performance and cost. Also the use of iron

based coagulants is based largely on their ability to remove dissolved organic matter. The removal of the organic matter prior to chlorination reduces the water's ability to produce disinfection byproducts. The pilot plants are testing a new technology that removes the dissolved organic matter prior to the addition of the coagulant. This process will enhance organic removal achieved by iron salt coagulants and will make the use of aluminum based coagulants possible. The results are promising with a 50% reduction of DBPs and a 70% reduction of coagulant; however, this technology is expensive. This expense is offset by the reduction of solid production for the water treatment plant.

The Water Department is participating in an AWWARF Endocrine Disruptor study to gain a better understanding of the barely detectable levels of pharmaceuticals and hormones found at the City's drinking water intakes. AWWARF, in conjunction with the Southern Nevada Water Authority, is conducting an in depth analysis of our water supply over the course of a year, conduct toxicological experiments, and provide us with data as compared anonymously with other participating U.S. water utilities. The work will be completed in early 2007.

The Water Department has been investigating the biostability of its finished water in the distribution system. That project is entitled the biodegradable organic matter ("BOM") project. An innovative way to measure BOM is to pass water through biologically active columns ("bioreactors") measuring the amount of carbon going into the reactor and the amount coming out. The less carbon consumed in the reactor indicates that the water is more biologically stable. The more stable the water the better the water quality and the less chlorine required to suppress unwanted biological activity. This research has been improved and increased by the inclusion of direct biofilm analysis, using molecular biological tools (aka genetic work). These tools make it possible to detect microorganisms that are not detectable using conventional plating technology. The work PWD is doing is ground breaking (literally) and is focused on only one section of the distribution system. The process includes the collection of actual pipe biofilm, the generation of pipe biofilm in annular reactor and the collection of bulk water microorganisms, all combined with the data generated with the bioreactors. This highly specialized work is being done in conjunction with three major universities. The ultimate objective of this undertaking is to begin to use distribution specific control technology to keep the water quality in all areas of the distribution system of the highest quality possible.

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. 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 from both the Schuylkill and the Delaware River systems and is not therefore dependent on a single source of supply. Currently, the City and State of Pennsylvania are not under a drought watch or warning. See APPENDIX II – "ENGINEERING REPORT."

Capital Facilities Assessment Program

The Water Department has developed a comprehensive assessment program for its water, wastewater, pumping, and biosolids recycling 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. The Water Department initiated the program by assessing the physical condition of three selected pilot facilities: Queen Lane Water Treatment Plant, Southeast Water Pollution Control Plant, and Lardners Point Water Pumping Station. These facilities serve as the template on which the remaining Water Department facilities are based. This

initial assessment gave the Water Department the physical condition, re-inspection schedule and inspection methodology for each infrastructure asset. All of this information is organized and documented in the Water Department's computerized maintenance management software program, which will aid the plant managers in scheduling O&M and capital inspections.

To date, CFAP has been implemented at Queen Lane Water Treatment Plant, Baxter Water Treatment Plant, Southeast Water Pollution Control Plant, and Southwest Water Pollution Control Plant. Belmont Water Treatment Plant and the Northeast Water Pollution Control Plant are substantially complete.

The Pumping Unit is in the process of implementing the Water Department's computerized maintenance management system software to schedule O&M and capital inspections for its 16 pumping stations. To date, the Pumping Unit has made significant progress in implementing CFAP. As each facility is completed, CFAP inspections will be identified and an inspection schedule developed for the remaining pump stations.

A key component of CFAP is the training that is provided for each facility's personnel in inspecting and re-inspecting concrete structures. This training is provided by the American Society of Civil Engineers ("ASCE"). Each training session includes one day of classroom instruction and one day of "in the tank" identification of concrete structural defects. Personnel from each of the facilities in which CFAP has received this training and are implementing this diagnostic tool in the assessment of CFAP infrastructure at the respective facilities. Training by ASCE will be offered on a periodic basis as needed.

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 June 2006, the Wastewater System served approximately 470,100 retail customer accounts.

The Wastewater System consists of three water pollution control plants ("WPCPs"), 16 pumping stations, approximately 3,516 miles of sewers including 235 miles of inlet pipe and vent pipe, and a centralized biosolids handling facility. 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. PWD 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 on July 7, 2000, became effective on August 1, 2000 and were scheduled to expire July 7, 2005. These permits with PaDEP provide flexibility to treat additional flows resulting from efforts to control

combined sewer overflows. Applications for all three plant NPDES permit renewals have been submitted to PaDEP. Draft permits were negotiated and have been submitted to the regulatory agencies for review in April 2006. Notice of application for renewal of permits was published in the Pennsylvania Bulletin on October 7, 2006. Public hearings for the draft permit were held on January 23, 2007, and the record and comment period closed on February 23, 2007. The plants will be operating under the 2000 permit until the new permits are issued which is expected in approximately May 2007.

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, with either Silver, Gold or Platinum awards over the past decade. The three WPCPs met all permit requirements in calendar year 2006 and will be applying for NACWA Gold awards. In calendar year 2005, all three wastewater treatment plants were awarded Gold Awards which recognizes perfect NPDES effluent compliance. In 2004 the Southeast WPCP received a Platinum Award representing zero NPDES permit violations for five consecutive years covering the period of 2000 through 2004. The Southeast Plant joined the Northeast (2001) and Southwest (1999) plants in reaching this milestone.

While the three WPCPs have continued their high levels of performance, the costs of operating them have been contained to less than a 3% annual increase between Fiscal Years 2000 and 2006. This has occurred despite wage increases. Currently, as part of its strategy to reduce overflows from combined sewers, PWD 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 use this information to build a database and ranking system to prioritize needed improvements. Trained personnel of the Water Department are continuing the sewer assessment surveys from Fiscal Year 2007 to Fiscal Year 2011. In Fiscal Year 2006 and Fiscal Year 2007, 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 2008, \$4.5 million is budgeted to continue the video inspections and to perform additional excavations and repairs.

Clean Air Act

The federal Clean Air Act, as amended (“CAA”), 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 (“NO_x”) 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 NO_x 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 Northeast and BRC/SW facilities on June 1, 2001. 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. Due to these odor incidents, the Water Department hired a consultant to assist in the development of a long-term odor control strategy.

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 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 Northeast 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 its RMPs for covered facilities – the Northeast, Southwest and Southeast WPCPs as well as the Baxter and Belmont WTPs.

The Water Department has since eliminated the use of chlorine at its Northeast and Southeast WPCP’s, as well as the Baxter WTP and the Belmont WTP, with sodium hypochlorite becoming the replacement disinfectant. To date the Water Department has successfully de-listed all of the previously identified facilities, except the Belmont WTP, from all RMP requirements. Southeast WPCP was de-listed from RMP requirements in June 2002, Northeast and Southwest WPCPs in October 2003, and the Baxter WTP in August 2005. De-listing of Belmont WTP from RMP requirements is anticipated following notification of the EPA of the elimination the use of chlorine in February 2007.

Wastewater Treatment Studies

Major work is being conducted in association with the utilization of digester gas. A grant has been received to purify methane gas to a quality that can be bought and sold. The intention is to utilize the excess gas production as an income generator.

Pursuant to the idea the digester gas is capable of generating revenue, research into the solids loading capacity of our digesters 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 overall 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.

Within the auspices of the Engineering Division the capacity to conduct computational fluid dynamic 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 wastewater treatment. This capacity is utilized by both the water and waste water side of PWD. For example it is being used to determine the efficacy of a post filtration chlorine contactor at Baxter WTP and it is being used to analyze the chlorine contactor at Northeast WPCP to determine its ultimate hydraulic capacity.

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 contains a dewatering station and a compost facility. The BRC produces 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. Class A compost is put to a variety of local uses, including garden and horticultural applications and recreation sites.

The Water Department's biosolids recycling program is widely recognized in the wastewater industry for its long-term successes. The Water Department has been acknowledged twice by the EPA: in 1995 with a National First Place Award for "outstanding operational and emissions studies of composting," and in 1998 with a Special National Award for "sustained excellence in mine land reclamation using biosolids." The Water Department's recycling program was also recognized jointly by the Pennsylvania Water Environment Association and the PaDEP with its 1999 Biosolids Award.

Biosolids processing and distribution is governed at the national level by regulations that the EPA published at 40 CFR Part 503 regulations in February 1993 (the "Part 503 Regulations"). The Part 503 Regulations require, among other things, certain recordkeeping 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. In September 2002, the Water Department submitted to Region 3 EPA an application for a "sludge-only" permit covering its biosolids treatment and use program; EPA's current policy is to accept such permit applications as informational, and to not proceed with permit review and approval. The Water Department believes it is in full compliance with the technical standards in Part 503 Regulations. For the most part, these standards have been adopted by Pennsylvania and New Jersey in those states' regulation of biosolids quality and use.

The Water Department operates the BRC under permits and orders issued by PaDEP. In 1997, the PaDEP issued a renewal of the waste-processing permit for the BRC; the term of the permit is ten years. The Water Department has 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.

The Water Department's program for biosolids disposition consists 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 has permits and orders from PaDEP, the New Jersey Department of Environmental Protection and the Maryland Department of the Environment necessary to ensure complete disposition of its biosolids products. From PaDEP, the Water Department has permits or approvals for the agricultural utilization of biosolids at over 40 farms. These approvals are 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 complete 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.

The Water Department also has coverage for its biosolids-derived compost distribution program in Pennsylvania and New Jersey. In Pennsylvania, Class A biosolids distribution is allowed under the General Permit for Beneficial Use of Exceptional Quality Sewage Sludge by Land Application (PAG-07). The Water Department's biosolids compost, a Class A material, is registered under this general permit. Regulations governing biosolids use were promulgated by the New Jersey Department of Environmental Protection on May 5, 1998, and the Water Department received approval from New Jersey in 2000, opening markets in this state for sale of this Class A biosolids compost. The Water Department submitted in spring 2003 its application for renewal of the distribution permit for its compost, and this was issued by New Jersey in October 2003. At present, the Water Department is working with New Jersey to have the Department's laboratory certified for microbiological analyses of the compost for the purpose of meeting New Jersey requirements for testing of biosolids compost.

Improvements to the BRC have been completed that were designed to further reduce costs and improve reliability. These include replacement of four dewatering centrifuges to accomplish a reduction in the mass of biosolids materials and replacement of all feed pumps for liquid sludge and polymer. The installation of a vehicle wash system and replacement of centrate return lines have improved reliability of operations. Pumps have been replaced for the feed of liquid sludge and polymer to the centrifuges. A new gas heating system for the Dewatering and Mixing Building has been installed that reduces reliance on oil supplies. The entire electrical system for the compost screening system was replaced and the screening system restored to full service, and the weigh scale equipment was substantially rehabilitated in the summer of 2005. A significant initiative over the past five years has been to improve practices for the procurement and use of polymers used in the dewatering process. This has resulted in 50% lower annual expenditures in Fiscal Year 2005 (a \$1.2 million savings) compared to polymer expenditures in the late 1990s, despite today's higher unit costs. An additional project, one which will accommodate the plan to eliminate composting activities, consists of adding side walls to the Drying Structure to make it suitable for temporary holding of cake prior to shipment.

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 Pennsylvania Water Environment Association, and is a participant in the Organics Committee of the Professional Recyclers of Pennsylvania (the "PROP").

While the Water Department has been successful in using Class B biosolids over the last twenty-five years, the nation has witnessed continuing health and environmental concerns raised by the public with Class B biosolids recycling. Over the past several years, though agricultural use of biosolids has expanded, the program for mine reclamation was significantly reduced, in part from local community objections to odors and perceived health risks. The Water Department has responded by contributing to research, both nationally and locally, in the areas of odors, pathogens, and phosphorus. Nevertheless, the long-term sustainability of its current Class B is questionable. What is more, the Water Department has made a commitment to reduce odorant emissions from the BRC itself, which affects both current Class B cake programs and its composting program.

With the goal of improving biosolids quality and reducing potential nuisances, the Water Department has undertaken several initiatives. It has hosted installation of a process evaluation facility for the demonstration of innovative drying and gasification technology. The Water Department has worked with several suppliers of odor control products on full-scale performance trials at the BRC to test for odor mitigation effectiveness. The Water Department has also undertaken preliminary evaluation of improvements to its anaerobic digestion facilities from mesophilic to thermophilic operations to accomplish increased solids destruction, gas production and pathogen control. Also, the Water Department has experimented with using existing equipment at BRC to produce a pathogen-free biosolids cake with alkaline amendments that is suitable as an ingredient in topsoil manufacturing. In 2007, the Water Department anticipates ending the composting process, a step that will significantly reduce odorant releases from the BRC, expanding other disposition programs, especially co-disposal with municipal trash.

The Water Department began in summer 2003 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, 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 Philadelphia Biosolids Services (“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 BRC and immediately eliminate the composting operation. 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 PWD and make a Class A biosolids product in the form of pellets that can be used as fertilizer. PBS will be responsible for the utilization of the Class A pellets. The Class A period of operation will last twenty years with a five year renewal at the option of PWD. The project has an estimated net present value of about \$102 million over the life of the contract. Ordinances requesting City Council approval of the service agreement and companion lease have been introduced by the Administration. Council hearings by the Finance Committee were held on November 30, 2006 and on February 20, 2007. A further hearing was scheduled for March 19, 2007, but was postponed indefinitely subject to the call of the Finance Committee Chair. To date the Finance Committee of City Council has not scheduled the proposed ordinances for a vote. The Department has provided sufficient funds in its Fiscal Year 2007 budget and its Fiscal Year 2008 budget request to continue the in-house operation of the biosolids recycling center in the event that the PBS contract is not approved by City Council.

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 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 staff from the Water Department's planning and research, collector systems, laboratory services, and other key function groups, allowing the recently established organization to combine resources to realize the common goal of 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. The TTF Partnership recently established itself as a registered 501c3 non-profit entity and its Board is in the process of recruiting 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 2008. Similar plans will be developed for the Pennypack Creek Watershed beginning in fall 2007 and for the Poquessing Creek Watershed beginning in fall 2008. In the interim, the office has completed or is currently working on complementary river conservation plans for the Pennypack and Poquessing creeks. A river conservation plan is also planned to begin for the Delaware Direct Watershed, within the City's boundaries, in winter 2007.

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 stormwater are conveyed in one pipe to the sewage treatment plant. This is known as a combined system. Combined systems were designed so that during dry weather all wastewater is conveyed to the sewage treatment plant. However, during certain rain events, 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 stormwater/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 Water 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 a result of the uncertainty in each watershed regarding the sources of 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, in fact, 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 and 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.

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 75,000 stormwater 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 47,391 in Fiscal Year 1995 to 91,875 in Fiscal Year 2002. In Fiscal Year 2005, the Water Department cleaned 81,588 inlets, removing over 9,000 tons of debris. In Fiscal Year 2006, the Water Department cleaned 77,603 inlets, removing over 20,000 tons of debris.

In 1987, the Clean Water Act was amended to address discharges from municipal separate storm sewer systems. Municipal separate storm sewer systems collect stormwater 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 stormwater 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 stormwater 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 2005) and the Tookany/Tacony-Frankford Watershed (due for completion in 2007).

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. In 2006, the Water Department's Stormwater Team reviewed over 400 conceptual plans for stormwater zoning permits, over 200 final technical plans for stormwater building permits, over 70 coordinated reviews with the state Department of Environmental Protection, and over 200 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. The completion of these plans will equate to the removal or detention of 17 million gallons of stormwater from the Water Department's combined sewer/stormwater collection system.

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 10,000 visits. The interest in this site provides the Water Department with 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.

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 Pine Street (\$10 million) in Washington Square West. 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 for a Backwater Valve installation and flooding prevention program.

This Backwater Valve installation and flooding prevention 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) or other flood mitigation device. 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). The details of the program are being discussed and pilot installations are being planned in anticipation of the development of a formal program in Fiscal Year 2008.

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

PWD 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.

PWD 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. PaDEP has approved both documents. The City's CAP involves the building of a 3.75 million gallon storage tank to capture the overflow. The estimated cost of the tank is \$24 million and its estimated completion date is December 2011. The City's CAP will address both the environmental issue under the Clean 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 the overflow tank or to have these Townships build their own tanks so that their wet weather flows do not exceed their contractual limits. Further, the City is requiring, and the Townships are implementing, a program to reduce infiltration and inflows into the Township's sewers thus reducing the flows into the Poquessing Interceptor.

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

PWD 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. PWD 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 CAP to address the overflow and a 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, which has approved both documents. 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 \$25 million and its estimated completion date is December 2010. The City's CAP will address both the environmental issue under the Clean 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 draft NPDES 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 2008 to 2013 and the Water Department 2008 capital budget described below have not yet been approved by City Council as part of the City's capital program and capital budget. 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 workstations, 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 2007 through 2012.

**Fiscal Years 2007-2012
Capital Improvement Program
(In Thousands)**

	<u>Fiscal Year 2007 (Budgeted)</u>	<u>Fiscal Year 2007-2012 (Planned)</u>
Engineering and Administration	\$ 19,899	\$ 128,717
Improvements to Treatment Plants	42,000	252,000
Conveyance System (new and reconstruction)	21,980	131,880
Collector System (new and reconstruction)	23,010	147,475
Storm Flood Relief	10,000	68,000
Vehicles	<u>4,000</u>	<u>24,000</u>
 Total	 \$ 120,889	 \$ 752,072

Development of Adopted Fiscal Year 2008 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 2008 in October 2006, 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 December 2006. The Mayor approved the Water Department’s Capital Budget and included it as part of his proposed budget to City Council on February 22, 2007. As of March 1, hearings were still being held by City Council, and a final budget has not been adopted.

The proposed Fiscal Year 2008 Capital budget includes a substantial increase in budgeted funds for Storm Flood Relief & Combined Sewer Overflows. The projects included therein are related to the mitigation of flooding in certain areas of the City and to provide funding for the storage basins at Venice Island and the Poquessing PC-30 outfall as described under “Moratorium on Additional Connections to the Poquessing Intercepting Sewer & Corrective Action Plan” and “Moratorium on Additional Connections to the Manayunk Main Intercepting Sewer & Corrective Action Plan” above and other important Storm Flood and CSO projects as required by the Water Department’s discharge permits or as otherwise determined to be necessary to meet the Water Department’s obligations.

The following table sets forth major elements of the Water Department’s proposed Capital Improvement Program for Fiscal Years 2008 through 2013.

**Fiscal Years 2008-2013
Capital Improvement Program
(In Thousands)**

	Proposed Fiscal Year 2008 <u>(Budgeted)</u>	Proposed Fiscal Year 2008-2013 <u>(Planned)</u>
Engineering and Administration	\$ 20,695	\$ 137,270
Improvements to Treatment Plants	42,000	252,000
Conveyance System (new and reconstruction)	21,980	131,880
Collector System (new and reconstruction)	29,550	147,880
Storm Flood Relief	25,000	260,000
Vehicles	<u>3,000</u>	<u>18,000</u>
 Total	 \$ 142,225	 \$ 947,030

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.

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.

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 2002, 2003, 2004, 2005 and 2006 and The City of Philadelphia's basic financial statements for Fiscal Year 2006. 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.

In signing this Official Statement, the City Controller has not participated in the preparation of APPENDIX II - "ENGINEERING REPORT" and takes no position at this time regarding the information contained therein, including future revenue increases.

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.

**Philadelphia Water Department
Historical Operating Results
(In Thousands)**

	FY2002	FY2003	FY2004	FY2005	FY2006
Operating Revenues:					
Sales to General Customers	\$308,940	\$323,872	\$339,777	\$362,789	\$365,396
Service (Sales) to Other Municipalities	24,106	24,878	25,704	39,211	39,678
Services to Other Philadelphia Agencies (Includes Fire Protection)	18,860	21,503	23,407	30,484	29,108
Private Fire Connections	910	1,041	1,202	1,330	1,795
Industrial Sewer Surcharge	5,338	7,307	6,985	6,950	6,456
Other Operating Revenue	5,194	31,243	19,208	11,271	24,116
Subtotals – Water	123,538	139,347	141,536	153,692	158,627
Wastewater	239,810	270,497	274,747	298,343	307,922
Total Operating Revenue	\$363,348	\$409,844	\$416,283	\$452,035	\$466,549
Operating Expenses:					
Water	\$102,036	\$105,045	\$110,052	\$116,636	\$113,602
Wastewater	140,906	145,061	151,977	161,069	156,878
Total Operating Expenses	\$242,942	\$250,106	\$262,029	\$277,705	\$270,480
Excess of Operating Revenues over Operating Expenses	\$120,406	\$159,738	\$154,254	\$174,330	\$196,069
Non-Operating Revenues					
Interest on Investments	\$18,917	\$36,172	\$2,908	\$10,875	\$23,141
Reimbursements - Pennsylvania Clean Streams Grant	7,914	7,893	0	0	332
Other Non-Operating Revenues	640	319	2,427	552	237
Total Non-Operating Revenues	\$27,471	\$44,384	\$5,335	\$11,427	\$23,710
Excess of Revenues over Expenses before Interest Expenses and Principal Payments on Bonded Indebtedness	\$147,877	\$204,122	\$159,589	\$185,757	\$219,779
Interest Expenses:					
General Obligation Bonds	\$601	\$0	\$0	\$0	\$0
Revenue Bonds	81,653	85,646	87,942	86,340	86,639
Less: Interest Capitalized					
Bond Anticipation Notes					
Pennvest Loan	1,636	1,227	1,227	1,227	1,227
Total Interest Expenses	\$83,890	\$86,873	\$89,169	\$87,567	\$87,866
Excess of Revenues over Expenses Exclusive of Debt Principal Payments	\$63,987	\$117,249	\$70,420	\$98,190	\$131,913
Add: Unencumbered Funds Available for Appropriation at Beginning of Fiscal Year	0	0	0	0	0
Deduct: Debt Principal Payments on Bonded Indebtedness During Fiscal Year	63,512	70,484	69,031	68,980	78,550
Net Unapplied Project Revenues	\$475	\$46,767	\$1,389	\$29,210	\$53,363
Deduct: Funds Transferred to General Fund	4,138	4,138	0	4,401	4,994
Deduct: Funds Transferred to Residual Fund	6,608	9,839	13,820	8,728	9,862
Deduct: Funds Transferred to Capital Account	16,050	16,023	16,348	16,709	16,954
Transfer TO/(FROM) The Rate Stabilization Fund	(\$26,321)	\$16,767	(\$28,779)	(\$628)	\$21,553
Unencumbered Funds Available for Appropriation at end of Fiscal Year	\$0	\$0	\$0	\$0	\$0
Debt Service Coverage Ratio:					
Total Debt Service	1.07	1.08	1.08	1.08	1.08
Revenue Bond Debt Service	1.20	1.20	1.20	1.20	1.20

Analysis of Comparative Statement of Revenues and Expenses

Fiscal Year 2002

Revenues. Total Fiscal Year 2002 Revenues decreased by \$8 million over the previous year due mainly to lower than anticipated interest. There was also a reduction in water and wastewater revenues from the General Fund due to a correction to past over-billings.

Expenses. Total Fiscal Year 2002 Expenses increased by only \$82,000 over the previous year despite the funding of employee wage increases.

In Fiscal Year 2002, a withdrawal of \$26.3 million was made from the Rate Stabilization Fund and deposited to the Revenue Account. Deposits of \$16.1 million to the Capital Account and \$6.6 million to the Residual Account were made from the Revenue Account. Also, the Water Department defeased approximately \$10.0 million in revenue bonds using available appropriations from the Residual Fund.

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 coupled with a 4.0% water and sewer rate increase.

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 \$32.6 million over the previous year. The bond swap gain of \$29 million mentioned above was not repeated in 2004 and a \$3.9 million decline in interest earnings and a \$7.9 million decrease in grants were offset by a water and sewer rate increase of 1.6% that produced additional Revenues of \$8.6 million.

Expenses. Total Fiscal Year 2004 Expenses increased by \$11.9 million over the previous year primarily due to a \$3.6 million increase in Payroll Expense, a \$1.4 million increase in the purchase of services, a \$1.0 million increase in material costs and a \$3.6 million increase in other expenses. There was no transfer of funds to the Rate Stabilization Fund in 2004.

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 \$41.8 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 \$15.7 million over the previous year primarily due to a \$14.6 million increase in employee benefits expense.

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 \$14.4 million primarily due to a 12.8% water and sewer rate increase effective February 1, 2005, coupled with a 1.9% increase effective on August 1, 2005. Total Non-Operating Revenues increased \$12.3 million due to increased Interest on Investments.

Expenses. Total Operating Expenses decreased \$7.2 million primarily due to a \$7.6 million decrease in the cost of payroll expense coupled with a \$1.8 million decrease in the purchase of services and a \$2.1 million decrease in other expenses. This was offset by a \$3.4 million increase in the cost of materials and supplies.

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.

Development of Adopted Fiscal Year 2008 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 2008 in October 2006, 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 in October 2006. 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 December 2006. The Mayor approved the Water Department's Operating Budget and included it as part of his proposed budget to City Council on February 22, 2007. As of March 1, hearings were still being held by City Council, and a final budget has not been adopted.

Under the City's "Legally Enacted Basis" of accounting, a reservation of funds is established, for the estimated maximum contract limit, prior to the initiation of the delivery of services, supplies or equipment for each contract. This reservation of fund or "encumbrance" accounting system requires that the Water Department budget a slightly higher level of funds than its actual annual requirements might be under a cash basis of accounting, since the actual costs of each contract cannot be determined, in many instances, until after the Fiscal Year has ended. These "excess" encumbered funds are returned to the fund balance when the contract is liquidated, usually late in the ensuing Fiscal Year. The Fiscal Year

2007 Operating Budget includes an adjustment to the estimated fund balance at the close of Fiscal Year 2007 due to cancellation of commitments encumbered and not expended in Fiscal Year 2007 in the amount of \$13,000,000. Commitments cancelled during the last several Fiscal Years have been at similar levels.

Revenues, Expenses and Debt Service

The firm of Black & Veatch Corporation has been retained by the City to provide an engineering assessment of the current condition, use and maintenance of the Water and Wastewater Systems and to report on the financial feasibility of the issuance of the Bonds. The full text of the Engineering Report prepared by Black & Veatch Corporation, as updated on March 2, 2007, is included as APPENDIX II to this Official Statement.

In its update to the Engineering Report dated March 2, 2007, Black & Veatch Corporation has concluded that:

“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 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 Covenants 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.

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 the two Fiscal Years following the Fiscal Year in which the Bonds are issued.

The water and wastewater rents, rates and charges, including projected increases, are within generally acceptable ranges for services and are collectible.

The following table, prepared by Black & Veatch Corporation, as a part of APPENDIX II – “ENGINEERING REPORT” presents a statement of projected revenues and revenue requirements for Water and Wastewater Systems operations for Fiscal Year 2007 through Fiscal Year 2013, under the stipulations of the General Ordinance.

**Summary of Table A From Engineering Report Update
PROJECTED REVENUE AND REVENUE REQUIREMENTS -- WATER DEPARTMENT OPERATIONS 1989 GENERAL ORDINANCE**
(In thousands)

Line No.	Description	Fiscal Year Ending June 30,										
		2007	2008	2009	2010	2011	2012	2013				
	OPERATING REVENUE											
1	Water Service - Existing Rates	\$ 173,920	\$ 172,918	\$ 171,597	\$ 170,514	\$ 169,433	\$ 168,352	\$ 167,272				\$ 167,272
2	Wastewater Service - Existing Rates	280,946	280,450	279,012	277,557	276,096	274,648	273,181				273,181
3	Total Service Revenue - Existing Rates	454,866	453,368	450,609	448,071	445,529	443,000	440,453				440,453
10	Total Additional Service Revenue Required	--	14,394	60,799	96,053	127,971	151,479	175,728				175,728
11	Total Water & Wastewater Service Revenue	454,866	467,762	511,408	544,124	573,500	594,479	616,181				616,181
12	Transfer From/(To) Rate Stabilization Fund	28,590	48,670	16,840	13,060	(3,610)	(7,920)	8,080				8,080
	Other Income (a)	19,912	18,745	19,153	16,926	16,157	18,498	16,091				16,091
18	Total Revenues	\$ 503,368	\$ 535,187	\$ 547,446	\$ 574,214	\$ 586,210	\$ 605,234	\$ 640,443				\$ 640,443
	OPERATING EXPENSES											
19	Water & Wastewater Operations	\$ 246,107	\$ 272,906	\$ 274,136	\$ 284,025	\$ 294,253	\$ 304,833	\$ 315,775				\$ 315,775
20	Direct Interdepartmental Charges	49,789	53,675	55,356	57,090	58,878	60,724	62,625				62,625
21	Total Operating Expenses	\$ 295,896	\$ 326,581	\$ 329,492	\$ 341,115	\$ 353,131	\$ 365,557	\$ 378,400				\$ 378,400
22	NET REVENUES AFTER OPERATIONS DEBIT SERVICE	\$ 207,472	\$ 208,606	\$ 217,954	\$ 233,099	\$ 233,079	\$ 239,677	\$ 262,043				\$ 262,043
	Senior Debt Service											
	Revenue Bonds											
23	Outstanding Bonds (b)	\$ 172,509	\$ 173,447	\$ 170,673	\$ 172,717	\$ 172,703	\$ 172,509	\$ 174,070				\$ 174,070
24	Pennvest Parity Bonds	384	384	384	384	384	384	384				384
25	Projected Future Bonds (c)	0	0	10,571	21,142	21,142	26,834	43,910				43,910
26	Total Senior Debt Service	\$ 172,893	\$ 173,831	\$ 181,628	\$ 194,243	\$ 194,229	\$ 199,727	\$ 218,364				\$ 218,364
27	TOTAL SENIOR DEBT SERVICE COVERAGE	1.20 x	1.20 x	1.20 x	1.20 x	1.20 x	1.20 x	1.20 x				1.20 x
30	Total Subordinate Debt Service	\$ 1,227	\$ 1,227	\$ 1,227	\$ 1,227	\$ 1,227	\$ 1,227	\$ 1,227				\$ 1,227
31	Total Debt Service on Bonds	\$ 174,120	\$ 175,058	\$ 182,855	\$ 195,470	\$ 195,456	\$ 200,954	\$ 219,591				\$ 219,591
32	CAPITAL ACCOUNT DEPOSIT	\$ 16,988	\$ 17,361	\$ 17,734	\$ 18,107	\$ 18,480	\$ 18,853	\$ 19,226				\$ 19,226
33	TOTAL COVERAGE	1.08 x	1.08 x	1.08 x	1.09 x	1.08 x	1.09 x	1.09 x				1.09 x
	RESIDUAL FUND											
34	Beginning of Year Balance	\$ 5	\$ 5,369	\$ 5,556	\$ 4,921	\$ 5,443	\$ 5,586	\$ 5,456				\$ 5,456
36	Plus End of Year Revenue Fund Balance	16,364	16,187	17,365	19,522	19,143	19,870	23,226				23,226
37	Deposit for Transfer to City General Fund (d)	4,994	1,990	2,314	2,314	2,485	3,007	3,007				3,007
38	Less Transfer to Construction Fund	11,000	16,000	18,000	19,000	19,000	20,000	23,000				23,000
39	Less Transfer to City General Fund	4,994	1,990	2,314	2,314	2,485	3,007	3,007				3,007
40	End of Year Balance	\$ 5,369	\$ 5,556	\$ 4,921	\$ 5,443	\$ 5,586	\$ 5,456	\$ 5,682				\$ 5,682
	RATE STABILIZATION FUND											
41	Beginning of Year Balance	\$ 115,372	\$ 86,782	\$ 38,112	\$ 21,272	\$ 8,212	\$ 11,822	\$ 19,742				\$ 19,742
42	Deposit From/(To) Revenue Fund	(28,590)	(48,670)	(16,840)	(13,060)	3,610	7,920	(8,080)				(8,080)
43	End of Year Balance	\$ 86,782	\$ 38,112	\$ 21,272	\$ 8,212	\$ 11,822	\$ 19,742	\$ 11,662				\$ 11,662

(a) Includes other operating and nonoperating income, including interest income on funds and accounts transferable to the Revenue Fund.

(b) Assumes a variable rate of 4.00% over the life of the Variable Rate Series 1997B Bonds.

(c) Assumes 5.50% interest, term of 30 years, with level annual principal and interest payments.

(d) Transfer of interest earnings from the Bond Reserve Account must first go to the Residual Fund as shown in Line 38 to satisfy the requirements for the Transfer to the City General Fund, with the balance included in Line 16 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 promulgated Regulation 300.00 *et seq.*, 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. The regulations governing the rate process were recently amended to require the appointment of a Hearing Examiner within 90 days of the initial filing of proposed regulations providing for changes in rates and charges.

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 July 21, 2005, the Water Commissioner in his Rate Determination directed that there be a 1.9 percent, or a \$0.88 monthly increase starting August 1, 2005; 6.7 percent or a \$3.20 monthly increase starting July 1, 2006; 4.2 percent or a \$2.14 monthly increase starting July 1, 2007, for typical customers. Similar increases were directed for other customers. This followed a 12.8% rate increase, effective February 1, 2005. Hearings on the proposed rates were held during the spring of 2005, with written briefs, exceptions and the hearing officers report all following in the process. Increases in fire connection charges are also included in each of the above noted rate changes. In addition, special charges are imposed for processing high-strength wastewater.

No challenges to the City’s rate determinations are currently pending.

The Water Department estimates that a typical customer has a 5/8 inch meter and uses 9.6 thousand cubic feet (“Mcf”) of water per year, which, based on the current rate schedule, results in an annual charge of \$258.24 for water service and \$355.80 for sewer service, for a total of \$614.04 and on July 1, 2007, the annual charge will increase to \$639.72.

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 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 2005, the City’s charges from the Water Department were \$22,289,256 which represents 4.83% of budgeted total revenues. Projections contained in the Engineering Report forecast that the City’s annual projected charges to be paid to the Water Department of \$29,679,000 for Fiscal Year 2007 and \$30,704,000 in Fiscal Year 2008. City payments to the Water Fund are made as of the close of each Fiscal Year. 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 Years 2004 and 2005 were \$3,100,000 and \$3,861,861, respectively. Fiscal Years 2006 and 2007 payments are projected to be \$4,022,000 and \$4,325,000, respectively. The contract for water service to the Authority expires in 2011.

On June 29, 2000 the Water Department entered into a contract with 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 Tincum Township, Delaware County and another in Cheltenham Township, Montgomery County. An amendment to the agreement is in progress which will reduce then average daily draw from 4.5 MGD to 3.705 MGD. Aqua Pennsylvania can draw up to 2.0 MGD on average per day through its Cheltenham interconnection. Sales of water to Aqua Pennsylvania generated a total annual revenue of \$2,400,000 in Fiscal Year 2006. Fiscal Year 2007 payments are projected to be \$2,900,000.

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 2004 payments totaled \$20,500,000 for operating expenses, depreciation and return on investment for all ten wholesale wastewater customers. Fiscal Year 2005 payments from these wholesale wastewater customers were \$32,032,000. Revenues from these customers for Fiscal Year 2006 were \$32,804,000 and are projected to be \$24,733,000 for Fiscal Year 2007. Capital contributions from wholesale wastewater customers received by the Water Department as of December 31, 2005 have totaled \$105,114,884.

There are currently no disputes between the Water Department and its wholesale water and wastewater customers.

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 has also agreed to lengthen the term of the current contract by 15 years, extending it to the year 2038.

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 holding tank in the City. Lower Southampton has clearly committed itself to the tank project, and negotiations on an amendment to their agreement are expected to continue in the near future.

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 2005 and 2006 revenues under this agreement were approximately \$8.2 million and \$7.2 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. Negotiations have been ongoing for six months on a new contract. The Water Department is offering DELCORA a new contract which will reduce DELCORA's existing contractual limits on flows to levels consistent with DELCORA's dry weather flows for the last several years and the plant's design parameters.

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 holding tank project described above. Discussions on a new contract to codify the Township's obligations in the tank project as well as increases in Lower Moreland's relatively small contractual flows are nearing completion and an executed contract is anticipated within two months.

Billing and Collections

Since the successful implementation of monthly billing in January 1993, the current year collection factor has generally stayed steady at between 85% and 86%. It was 85.5% in Fiscal Year 2000, 85.7% in Fiscal Year 2001, 85.1% in Fiscal Year 2002, 84.5% in Fiscal Year 2003, 85.4% in Fiscal Year 2004, 86.1% in Fiscal 2005 and 85.4% in Fiscal Year 2006. Collections tend to dip each year during the annual winter moratorium on residential service shutoffs, and then rebound in the spring when shutoffs begin again. It is important to note that the current year collection factor represents the percentage of billings issued during a given Fiscal Year that were collected within that Fiscal Year regardless of the due

dates for the billings. Because of billing cycles and other factors, a portion of the billings rendered during a given Fiscal Year have due dates in the subsequent Fiscal Year.

Payment patterns of monthly billings have steadily increased. The percentage of bills paid within the first 120 days after being billed was 87.3% in Fiscal Year 2000, 88.2% in Fiscal Year 2001, 88.6% in Fiscal Year 2002, 89.8% in Fiscal Year 2003, 89.7% in Fiscal Year 2004, 91.05% in Fiscal 2005 and 91.11% in Fiscal 2006.

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 Water 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 Water Department.

Under the Charter, 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. The close level of cooperation between the two entities 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. This program 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 and \$4.4 in Fiscal Year 2006. 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 January 2006, more than 475,091 new meters had been installed. This program has greatly improved the accuracy of billing, which has resulted in fewer billing disputes and 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 Water Department has been working with the Water Revenue Bureau, the Mayor's Office of Information Services ("MOIS") and others since late Fiscal Year 2003 on a project, known as Project Ocean, to develop a replacement for its current 25-year-old legacy billing system. It will be the first application to reside on the City of Philadelphia's Oracle Enterprise Resource Planning ("ERP") applications.

As originally planned, Project Ocean was to deliver an enterprise solution with all WRB core business functions on an integrated platform. This single consolidated system was to replace the multiple application systems currently supporting WRB and to align WRB business processes with industry "best practices." This consolidation was to facilitate the streamlining of WRB business processes, resulting in

cost savings to the WRB through the elimination of redundant processes. Additionally, the system was to provide expanded collection capabilities to give WRB additional tools to increase revenues.

A team of both consultants and in-house staff was formed to implement the Oracle e-business suite and develop the billing application with an implementation target of December 2005. System hardware and software were scheduled for delivery and installation in May 2005. Extensive testing and training on the new system was to occur for approximately six months before the new system was placed into billing production.

Considerable work was completed on the development of system code and the new system hardware was installed. However, as is often the case in large computer system implementations, problems were encountered during the testing of system code. The City suspended work on the project while assessments were undertaken and options, including third party utility billing systems, were considered. It was determined during the assessment that the solution being delivered would not meet all of the City's requirements. It was also determined that third party utility billing software had matured during the period that work had been underway on Project Ocean and would now more closely meet the City's requirements. The City negotiated a settlement agreement with Oracle that included the provision of a proven, fully functioning state of the art system. This system has already been implemented in utilities similar in volume and functional scope to the City of Philadelphia. It has been proven to produce bills and support customer service in production environments. This customer information and billing system works in coordination with the Oracle ERP and will be configured to meet the City's specific rates and other requirements.

Work on Project Ocean resumed in November 2006 with a new project management structure headed by a Steering Committee that reflects the full partnership of the three City stakeholder departments: Water, Revenue, and MOIS. Internal project team members have been identified and have been augmented by contract staff, all under the direction of a Program Director who has utility billing system implementation experience. The current implementation schedule provides for "Proof of Concept," bill production with PWD customer data, and volume performance testing in May 2007. Further system configuration, testing, and training will take place during the balance of 2007, with the target for system implementation early in calendar 2008.

Approximately \$18 million has been expended to date on Project Ocean, approximately \$5 million of which has been provided by general fund departments that will be using Oracle seat licenses and the hardware for other applications. It is expected that the new billing system will be completed within the \$6.5 million budget originally designated for completing Project Ocean.

For a further discussion of the rates charged by the Water Department, see APPENDIX II – "ENGINEERING REPORT."

Substitution of Funds in Debt Reserve Account

The City is planning on providing a surety bond or an insurance policy in lieu of approximately \$130 million of the funds and investments currently held in the Debt Reserve Account. Execution of the transaction is dependent, among other things, upon the City's obtaining a qualified surety bond and the expenditure of the released funds is subject to City Council's adoption of the Fiscal Year 2008 Water Fund operating budget. This substitution would reduce Net Reserve Earnings below that which would be expected if such substitution did not occur. See "SECURITY FOR THE BONDS -- Debt Reserve Account."

Compliance with Rate Covenants

In Fiscal Years 2002, 2003, 2004, 2005 and 2006 the Water Department met the bond coverage requirements with revenue bond debt coverage ratios of 1.20 each year, and total debt service coverage ratios of 1.07, 1.08, 1.08, 1.08 and 1.08 respectively. Net revenues after operating expenses exceeded the amounts necessary to manage the senior debt service coverage requirements in Fiscal Year 2003 and Fiscal Year 2006 resulting in deposits to the Rate Stabilization Fund of \$16.8 million in Fiscal Year 2003 and \$21.6 million in Fiscal Year 2006. Senior debt coverage requirements for Fiscal Years 2002, 2004 and 2005 resulted in draw downs of moneys from the Rate Stabilization Fund of \$26.3, \$28.8 and \$0.6 million respectively.

The Water Department first issued revenue bonds under the Prior Ordinance in Fiscal Year 1974. The General Ordinance, which became effective on August 26, 1993, mandates a coverage ratio of 1.20 for revenue bond debt service and 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 2000 through 2006, 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 (in Thousands)

	<u>FY2002</u>	<u>FY2003</u>	<u>FY2004</u>	<u>FY2005</u>	<u>FY2006</u>
Excess of Revenues over Expenses before Interest Expenses and Principal Payments on Bonded Indebtedness	\$147,877	\$204,122	\$159,589	\$185,757	\$219,779
Transfer (TO)/FROM the Rate Stabilization Fund	26,321	(16,767)	28,779	628	(21,553)
Net Revenues including Rate Stabilization Transfers	\$174,198	\$187,355	\$188,368	\$186,385	\$198,226
Net Revenues excluding Rate Stabilization Withdrawals	\$147,877	\$187,355	\$159,589	\$185,757	\$198,226
Revenue Bond Debt Service	\$145,165	\$156,130	\$156,973	\$155,320	\$165,189
Ratio (minimum 90%)	102%	120%	102%	120%	120%

PROJECTED REVENUE AND REVENUE REQUIREMENTS
(in thousands)

	Fiscal Year Ending June 30,						
	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>
NET REVENUES AFTER OPERATIONS	\$ 207,472	\$ 208,606	\$ 217,954	\$ 233,099	\$ 233,079	\$ 239,677	\$ 262,043
Total Senior Debt Service	\$ 172,893	\$ 173,831	\$ 181,628	\$ 194,243	\$ 194,229	\$ 199,727	\$ 218,364
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
Deposit From/(To) Revenue Fund from Rate Stabilization fund	<u>(28,590)</u>	<u>(48,670)</u>	<u>(16,840)</u>	<u>(13,060)</u>	<u>3,610</u>	<u>7,920</u>	<u>(8,080)</u>
NET REVENUES AFTER OPERATIONS (excluding Rate Stabilization withdrawal)	\$ 178,882	\$ 159,936	\$ 201,114	\$ 220,039	\$ 233,079	\$ 239,677	\$ 253,963
Total Senior Debt Service	\$ 172,893	\$ 173,831	\$ 181,628	\$ 194,243	\$ 194,229	\$ 199,727	\$ 218,364
Ratio (minimum 90%)	103%	92%	111%	113%	120%	120%	116%

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.

As of June 30, 2006, the City's best estimate of the probable aggregate amount of loss from various claims is \$5,000,000 from the Water Fund. The City's best estimate of the aggregate amount of loss from those claims in which the City believes some amount of loss is reasonably possible is \$5,000,000 from the Water Fund. This represents the City's best estimate of the entire current inventory of such litigation. The City expects that it will take approximately three years to conclude these lawsuits.

The City paid \$4.8 million in Fiscal Year 2000, \$4.2 million in Fiscal Year 2001, \$3.5 million in Fiscal Year 2002, \$3.86 million in Fiscal Year 2003, \$2.88 million in Fiscal Year 2004 and \$2.412 for Fiscal Year 2005, \$4.219 for Fiscal Year 2006 and has reserved \$3.376 million to date for Fiscal Year 2006. The Water Fund budget for Fiscal Year 2007 includes an appropriation of \$6.5 million for paying claims.

On June 27, 1998, a Consent Decree in the case of New Jersey Department of Environmental Protection v. Gloucester Environmental Management Services Inc. and City of Philadelphia et al., D.N.J., C.A. No. 84-0152, was executed among the State of New Jersey, the United States and certain defendants, including the City concerning the GEMS landfill in Gloucester Township, Camden County, New Jersey. Under the Consent Decree, the City reached an agreement with insurers by which the insurers paid into an escrow account all settlement allocations and reimbursed the City a portion of its expenses related to the litigation. Ancillary agreements concerning the allocation of any eventual cost overruns on the remediation activities have been negotiated among defendants; the prospect of any such future liabilities is considered low, and the City's commitments pursuant to these agreements would be minimal.

TAX EXEMPTION

In the opinion of Ballard Spahr Andrews & Ingersoll, LLP and Andre C. Dasent, P.C., 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 (the “Code”). Interest on the Bonds is not an item of tax preference for purposes of either individual or corporate federal alternative minimum tax, but interest on Bonds held by a corporation (other than an S corporation, regulated investment company, real estate investment trust, or real estate mortgage investment conduit) may be indirectly subject to federal alternative minimum tax because of its inclusion in the adjusted current earnings of a corporate holder. Interest on Bonds held by foreign corporations may be subject to the branch profits tax imposed by the Code.

Ownership of the Bonds may result in other federal income tax consequences to certain taxpayers, including, without limitation, financial institutions, property and casualty insurance companies, individual recipients of social security or railroad retirement benefits, certain S corporations and taxpayers who may be deemed to have incurred or continued debt to purchase or carry the Bonds. Co-Bond Counsel express no opinion as to these matters.

In the opinion of Co-Bond Counsel, under the laws of the Commonwealth of Pennsylvania as enacted and construed on the date of issuance of 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.

Original Issue Discount

The 4.25% Series B Bonds maturing November 1, 2031 are offered at a discount (“original issue discount”) equal generally to the difference between public offering price and principal amount. For federal income tax purposes, original issue discount on a Bond accrues periodically over the term of the Bond as interest with the same tax exemption and alternative minimum tax status as regular interest. The accrual of original issue discount increases the holder’s tax basis in the Bond for determining taxable gain or loss from sale or from redemption prior to maturity. Holders should consult their tax advisers for an explanation of the accrual rules.

Original Issue Premium

All of the Bonds that are not the 4.25% Series B Bonds maturing November 1, 2031 are offered at a premium (“original issue premium”) over their principal amount. For federal income tax purposes, original issue premium is amortizable periodically over the term of a Bond through reductions in the holder’s tax basis for the Bond for determining taxable gain or loss from sale or from redemption prior to maturity. Amortizable premium is accounted for as reducing the tax-exempt interest on the Bonds rather than creating a deductible expense or loss. Holders should consult their tax advisers for an explanation of the amortization rules.

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 \$1,848,899.81 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. Moody's, S&P and Fitch are expected to assign ratings to the Bonds of "Aaa," "AAA" and "AAA," respectively, with the understanding that upon delivery of the Bonds, the Bond Insurance Policy insuring payment when due of the principal of and interest on the Bonds will be issued by the Bond Insurer.

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 Andre C. Dasent, P.C., 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 Cozen O'Connor and Booth & Tucker, LLP, both of Philadelphia, Pennsylvania.

FINANCIAL ADVISORS

First Southwest Company, Houston, Texas, and Phoenix Capital Partners, LLP, 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 his 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 entirety 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.

VERIFICATION OF MATHEMATICAL COMPUTATIONS

BondResource Partners, LP, the verification agent, will deliver a report as of the closing date of the Bonds verifying the accuracy of (a) the mathematical computations of the adequacy of the Qualified Escrow Securities deposited in the Escrow Funds to pay, when due, maturing principal or redemption price, if any, of and interest on the Series 1997A Bonds and Series 2001A Bonds to be refunded and (b) the mathematical computations supporting the conclusion of Co-Bond Counsel that the Bonds are not

“arbitrage bonds” under the Code. Such verification will be based upon certain information supplied by the Underwriters to the verification agent.

CONTINUING DISCLOSURE

In accordance with the requirements of Rule 15c2-12 (the “Rule”) promulgated by the Securities and Exchange Commission, the City has entered into continuing disclosure undertakings with the holders of its Outstanding Bonds. In connection with the issuance of the Bonds, the City will enter into continuing disclosure undertakings (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 VII – “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. BondResource Partners, LP, the Verification Agent, is an affiliate of Ballard Spahr Andrews & Ingersoll, LLP. Booth & Tucker, LLP, Co-Underwriters’ Counsel, provides ongoing legal services to the City.

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

THE CITY OF PHILADELPHIA

By: /s/ John F. Street
John F. Street, Mayor

By: /s/ Alan L. Butkovitz
Alan L. Butkovitz, City Controller

By: /s/ Romulo L. Diaz, Jr.
Romulo L. Diaz, Jr., City Solicitor

Approved:

By: /s/ Vincent J. Jannetti
Vincent J. Jannetti, Acting Director of Finance

APPENDIX I

**FINANCIAL STATEMENTS OF THE WATER FUND
FOR FISCAL YEARS ENDED JUNE 30, 2006, AND 2005**

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**Financial Statements
For Fiscal Year Ended June 30, 2006**



CITY OF PHILADELPHIA WATER DEPARTMENT

2006 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 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 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 1.33.

At the end of the current fiscal year, the Water Fund's *Net Assets totaled* \$650.5 million resulting from an excess of its assets over its liabilities; its *unrestricted net assets* showed a balance of negative \$33.3 million.

The Water Fund's net assets showed an increase of \$34.2 million during the current Fiscal Year. This increase was primarily due to the following:

- A 12.8% water and sewer rate increase effective on February 1, 2005 coupled with 1.9% water and sewer rate increase effective on August 1, 2005 which resulted in a \$20.2 million increase in revenue collections.
- A \$12.3 million increase in interest earnings on the Sinking Fund and other investments.
- A \$7.6 million decline in Payroll expenses.
- A \$1.8 million decrease in spending for purchased services.
- A 18.0 million decrease in the Allowance for bad debt

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

- A 13.1 million increase in bond interest payments.
- A \$6.3 million increase in employee benefits expense.
- A \$3.4 million increase in the purchase of materials and supplies.
- A \$5.0 million transfer of year end excess balance of Water Sinking Fund Reserve to the General Fund
- A \$1.2 million increase in the payment of Indemnities and Taxes.

Net Assets

As noted earlier, net assets are useful indicators of a government's financial position. At the close of the current fiscal year, the Water Department's assets exceeded its liabilities by \$650.5 million

Capital assets, such as land, buildings, meters, water mains, and sewer lines, less any outstanding debt issued to acquire these assets comprise \$95.0 million of the Water Department's net assets. Although these capital assets assist in providing services to our customers, they are generally not available to fund the operations of future periods.

In addition, a portion of the Department's net assets, \$380.2 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 \$175.4 million.

Bond Issuance

During FY2005, the Department issued its Water and Wastewater Revenue Bond Series 2005A in the aggregate principal amount of \$250,000,000. The proceeds of the Series 2005A 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 Series 2005A Bonds, and (iii) pay costs of issuance relating to the Series 2005A Bonds. The Department also issued \$86,105,000 of Water and Wastewater Revenue Refunding Bonds, Variable Rate Series 2005B. The proceeds of the 2005B Bonds was used to refund a portion of the City's Water and Wastewater Revenue Bonds, Series 1995 and to pay costs of issuance relating to the Bonds.

Water and Wastewater Rates

Revise rates as necessary to maintain fiscal health. 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 FY06 the Department increased rates in five of ten years, adding up to a total increase for residential customers of 24.7 percent during the entire ten-year period. This rate of increase is well below the Philadelphia Consumer Price Index that measured 31.4 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 due to seven major cost factors that impacted the Department from FY05 to FY08: Increased debt service (\$72 million); coverage-based required contributions to the Residual Fund (\$68 million); loss of state subsidy for wastewater operations (\$32 million); increased personnel costs (\$28 million); decreased interest earnings (\$25 million); inflation on material, supplies, equipment and contracted costs (\$20 million); and additional security and related costs (\$9 million).

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. The increase for a typical senior citizen household, for those seniors who qualify for the Department's 25-percent senior citizen discount, is an average of 4.2 percent annually for three years. A typical senior citizen's monthly bill is \$28.50 in FY06. The income test to qualify for this discount has been raised to \$26,700. 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 intends to conduct a rate study beginning in FY08, 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 misimpression 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 most neighboring investor-owned utilities.

<i>2006 Regional Residential* Water and Sewer Charges</i>		
	Monthly Water Bill	Monthly Sewer Bill
Aqua Pennsylvania+	\$50.70	N/A
Pennsylvania American Water+	\$45.82	N/A
New Jersey American Water+	\$34.08	N/A
North Penn Water Authority +	\$26.63	N/A
North Wales Water Authority +	\$25.54	N/A
Doylestown Township	\$33.60	\$51.87
CCMUA (Camden County) **	N/A	\$26.25
Trenton	\$23.09	\$26.36
<i>Philadelphia Water Department</i>	\$21.52	\$20.82
Rates in effect on November 27, 2006. Storm water charges (\$8.83) are excluded from sewer calculations, because many jurisdictions fund such services from the general tax base or a separate utility assessment.		
*Calculations based on 5,984 gallons/month (800 cu.ft.)		
** Sewer-only utility.		
+ Water-only utilities.		
Source: Philadelphia Water Department		

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 A3 rating of Moody's Investors service: "The management 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 improvements in environmental compliance, launch of a proactive water main replacement program that has significantly reduced the number of main breaks, and installation of automated

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. 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 A- rating of Fitch: "Fitch Ratings expects the system to maintain its historical practice of actual results outperforming projections..."

The Water Department has implemented numerous measures to improve service, reduce costs, and enhance revenues over the past decade. It has greatly reduced the cost of operations at its Biosolids and Wastewater facilities. The Department has greatly contributed to the noticeably improved quality of Philadelphia's rivers and streams. It has re-financed more than \$1.7 billion in revenue bonds for net present value savings of \$92 million in debt service expense."

The following excerpt accompanied the A- rating of Standard and Poors: "A seasoned management team that emphasizes, and is achieving improved system maintenance, stronger collections, and more comprehensive fiscal monitoring systems."

Pilot Plant Research

The operation of a pilot plant research program has also helped the PWD meet regulatory mandates cost effectively and provide high-quality drinking water to customers. The pilot plants are essentially miniature water treatment plants that allow the PWD to study and test the impact of modifications to water treatment procedures prior to moving forward with system-wide changes. In FY08 pilot plant studies will focus on the effectiveness of coagulants other than ferric chloride, which PWD has used as a coagulant in the water treatment process. Coagulants are used to treat the water to make it more filterable and also to bind to organic particles in the source water and cause these particles to fall out of the water treatment process by virtue of the coagulant's weight. Changes in regulatory requirements and increasing coagulant costs have driven PWD's need to evaluate alternative coagulants. In FY08 PWD will also experiment with a pre-treatment process called MIEX (Magnetically Induced Ion-Exchange). This process removes a significant portion of the dissolved organic component of water prior to coagulation. This technology may offer PWD the freedom to use non-iron based coagulants. The annual cost for operation of the pilot plant is \$970,000.

On-line Drinking Water Quality Monitoring

Recent concerns over the safety of our water supply have caused the Department to expand the "Water Quality Monitoring Network" that it began to implement in FY01. This 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. Data is transmitted from each site to PWD's central laboratory where technicians check for early warning signs of water quality deterioration and document any unforeseen changes. By the end of FY08 the Department plans to have 24 on-line water quality/security sites. These locations will include water storage tanks and reservoirs, pump stations, the Philadelphia Navy Yard, Philadelphia International Airport, City Hall, hospital trauma centers, selected Police and Fire stations, and two professional sports complexes. For FY09 to FY12 the Department will assess the need for additional locations as well as focusing on the interpretation and organization of data from the existing network. In FY08 the Department has budgeted \$150,000 for this programs expansion.

Early Warning System

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. Philadelphia's EWS has now successfully performed in several major water quality events over the last three years, including a cyanide spill in the Wissahickon Creek in 2006. In FY08 the system will be expanded to include a time of travel spill model, additional phone and email notification, and an upgrade to permit the receipt and processing of data from a new fish monitoring device for toxic spills. The FY08 budget will include an additional \$450,000 for these improvements.

New Pumping Station

The construction of a new water pumping station is necessary to enhance local water pressure and water service reliability for our customers in the Northwest section of the City. This new pumping station will house eight energy-efficient pumps, a control room and offices.

Assessing the City's Sewer Infrastructure

Completed in FY05, 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 use this information to build a database and ranking

system to prioritize needed improvements. Trained PWD personnel are continuing the sewer assessment surveys from FY07 to FY11. In FY06 and FY07, 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 FY08, \$4.5 million is budgeted to continue the video inspections and to perform additional excavations and repairs.

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 we 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 includes \$48 million in capital improvements so we can capture even more flow in the sewer system. During the next three years, 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. We anticipate that these efforts will result in reducing overflow volume from combined sewers approximately 15 percent to 19 percent by late 2007 and early 2008.

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 FY05, the teams removed over 700 tons of debris from Philadelphia's streams. In addition, in FY05, the WRT participated in a number of training sessions and workshops that focused on Natural Stream Channel Design (NSCD) sponsored by the Fairmount Park Commission (FPC), the U.S. Army Corps of Engineers, and the engineering firm of Skelly and Loy. 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. NSCD is the preferred stream restoration methodology of regulatory agencies and citizens as it results in streams that have the potential for supporting habitat and that meet

the aesthetic desires of park users. In FY05, 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 the FPC, regulatory agencies and citizens. From FY08 to FY12, the team will work in partnership with the FPC and related Friends' groups to bolster a public/private partnership that is essential to sustaining the effectiveness of this project. The cost for this program in FY08 will be over \$1 Million and is expected to remain in this range through FY12.

Advance Regional Source Water Protection Plans

The City now enjoys watersheds that are cleaner and healthier than they have been in over a century. Protecting the source of Philadelphia's drinking water is a multi-faceted task that extends beyond the traditional boundaries of the City. In recognition of this, in FY99, PWD created an Office of Watersheds to implement an integrated approach to water quality management that seeks to reduce water pollution from all sources, in a cost-effective manner that is based on achieving measurable results. In FY05, PWD completed a source water protection plan for the Schuylkill River. The Schuylkill plan is being integrated with that of the Schuylkill Action Network (SAN), a larger group of state and federal regulators, water suppliers, conservation districts, and watershed groups. SAN is working to coordinate regulatory and restoration efforts to protect the Schuylkill River as the premier drinking water resource for the region. In FY05, PWD, the Partnership for the Delaware Estuary, and SAN received a \$1.15 million Targeted Watershed Initiative Grant from the US EPA. More than 70 proposed projects will be implemented with these grant funds. Projects include controlling storm water and agricultural impacts, removing acid mine drainage impacts, and developing market-based incentives for pollution trading. In FY06, projects addressed abandoned mine drainage (AMD) in the headwaters of the Schuylkill River where projects are being designed and implemented for three major AMD discharges. Funds in FY08-FY12 will also be dedicated to address contamination from agriculture through the installation of vegetated buffers and fencing along impaired streams to reduce runoff and keep livestock out of the streams. Urban and suburban storm water runoff will be addressed through a series of projects aimed at reducing runoff at sensitive locations through the installation of swales, retention basins and buffers and outfall retrofits. Finally, a significant portion of the grant will be dedicated toward educating the public on source water protection issues and their role in protecting our region's drinking water supply. 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.

In a related program, in FY08 the SAN will continue to operate the Philly RiverCast System. 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.

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.

CITY OF PHILADELPHIA WATER DEPARTMENT

STATEMENT OF NET ASSETS, JUNE 30, 2006 AND 2005

(amounts in thousands)

	...2006...	...2005...
ASSETS		
Current Assets:		
Cash on Deposit and on Hand	\$30	\$30
Equity in Treasurer's Account	50,253	47,300
Due from Other Governments	109	109
Accounts Receivable	177,360	199,238
Allowance for Doubtful Accounts	(78,634)	(96,633)
Inventories	14,640	14,077
Total Current Assets	163,758	164,121
Noncurrent Assets:		
Restricted Assets:		
Equity in Treasurer's Account	368,675	397,406
Sinking Funds and Reserves	174,332	173,031
Grants for Capital Purposes	0	0
Receivables	2,784	1,728
Total Restricted Assets	545,791	572,165
Net Pension Asset	64,118	71,300
Capital Assets:		
Land	5,919	5,919
Infrastructure	1,752,461	1,740,978
Construction in Progress	146,831	127,140
Buildings and Equipment	1,390,699	1,353,385
Accumulated Depreciation	(1,597,139)	(1,531,943)
Total Capital Assets	1,698,771	1,695,478
Total Noncurrent Assets	2,308,680	2,338,943
Total Assets	2,472,438	2,503,064
LIABILITIES		
<u>Current Liabilities:</u>		
Vouchers Payable	5,107	5,358
Accounts Payable	7,377	6,490
Salaries & Wages Payable	2,225	5,453
Construction Contracts Payable	7,038	5,995
Accrued Expenses	18,435	13,609
Deferred Revenue	6,923	6,740
Current Portion of Long Term Obligations	84,002	79,120
Total Current Liabilities	131,107	122,765
<u>Noncurrent Liabilities:</u>		
Long Term Obligations	1,758,799	1,842,773
Unamortized Discount and Loss	(88,496)	(98,394)
Other Noncurrent Liabilities	20,485	19,573
Total Noncurrent Liabilities	1,690,788	1,763,952
Total Liabilities	1,821,895	1,886,717
NET ASSETS		
Invested in Capital Assets, Net of Related Debt	94,959	101,807
Restricted For:		
Capital Projects	51,989	23,942
Debt Service	174,332	173,031
Rate Stabilization	153,910	128,903
Unrestricted	175,355	188,663
Total Net Assets	\$650,545	\$616,346

STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET ASSETS
FOR THE FISCAL YEAR ENDED JUNE 30, 2006 AND 2005

(amounts in thousands)

	...2006...	...2005...
Operating Revenues:		
Charges for Goods and Services	\$465,519	\$445,367
Miscellaneous Operating Revenues	5,325	5,245
Total Operating Revenues	<u>470,844</u>	<u>450,612</u>
Operating Expenses:		
Personal Services	98,773	106,418
Purchase of Services	68,469	70,230
Materials and Supplies	27,526	24,109
Employee Benefits	62,852	56,515
Indemnities and Taxes	3,758	2,607
Depreciation and Amortization	78,855	82,503
Total Operating Expenses	<u>340,233</u>	<u>342,382</u>
Operating Income (Loss)	<u>130,611</u>	<u>108,230</u>
Nonoperating Revenues (Expenses):		
Operating Grants	569	552
Interest Income	23,143	10,875
Net Pension Obligation	(7,182)	(7,189)
Debt Service - Interest	(100,682)	(87,567)
Other Expenses	(7,266)	(5,188)
Total Nonoperating Revenues (Expenses)	<u>(91,418)</u>	<u>(88,517)</u>
Income (loss) before Transfers	39,193	19,713
Transfers Out	(4,994)	(4,401)
Change in Net Assets	<u>34,199</u>	<u>15,312</u>
Net Assets - Beginning of Period	616,346	522,545
Adjustment	0	78,489
Net Assets - End of Period	<u>\$650,545</u>	<u>\$616,346</u>

STATEMENT OF CASH FLOWS
JUNE 30, 2006

(amounts in thousands)

	...2006...	...2005...
Cash Flows from Operating Activities		
Receipts from Customers	\$474,906	\$443,058
Payments to Suppliers	(96,672)	(98,871)
Payments to Employees	(163,124)	(159,197)
Claims Paid	(4,176)	(2,408)
Other Receipts (Payments)	0	0
Net Cash Provided by Operating Activities	210,934	182,582
Cash Flows from Non-Capital Financing Activities		
Operating Grants Received	569	602
Operating Subsidies and Transfers to Other Funds	672	4,401
Net Cash Provided by Non-Capital Financing Activities	1,241	5,003
Cash Flows from Capital & Related Financing Activities		
Proceeds from Capital Debt		244,566
Capital Contributions Received		0
Acquisition and Construction of Capital Assets	(85,213)	(100,477)
Interest Paid on Capital Debt	(87,866)	(85,032)
Principal Paid on Capital Debt	(78,550)	(71,515)
Other Receipts (Payments)		0
Net Cash Provided (Used) by Non-Capital Financing Activities	(251,629)	(12,458)
Cash Flows from Investing Activities		
Interest and Dividends	13,677	335
Net Cash Provided by Investing Activities	13,677	335
Net Increase (Decrease) in Cash & Cash Equivalents	(25,777)	175,462
Balances - Beginning of the Year	444,736	269,274
Balances - End of the Year	418,959	444,736
Reconciliation of Operating Income (Loss) to Net Cash Provided (Used) by Operating Activities:		
Operating Income (Loss)	128,456	108,230
Adjustments to Reconcile Operating Income to Net Cash Provided (Used) by Operating Activities:		
Depreciation Expense	81,010	82,503
Change in Assets and Liabilities:		
Receivables, Net	3,879	(10,246)
Inventories	(563)	(738)
Accounts and Other Payables	(2,031)	2,661
Accrued Expenses	0	172
Deferred Revenue	183	
Net Cash Provided by operating activities	\$210,934	\$182,581

BUDGETARY COMPARISON SCHEDULE
 Water Operating Fund
 For the Fiscal Year Ended June 30, 2006

(amounts in thousands)

<u>Revenues</u>	<u>Budgeted Amounts</u>			Final Budget to Actual Positive (Negative)
	<u>Original</u>	<u>Final</u>	<u>Actual</u>	
Locally Generated Non-Tax Revenue	\$ 463,059	\$ 456,766	\$ 460,435	\$ 3,669
Revenue from Other Governments	1,585	1,709	569	(1,140)
Revenue from Other Funds	<u>41,284</u>	<u>33,850</u>	<u>29,255</u>	<u>(4,595)</u>
Total Revenues	505,928	492,325	490,259	(2,066)
<u>Expenditures and Encumbrances</u>				
Personal Services	108,733	108,733	98,773	(9,959)
Pension Contributions	24,500	25,702	27,622	1,920
Other Employee Benefits	<u>29,969</u>	<u>28,767</u>	<u>28,658</u>	<u>(109)</u>
Sub-Total Employee Compensation	163,202	163,202	155,053	8,149
Purchase of Services	107,339	101,635	80,813	(20,822)
Materials and Supplies	47,598	39,810	34,016	(5,794)
Equipment	7,449	7,288	2,963	(4,325)
Contributions, Indemnities and Taxes	6,619	6,619	4,209	(2,410)
Debt Service - Principal	77,643	77,643	78,550	907
Debt Service - Interest	101,814	101,814	87,866	(13,948)
Short-Term Interest	1,500	1,500	1,500	(1,500)
Payments to Other Funds	<u>42,700</u>	<u>42,700</u>	<u>60,556</u>	<u>17,856</u>
Total Expenditures and Encumbrances	<u>555,864</u>	<u>542,211</u>	<u>504,026</u>	<u>(21,887)</u>
Operating Surplus (Deficit) for the Year	<u>(49,936)</u>	<u>(49,886)</u>	<u>(13,767)</u>	<u>36,119</u>
Fund Balance Available, July 1, 2005	-	-	0	-
<u>Operations in Respect to Prior Fiscal Years</u>				
Commitments Cancelled - Net			13,781	13,781
Prior Period Adjustments			<u>(14)</u>	<u>(14)</u>
Adjusted Fund Balance, July 1, 2005	<u>0</u>	<u>0</u>	<u>13,767</u>	<u>13,767</u>
Fund Balance Available, June 30, 2006	<u>(49,936)</u>	<u>(49,886)</u>	<u>0</u>	<u>(49,886)</u>

CITY OF PHILADELPHIA WATER DEPARTMENT

BONDED DEBT FOR FISCAL YEAR ENDED JUNE 30 2006

(amounts in thousands)

**FISCAL YEAR 2007
Debt**

Series	ORIGINAL AUTHORIZATION		Outstanding June 30,2006	Maturities	Interest Rates	FISCAL YEAR 2007		Outstanding June 30, 2007
	Date	Issued				Service Interest	Principal Requirements	
Revenue Bonds:								
Fourteenth Series	5/15/89 *	\$ 158,265	\$53,800	10/2005 to 10/2008	N.A.	\$	6,600	47,200
Series 1993	8/1/93 *	1,157,585	264,130	6/2006 to 6/2011	5.50 to 7.00	16,770	38,155	225,975
Series 1995	04/15/95	221,630	79,290	8/2005 to 8/2012	5.30 to 6.25	4,619	9,355	69,935
Series 1997 (A)	10/15/97	250,000	204,785	8/2005 to 8/2027	5.00 to 5.25	10,245	5,520	199,265
Series 1997 (B)	11/25/97	100,000	86,000	8/2005 to 8/2027	Variable	3,310	2,400	83,600
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	16,885	12/2005 to 12/2006	5.00	422	16,885	-
Series 2001	11/15/01	285,920	285,920	11/2011 to 11/2031	3.800 to 5.500	14,566	-	285,920
Series 2003	04/01/03	381,275	373,315	6/2006 to 6/2023	Variable	16,874	1,045	372,270
Series 2005 (A)	05/04/05	250,000	250,000	7/2006 to 7/2035	3.250 to 5.250	12,276	2,125	247,875
Series 2005 (B)	05/04/05	86,105	84,720	8/2005 to 8/2018	Variable	3,830	335	84,385
Pennvest	04/30/00	<u>6,700</u>	<u>1,793</u>	7/2005 to 4/2019	1.41 to 2.73	<u>44</u>	<u>420</u>	<u>1,373</u>
Total Revenue Bonds		<u>3,065,705</u>	<u>\$1,835,823</u>			<u>90,053</u>	<u>82,840</u>	<u>1,752,983</u>
General Obligation Bonds:								
Pennvest	06/15/93	<u>20,000</u>	<u>6,950</u>	07/2005 to 04/2012	1.00	<u>64</u>	<u>1,163</u>	<u>5,787</u>
Total Bonded Debt			<u>\$1,842,773</u>			<u>90,117</u>	<u>84,003</u>	<u>1,758,770</u>

* Partially Refunded

ANNUAL BONDED DEBT SERVICE REQUIREMENT:

Fiscal Year	Interest	Principal	Total
2005	85,049	71,897	156,946
2006	79,841	77,735	157,576
2007	76,109	81,542	157,651
2008	72,635	85,101	157,736
2009	69,298	88,509	157,808
2010	69,298	88,509	157,808

The First Series through the Thirteenth were refunded.

Capitalized Interest added to Construction in Progress in Fiscal 2004 was \$6,152,636.

Interest Expense was reduced by the same amount.

**SUPPLEMENTAL SCHEDULE OF RATE COVENANT COMPLIANCE FOR FISCAL YEAR ENDED
 JUNE 30, 2006 (Legally Enacted Basis)**

(amounts in thousands)

LINE NO.2006.....
1. Total Revenue and Beginning Fund Balance	\$490,259
2. Net Operating Expense	(270,480)
3. Transfer (To) From Rate Stabilization Fund	<u>(21,553)</u>
4. Net Revenues	<u>198,226</u>
5. Revenue Bonds Outstanding	(165,189)
6. General Obligation Bonds Outstanding	0
7. Pennvest Loan	<u>(1,227)</u>
8. Total Debt Service	<u>(166,416)</u>
9. Net Revenue after Debt Service	31,810
10. Transfer to General Fund	(4,994)
11. Transfer to Capital Fund	(16,954)
12. Transfer to Residual Fund	<u>(9,862)</u>
13. Total Transfers	<u>(31,810)</u>
14. Net Operating Balance for Current Year	<u>0</u>

The rate covenant contained in the General Ordinance requires the City to establish rates and charges for the use of the Water and Wastewater Systems sufficient to yield Net Revenues, as defined therein, in each fiscal year at least equal to 120%(coverage A) of the Debt Service Requirements for such fiscal year (excluding debt service due on any Subordinated Bonds). In addition, Net Revenues, in each fiscal year, must equal at least 100%(coverage B) of : (i) the Debt Service Requirements (including Debt Service Requirements in respect of Subordinated Bonds) payable in such fiscal year; (ii) amounts required to be deposited of Subordinated Bonds) payable in such fiscal year; (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 in 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	<u>\$198,226</u>
/ Line 5	<u>\$165,189</u>
= COVERAGE A:	1.20

COVERAGE B:

Line 4	<u>\$198,226</u>
/ Line 8 + Line 11	<u>\$183,370</u>
= COVERAGE B:	1.08

COVERAGE C:

Line 4 - Line 3	<u>\$219,779</u>
/ Line 5	<u>\$165,189</u>
= COVERAGE C:	<u>1.33</u>

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 6/30/06	\$ 0
Assets omitted from the legal basis:	
(1) Receivables from Other Governments or Funds	31,226
(2) Fixed Assets-Net of Depreciation	1,698,771
(3) Restricted Assets	545,791
(4) Proprietary Portion of Net Pension Obligation	<u>64,118</u>
	\$ <u>2,380,488</u>
Liabilities omitted from the legal basis:	
(5) Construction Contracts Payable	(7,038)
(6) Other Current Liabilities	(109,606)
(7) Bonds Payable and Other Long-Term Debt	<u>(1,690,787)</u>
	<u>(1,807,431)</u>
Fund Balance accounts included in the legal basis:	
(8) Reserve for Collectible Receivables	67,087
(9) Reserve for Inventories	14,641
(10) Reserve for Purchase Commitments	<u>36,342</u>
	<u>118,070</u>
Equity accounts omitted from the legal basis:	
(11) Invested in Capital Assets, Net of Related Debt	(94,959)
(12) Restricted for Capital Projects	(51,989)
(13) Restricted for Debt Service	(174,332)
(14) Restricted for Rate Stabilization	<u>(153,910)</u>
	<u>(475,191)</u>
Unrestricted Net Assets – GAAP Basis – 6/30/2006	<u>\$175,354</u>

C. Water Account

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

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

D. Pledge of Revenues

Section 4.02 and 4.04 of The 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 for Capital Purposes

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 2006 was \$2,809,355.

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, 2006 are included in accounts receivable. In addition an amount for services rendered through June 30, 2006, 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 2006, 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, 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	<u>16,124,893</u>

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	<u>10,790,077</u>

Total **\$78,634,265**

FISCAL YEAR ENDED JUNE 30, 2005

Accounts Receivable:

Billed in the Last Twelve Months	\$ 90,759,952
Billed in 15-year Cycle Billing	61,383,699
Penalties on Receivables	31,373,383
Other Receivables	<u>15,720,576</u>

Total **\$199,237,610**

Bad Debts Written Off \$ 21,088,811

ALLOWANCE FOR DOUBTFUL ACCOUNTS:

Billed in the Last Twelve Months	\$ 0
Billed in 15-year Cycle Billing	62,946,828
Penalties on Receivables	22,273,182
Other Receivables	<u>11,413,017</u>

TOTAL **\$96,633,027**

4. PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment at June 30, 2006 and 2005 consisted of the following:

Fiscal Years Ended	June 30, 2006	June 30, 2005
Land	\$ 5,919,160	\$ 5,919,160
Buildings and related improvements	1,342,281,174	1,301,630,732
Meters and other improvements	79,574,255	78,119,495
Equipment	48,418,422	51,752,814
Transmission and distribution lines	1,672,887,106	1,662,858,187
Construction in progress	<u>146,831,322</u>	<u>127,140,405</u>
Total	\$3,295,911,439	\$3,227,420,793
Less: Accumulated Depreciation	<u>(1,597,138,725)</u>	<u>(1,531,943,476)</u>
Total	<u>\$1,698,772,714</u>	<u>\$1,695,477,317</u>

5. 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 2006 was \$9,339,210 and in 2005 was \$9,463,251. The expense for vacation pay is recognized in the year earned.

6. 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.

7. CAPITALIZED LEASES

Leases consist of \$2,427,859 in photocopier and computer equipment in Fiscal 2006. Capital leases are defined by the Financial Accounting Standard Board in Statement 13, Accounting for Leases.

8. 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 2006 the fund had the following activity:

Balance at July 1, 2005	\$128,902,508
Deposit from Operating Fund	21,552,885
Transfer to Operating Fund	0
Interest Earnings	<u>3,454,417</u>
Balance at June 30, 2006	<u>\$153,909,810</u>

9. 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, 2006, 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.

10. 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.

11. 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, \$22.9 million of bonds outstanding was considered defeased.

In May 2005, the City issued \$86.1 million of Water and Wastewater Revenue refunding Series 2005B bonds. The proceeds of the bonds were used to refund a portion of the 1995 Series Water and Wastewater Revenue Bonds maturing from 2014 through 2019 in the amount of \$80.7 million. The cash flows required by the new bonds are \$18 million less than the cash flows required by the refunded bonds. This early extinguishing of debt resulted in an accounting loss of approximately \$3.9 million representing the difference between the reacquisition price of \$84.6 million and the amount of debt extinguished of \$80.7 million (less \$.076 million unamortized discount). The resulting loss will be amortized over the life of the refunded bonds at a rate of \$543,433 annually through February 2013.

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 lesser of the actual bond rate or 68.5% of the London Interbank Offered Rate (LIBOR). The swap rate was set at a rate that, based on the swap notional amount and when added to an assumption for remarketing, liquidity costs and cost of issuance will approximate the debt service of the “refunded bonds.” The swap has a notional amount of \$373.3 million and the associated variable-rate bond has a \$373.3 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, 2006 rates were as follows:

	<u>Terms</u>	<u>Rates</u>
Interest Rate Swap		
Fixed payment to Citigroup	Fixed	4.52%
Variable payment from Citigroup	Actual Bond Rate	(3.96%)
Net Interest Rate Swap payments		0.56%
Variable Rate bond coupon payments	Market Driven	3.96%
Synthetic interest rate on bonds		4.52%

Fair Value: As of June 30, 2006, the swap had a negative fair value of \$17.4 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, 2006 the City is not exposed to credit risk because the swap had neither negative fair value nor basis risk since Citigroup’s payments are currently based on the actual bond rate paid on the variable-rate bonds. 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, 2006, 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 <u>June 30</u>	Variable Rate Bonds		Interest Rate	<u>Total Interest</u>
	<u>Principal</u>	<u>Interest</u>	<u>Swaps Net</u>	
2007	\$1,045,000	\$15,395,796	\$2,177,183	\$17,572,979
2008	1,095,000	15,352,524	2,171,064	17,523,588
2009	1,145,000	15,307,190	2,164,653	17,471,843
2010	1,205,000	15,259,761	2,157,946	17,417,707
2011	1,260,000	15,209,873	2,150,891	17,360,764
2012 - 2016	275,500,000	57,059,681	8,069,046	65,128,727
2017 - 2021	62,440,000	13,891,342	1,964,432	15,855,774
2022 - 2026	<u>29,625,000</u>	<u>1,749,825</u>	<u>247,450</u>	<u>1,997,275</u>
	\$373,315,000	\$149,225,992	\$21,102,665	\$170,328,657

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. If the swap is exercised, the swap will also commence on May 4, 2005. Under the swap, the City pays a fixed payment of 4.53% and receives a variable payment computed as the lesser of the actual bond rate or 68.5% of the London Interbank Offered Rate (LIBOR) which were set at rates that were based on the swap notional amount and when added to an assumption for remarketing, liquidity costs and cost of issuance will approximate the debt service of the “refunded bonds.” The swap has 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 May 4, 2025. As of June 30, 2006, the rates were as follows:

	<u>Terms</u>	<u>Rates</u>
Interest Rate Swap		
Fixed payment to Citigroup	Fixed	4.53%
Variable payment from Citigroup	Actual Bond Rate	(3.95%)
Net Interest Rate Swap payments		0.58%
Variable Rate bond coupon payments	Market Driven	3.95%
Synthetic interest rate on bonds		4.53%

Fair value: As of June 30, 2006, the swaption had a negative fair value of \$5.6 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, 2006 the City is not exposed to credit risk because the swap had neither negative fair value nor basis risk since Citigroup's payments are currently based on the actual bond rate paid on the variable-rate bonds. 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, 2006, 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 <u>June 30</u>	Variable Rate Bonds <u>Principal</u>	Variable Rate Bonds <u>Interest</u>	Interest Rate <u>Swaps Net</u>	<u>Total Interest</u>
2007	\$ 0	\$ 3,333,208	\$ 489,433	\$ 3,822,641
2008	350,000	3,320,535	487,572	3,808,107
2009	370,000	3,305,985	485,436	3,791,421
2010	390,000	3,290,646	483,183	3,773,829
2011	405,000	3,274,698	480,842	3,755,540
2012 - 2016	47,545,000	12,740,412	1,870,744	14,611,156
2017 - 2021	<u>35,325,000</u>	<u>840,906</u>	<u>123,475</u>	<u>974,381</u>
	<u>84,385,000</u>	<u>30,106,390</u>	<u>4,420,685</u>	<u>34,527,075</u>

12. 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, 2005 was as follows:

Employee Group	Number
Retirees and beneficiaries	
Currently receiving benefits	35,443
Terminated members entitled to	

Benefits but not yet receiving them	802
Active members	<u>27,992</u>
Total Members	<u>64,237</u>

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 \$384.5 million or 29.8 % of covered payroll of \$1,291.0 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:

Annual Required Contribution (ARC)	394,950
Interest on Net Pension Obligation (NPO)	(82,068)
Adjustment to ARC	<u>113,135</u>
Annual Pension Cost	426,017
Contributions Made	<u>331,765</u>
Increase in NPO	94,252
NPO at beginning of year	(911,866)
NPO at end of year	(817,614)
Interest Rate	9.00 %
15 Year amortization Factor (EOY)	8.06 %

The actuarial valuation that was used to compute the current year's required contribution was performed as of July 1, 2004. 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 9%
- Projected annual salary increases of 5% (including inflation)
- Annual inflation of 3.5%
- No post-retirement benefit increases

Under the City's funding policy, the recommended contribution for the City for the current year amounted to \$395.0 million. The City's actual contribution was \$331.8 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 (In Millions)	Percentage Contributed	Net Pension Obligation (In Millions)
2004	291.1	69.68%	(1,005.0)
2005	392.3	76.27%	(911.9)
2006	426.0	77.88%	(817.6)

(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.

13. 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 4,754 eligible retirees amounted to \$43.5 million and \$4.1 million respectively.

14. 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.

15. 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.

APPENDIX II
ENGINEERING REPORT

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March 2, 2007

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

Dear Mr. Jannetti:

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 issuance of Water and Wastewater Revenue Refunding Bonds, Series 2007A, and Water and Wastewater Revenue Refunding Bonds, Series 2007B, collectively, the "Bonds." Unless otherwise indicated, capitalized terms used but not defined herein shall have the same meanings assigned to such terms in the General Ordinance.

This report provides an updated status of the operations and financial projections of the Water Department of the City of Philadelphia relative to our Engineering Report dated April 8, 2005, prepared in conjunction with the issuance of Water and Wastewater Revenue Bonds, Series 2005A, and Water and Wastewater Revenue Refunding Bonds, Series 2005B. This report, in conjunction with the aforementioned document, constitutes the Engineering Report for the issuance of the Bonds.

In the preparation of this report, we conducted personal interviews with key Water Department operating, engineering, and financial staff during the months of May 2006, September 2006 and February 2007. Such interviews included discussion of significant events, changes in operations, regulatory compliance, updates to the capital improvement program, and financial impacts which the Water Department has experienced since the completion of the aforementioned Engineering Report. An updated summary table of projected revenues and revenue requirements for the Water Department for the period of fiscal years 2007 through 2013 is shown at the end of this report.

Subject to the limitations set forth herein, this report was prepared for the City of Philadelphia 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 us, 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 to the extent that such information, data, or opinions were based on information provided by others.

Organization and Management

The Water Department is organized in a manner which provides for efficient system operation and maintenance. The divisional and sub-divisional 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 seasoned Water Department professionals and succession planning for future retirements is in place. The Water Department's management professionals have a current average of over 25 years of experience.

While the City-wide hiring freeze that was implemented in 2002 remains in effect, because of the separate funding and critical nature of the Water Department, waivers for the hiring of Water Department staff have generally been granted. While this has not caused any significant problems to date, the Water Department continues to review its maintenance program and the impact of potential failures on its operations and performance. The Operations Division has been able to maintain services within the approved overtime budget, and has developed a recruiting plan with local trade schools for hiring staff in the various trades in exempt Co-op/Apprentice positions, and hopefully retain them as full-time employees of the City when their training is completed.

In this day of heightened security concerns, the Water Department continues to implement improvements at all of its facilities. It is using the recommendations contained in the vulnerability assessments that were conducted, along with its normal security initiatives, to make facilities more secure from vandalism or terrorist actions. Included in these improvements are several items discussed in more detail later in this report, including completion of the final sodium hypochlorite system to eliminate liquid chlorine at all facilities, development and implementation of an early warning system on both rivers above the plant intakes, and a monitoring system throughout the distribution system. Designs are underway to implement other recommended improvements.

Water System

On December 15, 2005 the United States Environmental Protection Agency (USEPA) promulgated two new Rules under the Safe Drinking Water Act which will require the Water Department to meet additional requirements for monitoring and water quality. The Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) and the Stage 2 Disinfectants and Disinfection Byproducts Rule (Stage 2 DBPR) both build upon earlier rules to address higher risk public water systems for protection measures beyond those required for existing regulations. These rules strengthen protection against microbial contaminants, especially *Cryptosporidium*, and at the same time, reduce potential health risks of Disinfection Byproducts (DBPs). These Rules were promulgated simultaneously to address concerns about risk tradeoffs between pathogens and DBPs.

The Water Department has been proactive in reviewing and commenting as these rules were being developed, monitoring the development of these rules, and has been evaluating and implementing additional laboratory testing, source and finished water monitoring, and pilot plant testing to determine its alternatives

for compliance with these new rules. The pilot plants are essentially miniature water treatment plants that allow the Water Department to study and test the impact of modifications to water treatment procedures prior to moving forward with system-wide changes. As a result, the Water Department is well positioned to comply with the rules. It has already submitted the required data for the LT2ESWTR and is expecting to meet the rules. Regarding the Stage 2 DBPR, the Water Department is currently performing pilot testing for Total Organic Carbon (TOC) removal and expects to effectively meet the regulatory deadline of 2012.

The Water Department previously conducted pilot plant studies to evaluate the impact of moving the points of chlorine addition to the treatment process and determined that removal of manganese could be adversely impacted under some of the treatment schemes. In an effort to better understand its options, the Water Department applied for and recently completed a project partially funded by American Water Works Association Research Foundation (AwwaRF) on the "Occurrence of Manganese in Drinking Water and Benefits of Enhanced Manganese Control." The results from this research program indicate that problems associated with manganese are much more common than previously thought, and that a target level to minimize consumer problems would be 0.02 mg/L, which is lower than the current USEPA Secondary Standard of 0.05 mg/L.

Furthermore, to optimize the control of manganese and DBP precursors, the Water Department is currently involved in a research project sponsored by AwwaRF targeting the manganese removal through biofiltration. The research studies the benefits of living bacteria on filter media using manganese and DBP precursors, such as dissolved organic matter (DOM), as their main source of nutrients and blocking their passage to the treatment process. After this research, the Water Department will better understand how to control manganese when future water treatment process changes are made to further reduce the level of DBPs in the distribution system.

In 2006 the Water Department's pilot plant studies have focused on the effectiveness of coagulants other than ferric chloride, which the Water Department has used as a coagulant in the water treatment process. Due to changes in the coagulant marketplace, it has become important for the Water Department to evaluate alternative coagulants and determine their suitability in comparison to ferric chloride on the basis of performance and cost. The testing for coagulant alternatives is completed and the report is being finalized. The pilot plant studies are enabling the Water Department to optimize coagulant use in the face of increased regulatory requirements and increasing coagulant costs.

The Water Department continues to consistently meet all requirements of the Safe Drinking Water Act. All three water treatment plants continue to maintain Partnership for Safe Water Phase III performance levels, and in 2005 the Water Department received the EPA Directors Award for maintaining this level of performance for five consecutive years, one of only 37 utilities in the United States to achieve this Award.

The Water Department, which is on a reduced Lead and Copper Rule sampling schedule of every three years based on its compliance record, collected samples from customer's homes in 2005 and once again demonstrated compliance with the requirements of this rule. The Water Department held a Workshop with corrosion experts to provide an independent review of its corrosion control program, and several recommendations developed during this process are being implemented. One of these was to address the problem that over time the Water Department has had a decrease in the number of homes which satisfy the requirements for sampling established by this rule. For this latest round of testing it has added houses to

reestablish a representative sampling pool. As a result, more than 90 percent of houses were recorded with samples lower than 15 parts per billion.

The Water Department has developed and implemented a partnership with a number of utilities on the Schuylkill and Delaware River watershed that has resulted in a rapid communications network and the installation of continuous water quality monitors to provide real-time monitoring and notification of water quality problems on these rivers. In an effort to provide information to the public which uses the Philadelphia section of the Schuylkill River for recreational purposes, the City developed an algorithm from its historic river water quality database to provide a general rating of river water quality, and have made this available on the web at www.PhillyRiverCast.org.

The Water Department is involved in extensive efforts to enhance the water quality of the Schuylkill and Delaware Rivers. A skimmer vessel is being utilized to skim debris from the river to preserve riverfront aesthetics. Mostly, the removal of floating debris takes place after rain events. The skimmer vessels are owned by the Water Department and are under contract operations. Upstream of the dam at the Fairmont Water Works Park, the Water Department also owns a Pontoon Boat to manually remove small debris and in shallow sections of the Schuylkill River. The operation of this boat is currently in the bidding phase.

This source water quality monitoring and notification system was actually put to good use on June 14, 2006, when the Water Department was alerted by PADEP of an unusual fish kill upstream in the Wissahickon. The early warning system (EWS), which was designed and built, and is operated by the Water Department, functioned as intended. The intakes for Belmont and Queen Lane were closed due to rapid and sustained mobilization of Water Department staff and a potential water quality issue was avoided. Because of existing protocols and procedures, communication with City and State agencies was rapid and collaborative, particularly with the Department of Public Health. The Water Department, along with the EPA, is working with the City to engage in projects environmentally beneficial to the region similar to the previously implemented early warning system.

To further insure the safety and quality of the City's drinking water, the Water Department has evaluated a number of continuous on-line water quality monitoring instruments over the past few years, and has installed a number of them at the water treatment plants and throughout the distribution system. These systems provide the Water Department with the ability to track real-time water quality conditions at selected locations throughout the City's water distribution system and to monitor variations should they occur. Data is transmitted from each site to the Water Department's central laboratory where it is monitored for early warning signs of water quality deterioration and it documents any unforeseen changes. There are currently 14 remote sites and 5 radio repeater locations in the system, with plans to install 4 additional monitoring stations within the next year.

At the Baxter plant, the two phases of converting the plant from liquid chlorine to sodium hypochlorite were completed in June 2005 and June 2006. The roof drainage system on the finished water storage basins rehabilitation project is near completion. The basins are almost ready for disinfection and are expected to return to service in March 2007. A project to dredge the raw water basin has been developed and contracts have been awarded. The Notice to Proceed to the contractor is expected to be given in the near future.

Installation of new sulfuric acid and sodium hydroxide storage and feed systems, and replacement of all chemical dosing and sampling lines throughout the Queen Lane plant have been completed, except for two chemicals which must be run under Fox Street. The chemical feed system projects are expected to be completed by the end of 2007. Replacement and upgrade of the plant's Distributed Control System has been completed, and modifications to provide more flexibility for reporting are currently being made. The raw water basin tunnel access and East Park slope repairs are under construction.

At the Belmont plant the new sodium hypochlorite system was completed and placed in service in May 2006. This is the final facility that was still using liquid chlorine. Following the testing and evaluation of the new system throughout the fall of 2006, it was accepted and the use of liquid chlorine was phased out. In February 2007 all liquid chlorine was successfully removed from the plant. To optimize planning and resources, the Water Department is scheduling to upgrade the pump station at the Queen Lane plant before replacing the electrical switchgear at the Belmont plant. Project completion is expected in 2008-2009. Several other miscellaneous improvements are also underway such as the ammonia and zinc-phosphate feed system, the sulfuric acid redesign, the raw water carbon - potassium permanganate dosing piping and some minor repairs.

The Load Control Unit, which operates the water distribution system, was able to achieve savings in operational costs through adjustments in operating procedures. During 2006 the Load Control Unit reduced the total peak kilowatt billing demand by 9.3 percent, and the total pumping cost by 3.3 percent, compared to the previous five year period.

The Water Department conducted leak surveys on 1,113 miles of pipe in 2006, and identified and abated 29.1 million gallons per day of leakage. The Infrastructure Leakage Index for 2006 was the lowest annual level in the seven years it has been tracked, and was 18.7 percent lower than the average of the previous six year period.

During 2006 the unauthorized hydrant use was significantly reduced, being only 24 percent of the average of the previous six years. This is attributed to the Water Department's long-term efforts to install locking devices on hydrants in problem areas and provide low-flow spray nozzles to discourage illegal hydrant usage. Additionally, the Water Department's Revenue Protection Program continues to pursue targeted accounts where there is potential to increase revenue. In 2006 this program was successful in recovering an additional 1.01 million gallons per day, with a resulting revenue increase of \$1,413,000.

The Water Department is a participating utility in a current AwwaRF project on "Leakage Management Strategies," which is investigating a number of leakage control methods. The Water Department has installed instrumentation in a small area of the distribution system to evaluate leakage as a function of distribution system water pressure, and adjust the pressure within this study area and measure its impact on leakage. Preliminary measurements indicate that this technique has the potential to considerably reduce the leakage in this area. The Water Department is also investigating a very accurate internal leak detection system for large diameter transmission pipelines. These projects are assisting the Water Department in continuing to implement progressive approaches to water loss control. The Water Department has reduced its non-revenue water by over 40 percent in the past 13 years and has become a recognized leader in the water industry in this area of water supply management.

The success of the Water Department's residential Automatic Meter Reading (AMR) program has been precedent-setting in the water utility industry. Estimated meter readings, which once accounted for 90 percent of all reads, have now been reduced to below three percent. The Water Department has installed AMR equipment in nearly 468,000 residential accounts and is receiving automatic meter readings, every month, in 99 percent of those accounts. Over the past few years the Water Department has been working on bringing this same level of outstanding customer service to its large meter commercial and industrial accounts. Having already completed the installation of AMR in 86 percent of its industrial and commercial accounts, the Water Department is in the process this year of providing AMR services to the remaining 1,885 large meter accounts.

The full-scale conversion of citywide water and sewer assets into a Graphical Information System (GIS) database was completed in FY 2005 at a cost of \$7 million. The GIS system data has been under full maintenance by in-house staff since August 2005. The GIS spatially displays (computer generated maps) Water Department infrastructure. The linkages of the data to operations, maintenance, engineering, and construction data provide a strong foundation for a fully integrated asset management system. Quick access to utility infrastructure data supported by GIS facilitates timely management decisions, thereby increasing productivity and reducing risk. For the first time in its history, the Water Department has a comprehensive database of water and wastewater assets. Engineering data for over 6,620 miles of water, wastewater and storm water pipes, as well as data from over 250,000 engineering documents are contained in the GIS system.

Wastewater System

The three Water Pollution Control Plants (WPCPs) have maintained high levels of treatment such that they received Gold awards from the Association of Metropolitan Sewerage Agencies (AMSA) reflecting perfect compliance with their National Pollution Discharge Elimination System (NPDES) permits in 2005. In 2004, the Southeast WPCP received a Platinum Award representing zero NPDES permit violations for five consecutive years covering the period of 2000 through 2004. Only 23 other wastewater treatment plants in the nation have received this award. All three WPCPs are also eligible for the 2006 Gold award from the National Association of Clean Water Agencies (NACWA), formerly AMSA.

The Water Department has negotiated draft NPDES permits with the PADEP for the next five years, which are now out for public review and comment. The permits will be published 30 days after closure of public reviews, which is expected in end of March 2007. The Water Department does not anticipate substantial changes. These new permits include the Phase II requirements of the Water Department's Combined Sewer Overflow plan, which requires that additional watershed based projects be implemented and that additional combined sewer flows be treated at the WPCPs to further reduce overflows to the smaller tributary streams in the watersheds. To comply with the permit requirement, the Water Department is planning to increase the hydraulic capacity of the Northeast WPCP to provide primary and secondary treatment for 435 million gallons per day (mgd) of flow. The Water Department is also evaluating the feasibility of increasing primary treatment and disinfection of an additional 100 mgd of flow during wet weather events. This project is currently in the planning phase with two different consultants; one responsible for the improvements to the conveyance of flow to the Northeast WPCP and the other responsible for the necessary upgrades at the plant.

During the past year the Northeast WPCP completed the rehabilitation of the secondary treatment aeration system, allowing for a more efficient use of air and better control of the secondary treatment process. Replacement of the six bar screens on the Low Level Sewers and two bar screens on the High Level Sewers was completed early in 2006. Designs for removing the discharge of the street drains to the effluent conduit and replacement of the Blower Building electrical switchgear are being developed.

To minimize the digester gas emission level at the Northeast WPCP, the Water Department received a \$500,000 grant for the design and construction of the Beneficial Use of Digester Gas project. The project consists of selling and transferring excess digester gas to Philadelphia Gas Works (PGW) for use at other municipal facilities. Construction of facilities to cleanup the digester gas and a transmission pipeline are included in the project. The capital costs of the project are estimated at \$2,500,000, with projected net operating savings of \$1,300,000 annually which provides a payback period of approximately 2 years.

At the Southeast WPCP, modifications to the rotating scum pipes and replacement of the actuators and telescoping valves on the final clarifiers has been completed. A feasibility analysis related to the sludge force mains between the Southeast and Southwest WPCPs is currently being conducted. The permanent sodium hypochlorite facilities have been completed, and replacement of the primary tank chain and flights is more than 90 percent complete. Rehabilitation of the HVAC in the southern part of the plant is substantially complete.

Rehabilitation of the primary tank collection equipment, plant water electrical system, plant side HVAC system, updating the plant phone system, and replacement of the hydrogritter assemblies have all been completed at the Southwest WPCP. Inspection and rehabilitation of the rotating assemblies on all of the Cryogenic Plant main air compressors has been completed. The work on replacing the return sludge pumps is also about 90% complete. Designs for rehabilitating the final tank collection equipment and the piping and controls at the liquid oxygen storage facility have been completed. Both contracts were awarded to contractors and construction has begun on the final tank collection equipment rehabilitation project.

To implement the Water Department's long-term strategy to produce only Class A material at its Biosolids Recycling Center (BRC), and following an economic evaluation that this could be done more cost-effectively by a private contractor, the Water Department solicited and received proposals, and negotiated a contract to retain a contractor to operate and dispose of solids produced at the BRC. To allow this contract to be awarded, the Philadelphia City Council must authorize certain agencies to engage in a long-term contract with the contractor. The ordinances necessary for this action have been submitted to the City Council Committees, the Water Commissioner has met with the Committees, and the Water Department is awaiting further action by the Committees on these ordinances. In the interim, the Water Department plans to continue with operation of the BRC, minimizing the volume of compost produced. In March 2007, the Water Department will stop composting and will dispose of more material in landfills until the contractor can assume operation of the facility and install new, more efficient drying equipment.

The PADEP issued the Water Department a new stormwater permit effective September 30, 2005. Two items from the permit were appealed and have now been completely settled and resolved and incorporated into the Water Department's new permit. 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 down possible sources of PCB contamination into the storm sewer system. The Water Department has implemented these new requirements and is in full compliance with this new permit.

The Office of Watersheds is completing the preparation of a database and report detailing all Combined Sewer Overflow and Stormwater projects to improve or remediate problems that it has been involved with since this program was initiated. The information includes a case study write-up on each project with cross-reference to the funding source(s), project partners, initial problem and benefits of the project, the project contact person, and a map showing the watershed area of impact.

The Water Department Office of Watersheds, along with other Southeastern Pennsylvania environmental organizations, has developed a program to recognize projects by landscape architects, engineers, developers, university students, homeowners, or anyone else which utilize innovative stormwater management practices that help to protect the greater Delaware Valley watersheds. The Awards were developed to promote and inspire stormwater Best Management Practices, and increase awareness and understanding of stormwater management. Projects considered for the awards can either be in design or already implemented, and must demonstrate water quality improvement and stormwater runoff reduction.

Capital Improvement Program

The Water Department is concluding a three year study program to develop and implement a new Sewer Assessment Program (SAP) for its more than 3,000 miles of sanitary, combined and storm sewers, which will become an ongoing part of the Water Department's capital improvement and operations and maintenance efforts. The SAP provides the Water Department with a well-documented, technically sound, and uniform assessment and evaluation procedure to inspect and assess the condition of the sewers. The information on each sewer segment is maintained in a new electronic GIS-based database, including digital and video records taken during the inspections.

The implementation of the SAP has resulted in the development of a number of planned and actual changes to the Water Department's procedures for frequency and prioritization of inspections, as well as development of a pre-inspection program utilizing portable zoom cameras. A protocol was also developed for immediately reviewing high priority segments identified during inspections as having major defects or concerns in order to take concrete action before they become emergencies. The project also included training the City personnel and field testing the SAP techniques in several areas in the City. This resulted in the inspection, documentation and evaluation of more than 215 miles of combined, sanitary and storm sewers of all material types and sizes to program, and the new process was deemed to be very workable and highly successful.

The Water Department has developed a plan to provide emergency back-up power for all of its critical operating facilities. The need to assure the availability of water service for fire fighting, hospitals and residential health and sanitary uses, as well as the need to treat wastewater flows to prevent unhealthy conditions in the streams and rivers around the City require a dependable and functioning water and wastewater system. Following the unprecedented multi-state power outage in August 2003, this need was made even more urgent, and the Water Department initiated a study to develop the needs and costs, and a

prioritized, phased program to provide emergency power to assure reliable water supply and wastewater treatment during future electrical power outages. The Northeast and Southwest Water Pollution Control Plants already have standby electrical co-generation facilities that can be operated during a citywide power outage. Backup power for the Belmont high service pump station will be finalized and in place early March 2007. The remaining four pump stations at the Baxter plant, Belmont plant, East Oak Lane and Fox Chase are currently in the design phase for emergency backup power.

Overall, the proposed capital program for the fiscal years 2008 through 2013 reflects similar levels of anticipated annual encumbrances for water and wastewater treatment plant improvements, water conveyance system improvements, and wastewater collection system improvements as the levels shown in the capital program for the fiscal years 2005 through 2010, which was recognized in our Engineering Report dated April 8, 2005. The level of projected encumbrances in the capital program for the fiscal years 2008 through 2013 for storm flood relief and combined sewer overflow (CSO) projects, however, has increased significantly increasing from a total six year encumbrance of \$24,000,000 shown in the Engineering Report to a total six year encumbrance of \$260,000,000 for the fiscal year 2008 through 2013 capital program. The projects included in the new six year capital program are related to the mitigation of flooding in certain areas of the City and to provide funding for the storage basins at Venice Island and the Poquessing PC-30 outfall. The capital budget for stormwater projects also include other important storm flood and CSO projects as required by the Water Department's discharge permits or as otherwise determined to be necessary to meet the Water Department's obligations.

Financial Requirements

An update of the evaluation of the adequacy of revenues to meet projected revenue requirements was made for the fiscal years ending June 30, 2007 through June 30, 2013 and is summarized in Table A, attached at the end of this update report. Table A is an update of the financial projections summarized in Table VI-8 of our Engineering Report dated April 8, 2005, which covered the period of fiscal years ending June 30, 2005 through June 30, 2010. The financial data used in the analyses presented in Table A of this report, were obtained from the Water Department's historical financial statements through fiscal year 2006, the latest available estimates for fiscal year 2007, and the operating and capital budgets for fiscal year 2008.

From a financial operations perspective, several positive activities and changes have occurred relative to those set forth in the Engineering Report dated April 8, 2005. An overall rate increase of approximately 13 percent had been adopted effective February 1, 2005 just before the completion of the Engineering Report. Subsequent increases in water and wastewater rates have subsequently been adopted to become effective August 1, 2005, July 1, 2006, and July 1, 2007. The indicated impacts of these adopted increases on a typical residential customer amount to 1.9 percent, 6.7 percent, and 4.2 percent, respectively. Projected revenues in the updated summary of projected revenues and revenue requirements for the Water Department recognize these adopted increases. Collection of projected billings reflects a continuation of the overall collection assumptions utilized in the Engineering Report.

In addition, from a revenue perspective, a settlement was reached with the Bucks County Water and Sewer Authority and an amended contract was entered into for the provision of wastewater service. The amended contract provided for additional capacity to Bucks County as well as for two significant payments to recognize previous contract exceedances in flow as well as the capital investment associated with the

increased contract capacity. On May 30, 2005 a payment was received from Bucks County in the amount of \$9,000,000, and on August 1, 2005 a payment of \$9,639,000 was received.

The City is currently in the process of implementing a new water and wastewater billing system. The current implementation schedule provides for performance testing in May 2007, with further system configuration, testing, and training taking place during the balance of 2007. The targeted date for system implementation is early in calendar 2008. Approximately \$18 million has been expended to date on the new billing system, approximately \$5 million of which has been provided by general fund departments that will be using Oracle seat licenses and the hardware for other applications. It is expected that the new billing system will be completed within the \$6.5 million budget originally designated for completing the billing system implementation.

For purposes of projecting annual operation and maintenance expenses in the Engineering Report dated April 8, 2005, the Water Department's Operating Budget for fiscal year 2005 served as the "base year" for our projections. Projected operation and maintenance expenses for fiscal year 2007, as shown in Table A, are based upon the Water Department's estimate of expenses for fiscal year 2007, as reflected in the operating budget documents for fiscal year 2008. This estimate for fiscal year 2007 is approximately \$3.1 million more than that which was projected in the Engineering Report for that year.

Using the fiscal year 2008 operating budget as a base for future projections, reflecting increases in future operating expenses for personal services and other cost categories due to inflation beyond fiscal year 2008, and analyzing historical actual to budget expenditure trends, the total projected operation and maintenance expenses for fiscal years 2008 through 2010 average approximately \$18.0 million higher per year as compared to the projections in the Engineering Report for those same three years. This increase is attributable to significant increases in the level of fringe benefits expenses reflected in the fiscal year 2008 budget, the addition of the backwater valve installation program (\$3.0 million), and significant increases in chemicals (\$2.3 million), sludge disposal (\$5.9 million), and repair and maintenance costs (\$2.3 million). The overall level of fringe benefits recognized in the projections in the Engineering Report, as a percentage of personal services costs, amounted to approximately 49.6 percent. This compares to a comparable level of 64.6 percent in the fiscal year 2008 budget.

The actual debt service on the Series 2005A and Series 2005B Bonds are recognized in the updated summary of projected revenues and revenue requirements for the Water Department shown in the attached Table A. The actual annual debt service payments are approximately \$1,200,000 less than the projected debt service on these Bonds in the Engineering Report, basically due to overall lower interest rates on the Bonds relative to our assumptions.

Based upon the proposed capital improvement program for the fiscal years 2008 through 2013, and the expected level of capital expenditures which can be processed by the Water Department, it is now anticipated that the proposed issue of \$325 million in Water and Wastewater Revenue Bonds will occur in the middle of fiscal year 2008. The authorized principal amount of the Water and Wastewater Revenue Bonds is \$25 million more than the level of anticipated bonds reflected in the Engineering Report dated April 8, 2005. The proposed debt service on these bonds are based upon an equal annual principal and interest payment, interest rate of 5.0 percent, capitalized interest for one year, and a thirty year maturity schedule. A second bond issue during the study period shown in the updated projection of revenues and

revenue requirements of \$350 million is projected to be required in fourth quarter of fiscal year 2011. The projected debt service requirements on this proposed issue are the same as those for the bond issue in fiscal year 2008.

Also recognized in the updated projections of revenues and revenue requirement are the various fund balances as of June 30, 2006, reflecting the actual year-end transfers which occurred during the November 2006 time frame, once the books were officially closed for fiscal year 2006. Two of the key balances shown in the cash flow table of revenues and revenue requirements are the Rate Stabilization Fund and the Residual Fund balances. The actual balances recognized in Table A are \$115,372,000 for the Rate Stabilization Fund and \$5,000 for the Residual Fund. These compare to the projected balances of \$59,316,000 in the Rate Stabilization Fund and \$4,211,000 in the Residual Fund as shown in the Engineering Report.

The overall increases in revenue projected for the fiscal years 2009 and 2010 in the updated revenue and revenue requirement projections, taking into consideration the changes outlined above, amount to 10.00 percent in fiscal year 2009 and 7.00 percent in fiscal year 2010. These compare to the increases of 10.90 percent in fiscal year 2009 and 3.00 percent in fiscal year 2010 shown in the Engineering Report. Projections of revenues and revenue requirements beyond fiscal year 2010 were not shown in the Engineering Report.

Statements and Conclusions

In conducting our analyses and in forming an opinion of the projection of future operations summarized in this report, Black & Veatch Corporation (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 analyses follows generally accepted practices for such projections. Such assumptions and methodologies are summarized in this report and are reasonable and appropriate for the purpose for which they are used. While Black & Veatch believes the assumptions are reasonable and the projection methodology valid, actual results may differ materially from those projected, as influenced by the conditions, events, and circumstances that actually occur.

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

1. Based on onsite physical inspections and investigations of major system facilities, conducted in February 2005, combined with discussions with Water Department staff at that time, as supplemented with additional inspections, interviews, and discussions with staff in May 2006, September 2006 and February 2007, 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 will provide the funds necessary to ensure that this goal is achieved.
2. Proceeds from the Bonds will be applied to: (i) refund and redeem all or any portion of the outstanding City of Philadelphia, Pennsylvania, Water and Wastewater Revenue Bonds, including,

without limitation, the Series 1997A Bonds and the Series 2001A Bonds; (ii) if applicable, pay the costs of Enhancement Agreements and/or costs related to any Qualified Swap; and (iii) pay the necessary deposits and issuance costs of the Bonds.

3. Project Revenues pledged to secure the Bonds 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 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 an 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 Covenants set forth in Section 5.01 of the General Ordinance.

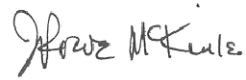
The Project Revenues forming the basis for this projection comply with the requirements of the definition of "Project Revenues" contained in Section 2 of the Act.

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 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 are projected to be at least 90 percent of the Debt Service Requirements (excluding debt service due on Subordinated Bonds) in such fiscal year. The levels of additional service revenue projected for the study period will provide for the debt service coverage and requirements of the FGIC and FSA agreements.

Very truly yours,

BLACK & VEATCH CORPORATION

A handwritten signature in dark ink, appearing to read "J. Rowe McKinley". The signature is written in a cursive style with some capital letters.

J. Rowe McKinley
Vice President

TABLE A
PROJECTED REVENUE AND REVENUE REQUIREMENTS
WATER DEPARTMENT OPERATIONS 1989 GENERAL ORDINANCE
(in thousands of dollars)

Line No.	Description	Fiscal Year Ending June 30,								
		2007	2008	2009	2010	2011	2012	2013		
OPERATING REVENUE										
1	Water Service - Existing Rates	173,920	172,918	171,597	170,514	169,433	168,352	167,272		
2	Wastewater Service - Existing Rates	280,946	280,450	279,012	277,557	276,096	274,648	273,181		
3	Total Service Revenue - Existing Rates	454,866	453,368	450,609	448,071	445,529	443,000	440,453		
Additional Service Revenue Required										
	Year	Percent Increase	Months Effective							
4	FY 2008	3.18%	12	14,394	14,307	14,226	14,146	13,984		
5	FY 2009	10.00%	12	46,492	46,230	45,968	45,707	45,444		
6	FY 2010	7.00%	12		35,597	35,395	35,194	34,992		
7	FY 2011	6.00%	12			32,462	32,278	32,092		
8	FY 2012	4.25%	12				24,235	24,096		
9	FY 2013	4.25%	12					25,120		
10	Total Additional Service Revenue Required			0	14,394	60,799	96,053	127,971	151,479	175,728
11	Total Water & Wastewater Service Revenue	454,866	467,762	511,408	544,124	573,500	594,479	616,181		
12	Transfer From/(To) Rate Stabilization Fund	28,590	48,670	16,840	13,060	(3,610)	(7,920)	8,080		
Other Income (a)										
13	Other Operating Revenue	12,497	12,451	12,400	12,349	12,298	12,248	12,197		
14	Construction Fund Interest Income	2,842	4,004	5,151	3,282	2,715	5,025	2,511		
15	Debt Reserve Fund Interest Income	1,500	0	0	0	0	0	0		
16	Operating Fund Interest Income	1,031	1,038	1,047	1,101	1,105	1,083	1,157		
17	Rate Stabilization Interest Income	2,042	1,262	600	298	202	319	317		
18	Total Revenues	503,368	535,187	547,446	574,214	586,210	605,234	640,443		
OPERATING EXPENSES										
19	Water & Wastewater Operations	246,107	272,906	274,136	284,025	294,253	304,833	315,775		
20	Direct Interdepartmental Charges	49,789	53,675	55,356	57,090	58,878	60,724	62,625		
21	Total Operating Expenses	295,896	326,581	329,492	341,115	353,131	365,557	378,400		
22	NET REVENUES AFTER OPERATIONS	207,472	208,606	217,954	233,099	233,079	239,677	262,043		
DEBT SERVICE										
Senior Debt Service										
Revenue Bonds										
23	Outstanding Bonds (b)	172,509	173,447	170,673	172,717	172,703	172,509	174,070		
24	Pennvest Parity Bonds	384	384	384	384	384	384	384		
25	Projected Future Bonds (c)	0	0	10,571	21,142	21,142	26,834	43,910		
26	Total Senior Debt Service	172,893	173,831	181,628	194,243	194,229	199,727	218,364		
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	1,227	1,227	1,227	1,227	1,227	1,227		
30	Total Subordinate Debt Service	1,227	1,227	1,227	1,227	1,227	1,227	1,227		
31	Total Debt Service on Bonds	174,120	175,058	182,855	195,470	195,456	200,954	219,591		
32	CAPITAL ACCOUNT DEPOSIT	16,988	17,361	17,734	18,107	18,480	18,853	19,226		
33	TOTAL COVERAGE (L22/(L31+L32))	1.08 x	1.08 x	1.08 x	1.09 x	1.08 x	1.09 x	1.09 x		
RESIDUAL FUND										
34	Beginning of Year Balance	5	5,369	5,556	4,921	5,443	5,586	5,456		
35	Interest Income	0	0	0	0	0	0	0		
Plus:										
36	End of Year Revenue Fund Balance	16,364	16,187	17,365	19,522	19,143	19,870	23,226		
37	Deposit for Transfer to City General Fund (d)	4,994	1,990	2,314	2,314	2,485	3,007	3,007		
Less:										
38	Transfer to Construction Fund	11,000	16,000	18,000	19,000	19,000	20,000	23,000		
39	Transfer to City General Fund	4,994	1,990	2,314	2,314	2,485	3,007	3,007		
40	End of Year Balance	5,369	5,556	4,921	5,443	5,586	5,456	5,682		
RATE STABILIZATION FUND										
41	Beginning of Year Balance	115,372	86,782	38,112	21,272	8,212	11,822	19,742		
42	Deposit From/(To) Revenue Fund	(28,590)	(48,670)	(16,840)	(13,060)	3,610	7,920	(8,080)		
43	End of Year Balance	86,782	38,112	21,272	8,212	11,822	19,742	11,662		

(a) Includes other operating and nonoperating income, including interest income on funds and accounts transferrable to the Revenue Fund.

(b) Assumes a variable rate of 4.00% over the life of the Variable Rate Series 1997B Bonds.

(c) Assumes 5.00% interest, term of 30 years, with level annual principal and interest payments.

(d) 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 included in Line 15 going to the Revenue Fund.

Engineering Report
FINAL

Water and Wastewater
Revenue Bonds, Series 2005A

Water and Wastewater Revenue
Refunding Bonds, Variable Rate Series
2005B

Water Department
Philadelphia, Pennsylvania

April 2005



BLACK & VEATCH
Corporation

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BLACK & VEATCH

Curtis Center
601 Walnut
Suite 550 West
Philadelphia, PA 19106
Tel: 215-928-0700

Black & Veatch Corporation

April 8, 2005

Mr. Vincent J. Jannetti
Acting Director of Finance
City of Philadelphia
1401 John F. Kennedy Boulevard
Room 1330, Municipal Services Building
Philadelphia, PA 19102-1693

Dear Mr. Jannetti:

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 thereto as set forth in the First, Second, Third, Fourth, Fifth, Sixth, Seventh, Eighth, and Ninth Supplemental Ordinances (collectively, with the Restated General Water and Wastewater Revenue Bond Ordinance of 1989, the "General Ordinance"), we are submitting herewith our Engineering Report prepared in connection with the issuance of \$250,000,000 aggregate principal amount of Water and Wastewater Revenue Bonds, Series 2005A and the issuance of \$86,105,000 aggregate principal amount of Water and Wastewater Revenue Refunding Bonds, Variable Rate Series 2005B (collectively, the "Bonds"). 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 the 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 six-year period of fiscal years 2005 through 2010 are shown in this report. In the preparation of this report, we conducted on-site inspections of the major water and wastewater facilities and conducted personal interviews of key Water Department operating, engineering, and financial staff in February 2005. 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.



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ENERGY WATER INFORMATION GOVERNMENT

April 8, 2005

- *Adequate*: The facility is operating at or near design levels, however, non-routine renovation, upgrading, and repairs are needed to ensure continued reliable operation. Significant expenditures for these improvements may be required.
- *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.

In conducting our analyses and in forming an opinion of the projection of future operations summarized in this report, Black & Veatch Corporation (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 analyses follows generally accepted practices for such projections. Such assumption and methodologies are summarized in this report and are reasonable and appropriate for the purpose for which they are used. While Black & Veatch believes the assumptions are reasonable and the projection methodology valid, actual results may differ materially from those projected, as influenced by the conditions, events, and circumstances that actually occur.

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 issuance of the Bonds as stipulated in the Act and the General Ordinance:

1. Based on onsite physical inspections and investigations of major system facilities, conducted in February 2005, combined with discussions with Water Department staff, 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 will provide the funds necessary to achieve this goal.
2. Proceeds from the Series 2005A Bonds are to be used to finance major portions of the Water Department's capital improvement program for fiscal year 2005 through fiscal year 2010. Proceeds from the Series 2005B Bonds are to be used to refund a portion (the Term Bonds maturing August 1, 2014 and August 1, 2018) of the City's outstanding Water and Wastewater Revenue Bonds, Series 1995
3. Project Revenues pledged to secure the Bonds 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.

April 8, 2005

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 requiring further legislative action by City Council) over the amortization period of the Bonds 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 Covenants 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 as described above) to comply with the Rate Covenant for each of the 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, are within generally acceptable ranges for such services and are collectible.

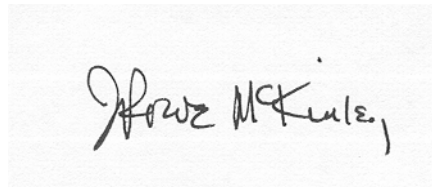
In accordance with the Water Department's agreements with Financial Guaranty Insurance Company (FGIC) and Financial Security Assurance, Inc. (FSA), rates and charges for use by the Water and Wastewater Systems shall be sufficient to yield Net Revenues (excluding amounts transferred from the Rate Stabilization Fund into the Revenue Fund during, or as of the end of, such fiscal year) at least 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

April 8, 2005

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 90 percent of the Debt Service Requirements (excluding debt service due on any Subordinated Bonds) in such fiscal year. The levels of additional service revenue projected for the study period will provide for the debt service coverage and requirements of the FGIC and FSA agreements.

Very truly yours,

BLACK & VEATCH CORPORATION

A rectangular area containing a handwritten signature in black ink. The signature is written in a cursive style and appears to read "J. Rowe McKinley".

J. Rowe McKinley
Director

Enclosure

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I. Introduction

A. Purpose

The purpose of this report is to summarize findings of engineering studies performed by Black & Veatch related to the water and wastewater systems of the City of Philadelphia. The Restated General Water and Wastewater Revenue Bond Ordinance of 1989 and the amendments thereto as set forth in the First, Second, Third, Fourth, Fifth, Sixth, Seventh, Eighth, and Ninth Supplemental Ordinances (collectively 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 month of February 2005. Such interviews included discussion of significant events, changes in operations, regulatory compliance, updates to the capital improvement program, and financial impacts that the Water Department has experienced since the completion of our last engineering report dated March 20, 2003.

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. Projections of revenues and revenue requirements of the water and wastewater systems for the period of fiscal years 2005 through 2010 are shown.

This report has been prepared in order to determine the feasibility of issuance of the Water and Wastewater Revenue Bonds, Series 2005A and Water and Wastewater Revenue Refunding Bonds, Variable Rate Series 2005B (collectively, the “Bonds”). Net bond proceeds of the Series 2005A Bonds, along with other sources of capital funds, are to be used to finance the Water Department's capital improvement program. Proceeds from the Series 2005B Bonds are to be used to refund a portion of the City's outstanding Water and Wastewater Revenue

Bonds, Series 1995. The financial feasibility of issuance of the Bonds is determined under the stipulations of the General Ordinance.

C. Black & Veatch Qualifications

Black & Veatch is one of the largest and most experienced engineering firms in the United States specializing in utility engineering. Experience includes the planning, design, operation analysis, and construction of water and wastewater 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 35,000 projects for over 6,200 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 Government.

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 and design 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 February 2005, 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 Water Department staff to discuss other facilities such as; Torredale Raw Water Pumping Station; Torredale and Lardners Point Finished Water Pumping Stations; Oak Lane Distribution System Reservoir; Load Control Center; the Central Schuylkill Wastewater Pumping Station; the Bureau of Laboratory Services; and, the Collection System Field Headquarters. Staff interviewed during our studies included representative 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 of Black & Veatch 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 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. Enterprise Professionals from this Division are also involved in the water and wastewater rate hearings which are currently ongoing. As a result of these rate hearings, schedules of water and wastewater rates for retail service have been approved for fiscal year 2005 and are in place. An initial series of proposed rate increases were filed in January 2004 for fiscal years 2005-2008. Delays in the initiation of the rate hearing process required a bifurcation or separation of the hearing process. An initial increase of approximately 13 percent was granted effective February 1, 2005 for the remainder of the fiscal year 2005. Rate increases for 2006-2008 are currently undergoing the second phase of the hearing process. Implementation of the Fiscal 2006 rates is expected by July 1, 2005.

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II. Organization and Management

A. Overview

The water and wastewater systems serving the City of Philadelphia are owned by the City and are operated as a self-supporting utility by the Water Department established by the Philadelphia Home Rule Charter, approved April 17, 1951. 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 Finance Department, through the Water Revenue Bureau, is presently responsible for customer meter reading, billing, collection, and customer accounting for the water and wastewater systems. The data from the Water Department's annual statements are included in the City's annual 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.

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 25 years of experience. However, as of fiscal year 2004, some senior staff will be eligible for retirement through the Deferred Retirement Option Plan (DROP) created by the City in 1999 for eligible employees working in all City departments. Through fiscal year 2007, approximately 175 Water Department staff will be leaving as a result of the DROP program.

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. During our interviews, Water Department managers indicated that a strong and experienced core of technical and mid-level managers currently exist within the ranks to ably fill positions which will be vacated as a result of the DROP program.

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. Eighty seven employees retired in fiscal 2004 that were registered in the DROP program.

The Water Department has continued to focus on filling unfilled positions. However, since September 2002, in an effort to address its overall General Fund revenue shortfalls, the City's administration instituted a hiring freeze across all City departments. During this period, the Water Department has maintained its facility and infrastructure systems at the appropriate level of service through instituting overtime work and outsourcing. Although this has not caused any problems to date, the Water Department has been carefully reviewing its maintenance records and the impact of potential equipment and/or system failure on its operations and performance. As a result, the Water Department submitted a waiver justification to the City administration in February 2003, requesting release from the hiring freeze. As of the date of the report, the release has not been granted. However, the Department has been able to make additions to staff on a case by case basis.

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 the following page.

As of January 2005, the Water Department had a total of approximately 2039 employees. Of these, 1547 are represented by District Council 33, and 258 are represented by District Council 47 of the American Federation of State, County, and Municipal Employees Union. The 234 upper management, supervisory, and senior engineering personnel are not eligible for union membership. In addition there are 205 employees in the Water Revenue Bureau whose positions are funded by the Water Department. Present labor agreements became effective July 1, 2004 and expire June 30, 2008.

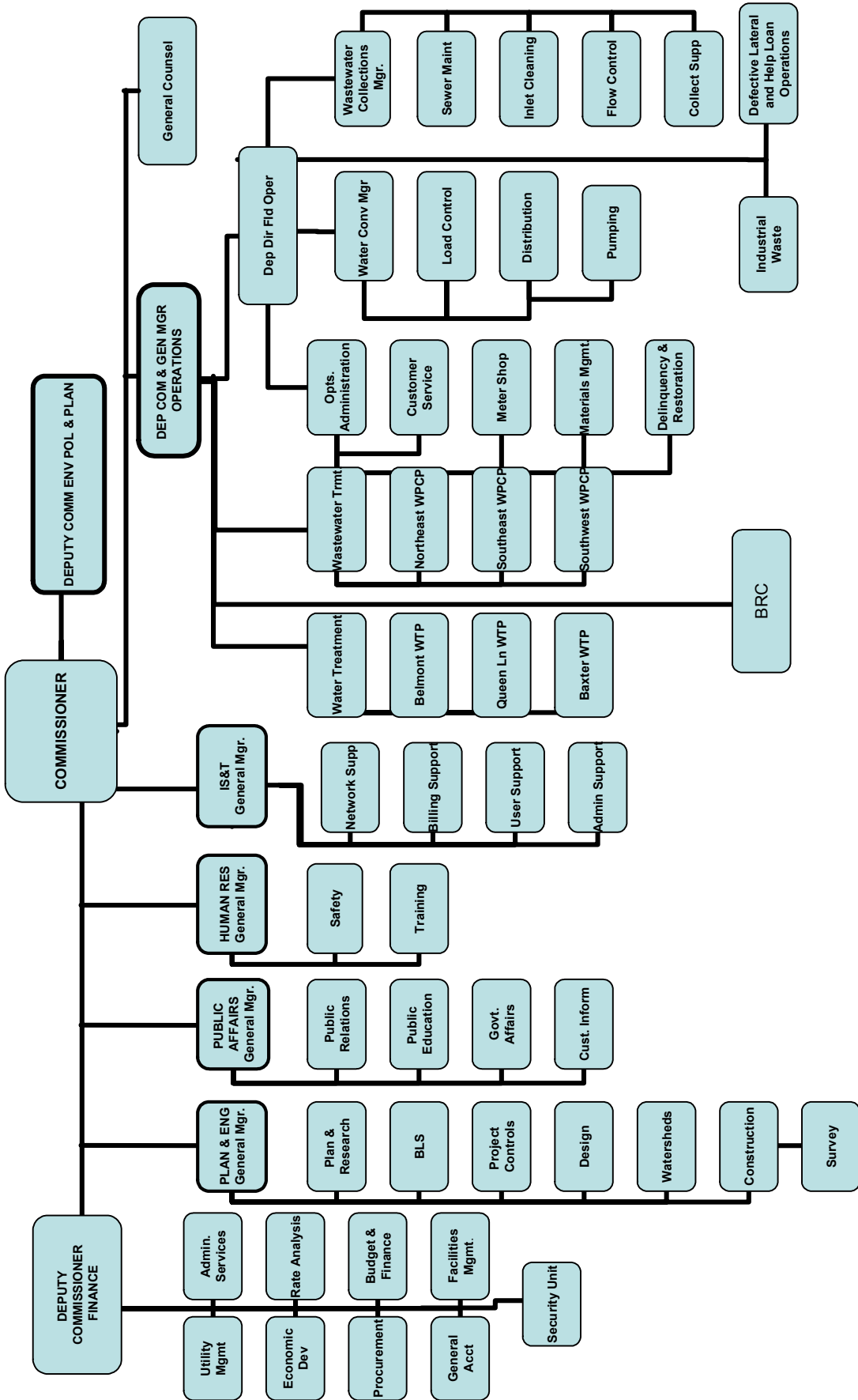


Figure 1 – Organization Chart

Increasingly over the years, and particularly noticeable over the past four years, Water Department management initiatives are being successfully implemented by staff. Better communications and collaborative efforts by both management and staff have resulted in focused efforts at cost cutting strategies and increased productivity. In 2004, the Association of Metropolitan Water Agencies (AMWA) presented the Water Department with a Competitiveness Achievement Award, in recognition of implementing high quality practices and meeting the competitive challenges facing the water and wastewater industry today. These practices are allowing the Department to meet its goals of environmental stewardship and to expand its customer service record with a sound cost-effective financial course. The Water Department continues to find ways to increase revenues while cutting costs. For example, the Water Department continues to control overtime while reducing staff at the Biosolids Recycling Center and its three wastewater treatment plants.

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, is implementing a new access ID card system at its water system facilities, similar to one that already exists at the wastewater facilities, and is implementing a new chemical delivery security system, and is in the process of eliminating the use of chlorine gas at their treatment facilities.

The Public Health Security and Bioterrorism Preparedness and Response Act of 2002, requires drinking water systems to undertake a more comprehensive view of water safety and security. The Act amends the Safe Drinking Water Act and specifies actions water systems must take to improve the security of their drinking water infrastructure. The Act requires the Water Department to:

1. Conduct a vulnerability assessment to evaluate the system's susceptibility to potential threats and identify and prioritize corrective actions that can reduce or mitigate the risk of serious consequences from adversarial actions, including vandalism, insider sabotage, and terrorist attack, for the transmission, treatment, and distribution systems;
2. Certify and submit a copy of the assessment to the US Environmental Protection Agency (EPA) Administrator by March 31, 2003;

3. Revise their emergency response plan to incorporate the results of the vulnerability assessment; and
4. Certify to the EPA Administrator by September 30, 2003, that the system has updated their emergency response plan.

The Water Department received a \$115,000 grant from EPA to partially fund their cost of conducting the Vulnerability Assessment, and retained a qualified consultant to perform the work. The Consultant has completed their assessment and submitted their report, which was submitted to the EPA Administrator by March 31, 2003 as required.

The Water Department has begun to implement operational recommendations in the Vulnerability Assessment report, and budget for any Capital Improvements required to upgrade the facilities to meet the recommended upgrades or improvements.

The Capital Facilities Assessment Program (CFAP) was designed by the Water Department to provide for periodic assessment of major infrastructure. The CFAP will be implemented at all water and wastewater treatment plants, the Biosolids Recycling Center, and pumping facilities. The CFAP pilot study, implemented at the Southeast Water Pollution Control Facility, the Queen Lane Water Treatment Plant, and the Lardner's Point Water Pumping Station is now complete. CFAP planning at these three facilities involved inventorying the assets, initial physical condition inspections, and the development of site-specific CFAP plans. The site-specific CFAP plan contains a re-inspection plan to be carried out over a ten-year period. The results from these re-inspections will document the condition history of the assets and will be used in the capital planning process. Operations Division personnel, including representatives from each of the plants have been trained to perform the inspections. Staff has also received training in American Society of Civil Engineering (ASCE) testing methods to carry out inspection of concrete structures.

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 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. Operating Units in this division include:

- (1) Water Treatment
- (2) Waste Water Treatment
- (3) Biosolids Recycling
- (4) Water Conveyance
- (5) Collection
- (6) Industrial Waste.

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. We believe the Operations Division is adequately staffed to meet current system requirements.

The Water Department is successfully implementing the terms agreed to by the Water Department's management and its labor unions. This increased partnership has allowed the Operations Division to put additional controls on overtime, which previously has not been effectively managed in some parts of the Division's operations. Progress continues to be made in achieving compliance with budgetary levels of overtime, and it is anticipated that appropriate levels of overtime will continue to be maintained by the Water Department in the future. Overall, the new labor union contract has allowed the Water Department to build upon its operations and maintenance accomplishments to date and to provide services more cost-effectively. The current labor union contract is effective through June 30, 2008.

The Water Department has also benefited from changes to the original procurement rules adopted with the City Charter in 1951. The City Charter required that any purchase costing more than \$2,000 would trigger a complex and lengthy competitive bidding process, finally resulting in a formal contract between the City and the successful bidder. The \$2,000 threshold was not adjusted for inflation for more than 40 years until the Charter was amended to raise the threshold to \$10,000 on November 5, 1991. The amendment also contained an adjustment for inflation which would be implemented every five fiscal years. The current threshold, as of February 2005, is \$25,000.

The Procurement Department has divested itself of administering the below threshold purchases for most City departments, including the Water Department. With the assistance of the Water Department's Procurement Specialist, headquartered in the Finance Division, the Water Department's operating units have used the new system with great success, thus greatly reducing the time it takes to procure and receive many materials and supplies.

The new process still requires competitive bidding and notification of vendors, but it does not require newspaper advertisement, certified checks, or performance bonds. The award does not result in a formal contract which must be drafted and approved by the City Solicitor's Office, as do contracts over the \$25,000 threshold. These changes, along with increased automation of the procurement process, have aided the operating units of the Water Department to meet their operational goals by eliminating undue delays in the procurement process.

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. A description 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 two units (Water and Sewer System Planning, and Planning) and a total staff of twenty-one. Unlike the other sections, as of February 2005, the Planning and Research section has no vacancies.

The Water and Sewer System Planning Unit provides valuable services regarding the upgrading and rehabilitation of the water main and sewer infrastructure. Water main replacement is driven by a point system which considers factors such as age, materials and number of breaks. A similar approach is being developed for the sewer system. A nearly complete sewer assessment program will establish a database and a point system. All video sewer inspections will be electronically stored and points assessed based on uniform evaluation criteria and Operations and Maintenance (O&M) considerations. In the very near future all water and sewer databases will be available through GIS. This will allow for ready access to all historical information and facilitate asset management practices.

The Planning unit provides services in areas such as applied research, feasibility studies, strategic planning, financial planning, and energy management. A sampling of the unit's activities are described as follow:

- Coordination of the procurement process for the Biosolids Recycling contracting initiative.
- Oversight for water treatment plant pilot work. Results are used to assure future regulatory standards can be cost effectively attained.
- Energy management programs including water and wastewater backup power initiatives and administration of existing

Cogeneration contracts. For example, in 2004, preliminary cost estimates for emergency back-up power were developed for the three water treatment plants as well as the Southeast wastewater treatment plant.

- Coordination of lagoon closure regulatory reports for the Northeast and Southwest wastewater facilities.
 - Investigation of the Lead and Copper Rule, assessing the impacts to the customers who have water service lines made of lead.
 - Department interface with the Delaware River Basin Commission.
- (2) Office of Watersheds – The Office of Watersheds (OW) is charged with integrating traditionally separate programs, including the 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.

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 implementation is a significant responsibility of the OW. This involves the compliance with the NPDES permit, as discussed in more detail in Section IV, including the continued maintenance of the Nine Minimum Controls (NMC) and the program’s Long Term Control Plan (LTCP). The implementation of the LTCP has included some significant capital expenditures, approximately \$50 million, to address capture and treatment requirements. Further significant capital expenditures could be mandated in the future to comply with the LTCP and integrated into the pending renewal of the Department’s NPDES permits. However, the OW has adopted a proactive approach to demonstrate the value of utilizing a watershed based approach to address CSOs and improving water quality. The watershed based approach has been 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. Future NPDES permitting will incorporate and therefore mandate further CSO implementation requirements during the next 5 year permit cycle. The Department's demonstrated success with the program, emphasizing a watershed based approach, should decrease the probability that the Federal Government will invoke a Consent Order Agreement to force compliance with CSO objectives.

- Stormwater program - The stormwater program is managed closely with the CSO Program and Source Water Protection program to effectively reduce stormwater flows and increase stormwater quality. The program also embraces the watershed based approach to resolve these issues. The program has developed partnerships within the watershed that enables leveraging of grant funding and resources to achieve results. The program operated under a Consent Order to address illicit connections and in the past year achieved the Order's targets and satisfied its requirements. The subsequently negotiated stormwater permits incorporate the watershed based approach and are complimentary to the other OW programs.
- Source Water Assessment - This very large and significant project involves 50 surface water intakes on the Schuylkill and Delaware Rivers. The project was completed to assess risks and prioritize measures to protect the Water Department's source water. The project was made possible by establishing partnerships with other water utilities along the watersheds of both 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, the Water Department designed and is in the process of re-constructing a fish ladder on the Schuylkill River 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, is preparing an early warning communications and notification system for water suppliers on the Delaware and Schuylkill Rivers. Exchange of real time data and water quality information will be possible after this system is implemented.
- Creation of Clean Streams Team - A Clean Streams Team was funded in fiscal year 2004 under the Sewer Maintenance unit. 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. The Water Department will now be able 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 new team will be staffed with 11 positions which will inventory problem areas along City streams, develop monthly maintenance tasks, help restore aquatic habitat through removal of debris and obstructions and coordinate 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 PCBs was established for the Delaware River in late 2003. Established limits are low and current loadings to the river are high. The Water Department is active in the Implementation Advisory Committee and the Steering Committee. Likely approaches to the final resolution to the problem will require major sources to be remediated and contributors to the Water Department's plants to implement further controls. The Water Department's risk for capital expenditures associated with the TMDL for PCB's and other developing TMDLs can not be quantified at this time.

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) - All analytical laboratory requirements for permit and regulatory compliance of the Water Department's water and wastewater systems are provided by this group. An expanded description of BLS is included at the end of Section IV, Wastewater System.
- (4) Project Controls Section - This group is responsible for developing, maintaining, and tracking the capital improvement program in addition to implementing the new Geographic Information System (GIS), which is projected to go online during the summer 2005. This group progressed from developing GIS capabilities and databases of information to the point where they are now providing services supporting the Planning and Engineering and Operations Division.
- (5) Design Section - This group performs all engineering functions associated with design and construction. A representative list of the group's activities follows:
 - Evaluations and design of new and rehabilitation projects.
 - Provides input into maintenance, renovation, and reconstruction issues.
 - Reviews and coordinates work done by consultants.
 - Review shop drawings and supervises the processing of change orders.
 - Maintains record plans.
 - Provides engineering assistance to operations and 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 developers.

- Assists in public education of various issues associated with the water and wastewater systems.

The Design unit has two large groups (Plant Design and Water and Sewer Design) and a total authorized staff of ninety one (91), assigned in 2005. There are currently 25 vacancies. 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 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, payroll, procurement, and preparation and follow-up on documentation of federal and state grants. Further, the division provides support services in the area of personnel administration, office management, word processing, and library and research assistance. This division also oversees the department's Facilities Maintenance and Security unit.

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 eight units (Economic Development, Procurement, Administrative Services, Planning and Analysis, Rate Analysis, General Accounting, Utility Management and Facility Management). The authorized staffing level for the division is 174 (including the newly formed security unit with 22 positions). There are also about 8 positions in the capital payments unit budgeted in the capital fund. When the current budget was prepared 128 of the 174 positions were filled. The majority of these vacancies are in the facilities maintenance unit.

Core financial services are provided by the Utility Management, Administrative Services, Rate Analysis, Procurement, Budget and Finance, and General Accounting units.

The Facilities Maintenance unit is responsible for all building maintenance work (concrete, electrical, HVAC) for all Department structures except the three water and three wastewater facilities. All security forces are part of this unit.

The Economic Development unit proactively markets available water and/or wastewater treatment capacity and coordinates the Water Department's participation in attracting and maintaining businesses within the City.

Key management positions within the Finance Division are staffed with highly capable individuals, most of whom are long-term Water Department employees. 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 two units in this division are 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. In September 2003, the Department constructed an Individual Development Plan Program. The program defined required courses for each job classification. The employee is required to complete the course listing within a 3-5 year time period. The goal of the program is to ensure competency and foster employee growth. Future training plans include:

- Craft apprentice programs;
- Broadening the scope of diversity training; and
- Provision of extensive management training with simultaneous inclusion of such training requirements into upper management job specifications.

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 the below chart, long term efforts have shown a general downward trend to leveling off of paid days lost.

Table II-1 – Safety Record	
<u>Fiscal Year</u>	<u>Paid Days Lost</u>
1993	4821
1994	3884
1995	2278
1996	1499
1997	982
1998	1053
1999	1155
2000	772
2001	1217
2002	1028
2003	959
2004	1163

The city-wide job freeze continues to be a major challenge in filling critical vacancies. The Water Department continues to identify critical vacancies and provide the necessary justifications. In an effort to use labor dollars effectively, the Water Department continues to monitor and control overtime and sick leave usage. To further reduce costs, the Water Department is reviewing the feasibility of collapsing select job titles to increase flexibility. The Water Department is also exploring variations to current work schedules and work rule modifications.

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 fiscal year 2004, more than 63,500 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 of human civilization along the river. The Center is staffed by six environmentally trained personnel. The Center exhibits on the urban watershed; a Water Laboratory; a classroom and audio-visual theater; interpretive displays; and a watershed technology center. The Center can accommodate 100,000 visitors yearly. In 2004, the Center attracted 37,000 visitors consisting of school children, adult

groups, professional groups and the general public. The Center has also received extensive financial support from 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.

The Public Affairs Division utilizes a Water Quality Education Community Advisory Committee (CAC), comprised of 40 representatives from various civic, environmental, industrial, and academic organizations, including Water Department staff. The CAC meets monthly to discuss policy and strategy for public education, and provide 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 2004, there were 48 press releases covering general topics and water main/sewer rehabilitation. Topical press kits are routinely sent to the media to address subjects such as water conservation, drought, and seasonal variations in the frequency of water main breaks.
- (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 fiscal year 2004 the unit received 197,053 calls, a decrease of 21 percent compared to fiscal year 2002, with an average wait time of only 10 seconds. During fiscal year 2003 approximately 190,000 calls were successfully addressed. 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 and has improved communications with customers and has increased customer service satisfaction. The Office of Customer Services and the Water Revenue Bureau call centers have been integrated, the representatives at each center cross-trained, and the hours of service extended to reduce the need to transfer customer calls between units, which significantly upgraded customer service.

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 and provides email support.
2. Billing Support provides for the processing of customer water and wastewater bills and overall data processing for Water Revenue Bureau.
3. User Support writes or oversees the writing of applications (server and/or web based).
4. Administrative Support provides contact administration, timekeeping, procurement and other related administrative functions.

The IS&T Division has an authorized staff level of 49 and 6 vacancies.

Several projects in which the IS&T group is currently involved include:

- Upgrading of the capital management program (CAPMAN);
- 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 Maximo (Inlet Cleaning, Sewer Maintenance, distribution, Call Center complaints).

The Mayor's Office of Information Systems (MOIS) 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;
- An Oracle ERP billing system; and
- Help desk and desk top support.

The Water Department works closely with MOIS 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 (Maximo) to the City-wide Customer Information Work Order Management System;
- Sharing GIS files with all users; and
- Moving the Department billing system into the City-wide Oracle system. This will be the City's first billing application. MOIS will run all associated computer systems.

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, etc.
- Developing an overall strategy for the Water Department for the handling of new emerging challenges, such as the total maximum daily limits (TMDLs) for Volatile Organic Compounds (VOCs) and PCBs, Combined Sewer Overflow (CSO) implementation, Separated Sewer Overflow (SSO) implementation, etc.
- Review, comment, and challenge, as necessary, any new laws and regulations affecting the Water Department.
- Testify before applicable government agencies and commissions to advance and advocate the Water Department's position.
- Respond effectively to any potential environmental problems or issues should they arise.

- Develop environmental policies that guide decision-making on operating and capital budget issues.
- Actively pursue federal and state environmental grants and low interest revolving fund (Pennvest) loans.
- Ensure that all environmental reporting to governmental agencies is timely and accurate.

I. Water Revenue Bureau

Established under the City Charter, the Water Revenue Bureau (WRB), which is managed by 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.

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. Weekly meetings with the WRB and the Water Department 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. By January 2003, more than 466,000 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 is currently working with the Water Revenue Bureau, the Mayor's Office of Information Services, and others on a project to develop a replacement for its

current billing system. This project is currently referred to as "Project Ocean." Project Ocean is the first application to reside on the City of Philadelphia's Oracle ERP and will replace the twenty-five (25) year old application systems currently supporting WRB with a single consolidated solution. The new system will permit WRB to align its business processes with an application designed around industry "best practices" and will facilitate the streamlining of WRB business processes, resulting in cost savings to the WRB through the elimination of redundant processes. Additionally, the new system will provide expanded collection capabilities to enable the WRB to increase revenues.

Under the current project plan, system hardware and software required for the City to host the new system will be installed and fully tested by the end of July 2005. The application software is being delivered and tested in phases, with full system integration testing scheduled to begin in August 2005. Final acceptance testing and user training will conclude in December 2005 and the new system will go into production in January 2006. The Project Ocean team will remain in place for support for at least six months after implementation.

The Water Department has no immediate plans to dispose of the current billing system hardware and software. It will be available for either parallel processing or as a backup for the new system. The Water Department's current billing system, although aging, should be able to support current operations for at least the next five (5) years, if needed.

J. Conclusions

The Water Department is organized in a manner which provides for efficient system operation and maintenance. The divisional and subdivisinal 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 seasoned 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 25 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 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 2002 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 11 mgd. Over the past four years, approximately 61 percent of the City's water supply was obtained from the Delaware River and 39 percent was taken 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 in monitoring the status of the New York City reservoirs controlling releases of water to the Delaware River headwaters and is adequately prepared to address future drought conditions should they occur. The Water Department has never been required to ration water to its customers.

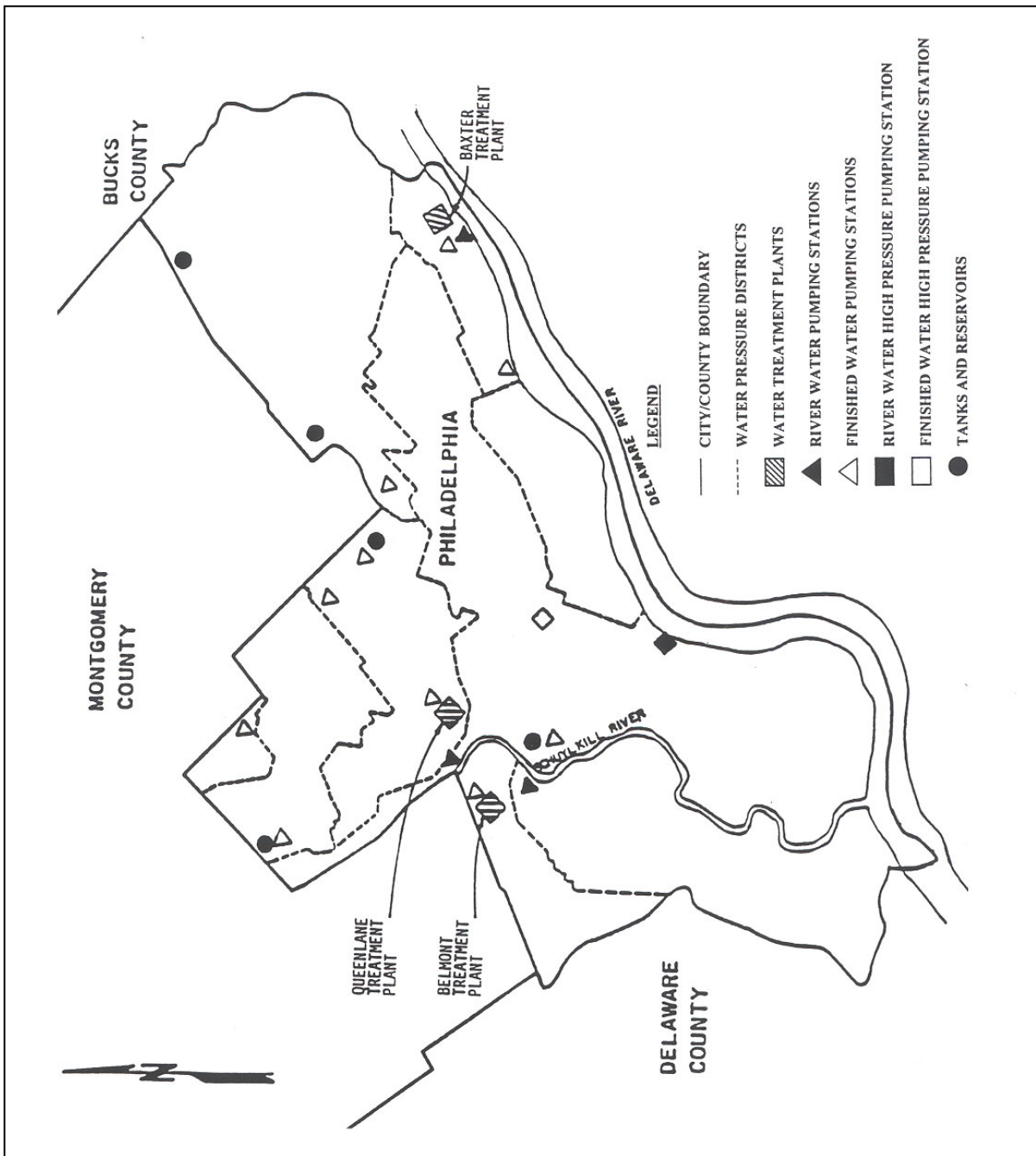


Figure 2 – Water System Facilities

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.

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 was in effect during the relatively dry 1980s. Drought emergencies were declared in 1980, 1981, and 1985, but in each case, marginal changes in rainfall deferred the extreme conditions that might have led to rationing of water. The Water Department has participated in drought emergency response programs as a cooperating member of Delaware River dependent communities.

The reservoirs providing water to New York City control the flow of the Delaware River. Releases from these flow into the Delaware headwaters. The Agreement also calls for expansion and improvement of impoundment storage capacities in the upper regions of the Basin, to provide larger reserves for a protracted drought. Expansion of the F.E. Walter Reservoir for flow augmentation has been studied. The Water Department has supported the expansion program in principle, provided that fair and reasonable methods for equitable distribution of related costs among Delaware River users can be developed, and provided that benefits accrue to those parties who will pay for the project. Costs for expanding reservoir storage are not included in the current capital program.

In the event of a drought emergency, the releases from impoundments in the Delaware River Basin are controlled to provide a fresh water flow sufficiently high to keep salinity levels below 180 milligrams per liter at River Mile 98, approximately opposite Wharton Street in south Philadelphia. This salinity limit has been established so that no unacceptable intrusion of salt water into the New Jersey aquifer, from which Camden County water supplies are withdrawn, will occur. These requirements provide adequate protection for the Baxter Plant's water intake, since it is located 12 miles upstream from River Mile 98.

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 540 mgd. The capacity of other elements within the water supply system appear in Table III-1. The summary includes the treated water storage capacity with completion of the East Park Reservoir rehabilitation. Compared with these capacities, the average annual daily treated water delivery in fiscal years 2001, 2002, 2003 and 2004 was 270.2 mgd, 263.0 mgd, 270.2 mgd and 263.0 mgd, respectively.

Table III-1 Water System Capacities					
	Average Daily Water Entitlement	Raw Water Intake Capability	Treated		Treated Storage
			Rated	Water Peak	
	mgd	mgd	mgd	mgd	mg
Schuylkill Supply	258	---	---	---	---
Queen Lane Plant	---	207	140	150	85
Belmont Plant	---	140	80	110	42
Delaware Supply	390 ^(a)	---	---	---	---
Baxter Plant	---	480	320	423	207
In-System	---	---	---	---	271
TOTAL	648	827	540	683	605^(b)
^(a) Average daily water entitlement permitted by DRBC. The average daily water entitlement permitted by PaDEP is 423 mgd. ^(b) Includes East Park Reservoir, Roxborough Storage and Standpipes, Oak Lane Reservoir, Somerton Standpipes and Fox Chase Tank.					

2. Population

The population served by the Water System was approximately 1,672,000 as of the 2000 Census, of which 1,518,000 were located in the City and 154,000 were in Bucks County. Current projections are for the total population in the present service area to stabilize at approximately these levels over the next decade. Per capita rates of water customer usage have been stable since 1970. This means the water delivery requirements at each of the Water Department's facilities from existing customers are generally predictable and not likely to change significantly in the immediate future. In summary, the water treatment, storage, and distribution facilities are of adequate capacity to provide for the present and foreseeable future requirements, even if population growth within the City should occur. The present water system has averaged 63.0 percent of its maximum day capacity during the past four years, and therefore would not be fully committed even if the City were to grow by one per cent per annum over the next 25 years.

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 EPA has proposed several new regulations and the Water Department is in the planning stages of meeting the

requirements of these proposed regulations if they are imposed. This section describes the Water Department's compliance status with present regulations and actions to meet future proposed 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 reduce “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 that will enhance the water system's potential to prevent the entry of *Cryptosporidium*, *Giardia*, and other parasitic organisms into the treated water, and to voluntarily implement those actions that are appropriate for the system. The Water Department joined approximately 300 water utilities to evaluate and assess its 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 2004 was about ten times cleaner than required by state and federal requirements.

During 1996, the Water Department performed an initial self-assessment of its three water treatment plants. This process addressed: system design, administration/management, maintenance, and operation. The Department has collected water treatment data, submitted reports to the Partnership, and consistently improved its treatment practices in order to meet the stringent standards set as a goal by the Partnership. The water quality goal established by the Partnership states that finished water turbidity should not exceed 0.1 Nephelometric Turbidity Units (NTU) and that filter effluent should not exceed a turbidity level of 0.3 NTU for more than 15 minutes following the backwash cycles.

In order to meet the Partnership's water quality goals, the Water Department has increased the level of instrumentation at its three water treatment plants. These instruments include on-line filter turbidimeters and particle counters, rapid mix pH analyzer alarms, filter chlorine analyzer alarms, and a critical alarm panel monitored on a 24-hour basis. Chemical coagulant dosages have also increased. This has resulted in significant increases in water treatment plant residuals, which are processed at the Department’s wastewater treatment plants.

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. The Water Department was recently awarded the prestigious 5 Year Director's Award for meeting the stringent criteria of the Director's Award for five consecutive years. While the Water Department's association with the Partnership has resulted in overall lower turbidity of its finished drinking water, this program has also enabled the Water Department to meet the requirements of the Interim Enhanced Surface Water Treatment Rule and has positioned the Department for compliance with the proposed Long Term 2 Enhanced Surface Water Treatment Rule in terms of finished water turbidity.

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 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 becomes effective in January 2006. The Groundwater Disinfection Rule (GWR), the Long Term 2 Enhanced Surface Water Treatment Rule and the Stage 2 Disinfectants/Disinfection Byproducts Rule are still under development. 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.

Philadelphia treated water quality meets all existing drinking water regulations. It also anticipates meeting all currently promulgated and proposed 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 has optimized the ratio of zinc to phosphate in the chemical compound that they use and have reduced the 90th percentile lead level to 0.013 mg/L and the 90th percentile copper level to 0.3 mg/L.

The Philadelphia Water Department is planning to make a minor change in the finished water concentration of zinc orthophosphate, increasing it to 1.5 parts per million from the current dosage of 1.2 parts per million, in the water supplied to our customers. We add phosphate to water to control the rate of metal loss by corrosion in the water supply network, which includes the internal piping in your facility. We plan to begin the increased dosage change within the next few weeks and expect to reach a stable concentration of phosphate before the end of June 2005. At this time, we are not planning any other water treatment changes that would affect water quality. The water that we supply currently meets all federal and state regulations, and it will still meet these regulations when we make the change to the finished water zinc orthophosphate concentration.

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.

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 controls 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 is being developed by USEPA. 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 2004 for the Department's three water treatment plants was 39 - 42 µg/L, and for HAA5s was 29 - 37 µg/L. All three water treatment plants are being operated in an enhanced coagulation mode and, as a result, are not only achieving the required monthly removals of TOC, but typically exceed the required removal by 27 to 49 percent. The Department is in compliance with the 4.0 mg/L MRDL for chloramines.

Compliance Status with Stage 2: The Stage 2 phase of the D/DBPR was proposed in May 2004 and the final rule is expected to be promulgated in late 2005. Based on extensive distribution system sampling, the projected worst-case TTHM locational running annual averages for the three treatment plants are in the range of 52 to 55 µg/L, well below the MCL of 80 µg/L. Similarly, for HAA5, the worst-case running annual averages are in the range of 33 to 42 µg/L measured against an MCL of 60 µg/L. As such, the Water Department is expected to be in full compliance with the Stage 2 D/DBPR.

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 the most recent year.

e. Long-Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR)

The LT2ESWTR, as proposed, will require microbial monitoring (2 years of monthly *Cryptosporidium* and *E. coli* monitoring) that will be used to place treatment plants in different "bins" based on their average source water *Cryptosporidium* level. Treatment plants in the different "bins" will have a "toolbox" of options that they can chose to 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), has completed the microbial monitoring and has determined that the Belmont and Baxter Treatment Plants will qualify for Bin 1, meaning that no additional treatment will be required. The Queen Lane Plant will likely be placed into Bin 2, thus requiring additional removal/inactivation credits. This requirement is expected to be satisfied by credits obtained from the Source Water Protection Program and the very low levels of turbidity in the effluent of individual filters at the plant.

Because the BLS has been certified by EPA to perform the microbial analyses required by LT2ESWTR, it is expected that the above-referenced monitoring data will meet the "grandfathering" requirements of the rule, thus meeting the rule's monitoring requirements.

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. In fact an effort to increase public awareness, the CCR is now published in the local newspaper, the Philadelphia Inquirer and Daily News.

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 Water Department, 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 require each state to develop a Source Water Assessment Program, which is 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 involves 50 surface water intakes on the Schuylkill and Delaware Rivers.

The current focus of effort is to move beyond the assessment stage and develop and implement protection plans and programs. Utilizing a partnership approach involving regulatory agencies, utilities and community-based action 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), gross alpha (15 pCi/L), gross beta (50 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, radium-228, gross-alpha and uranium levels in the finished water supply are below method detection limits. Gross beta has been detected at a level of 5.78 pCi/L, a level well below the MCL of 50pCi/L.

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 well underway. A number of filters are converted each year. The Baxter plant is more than 70 percent complete. All single media rapid sand filters have been converted to sand and anthracite dual media filters at Belmont and Queen Lane. A filter

is converted when it requires rehabilitation or if other problems are noted during annual inspections. 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. In most instances, as a part of the conversions, existing clay underdrains are being replaced with new plastic underdrains.

The Water Department continues to conduct pilot scale investigations to respond to upcoming regulations and to investigate effects of proposed process changes. The initial phase of one of the pilot plant studies was conducted to investigate the impact of changing coagulant dosages, the pH of coagulation, and the point of chlorination. In 2004, this work was completed and integrated into the current water treatment process.

Another project, the pilot plant investigated the practicality of using ozone to inactivate *Cryptosporidium oocysts*. The conclusions from this extensive study indicates that ozonation for inactivation is very expensive. Data collected through AwwaRF sponsored research, Water Operations, and source water assessment indicates that the Water Department will be able to meet regulations relative to *Cryptosporidium* without ozone or ultraviolet light inactivation.

In Fiscal Years 2006 and 2007 pilot plant studies will focus on the effectiveness of coagulants other than ferric chloride. The Water Department has predominantly used ferric chloride; however, with changes in the coagulant market place and changing ownership of their primary supplier, it is imperative that the Water Department evaluate alternative coagulants in comparison to ferric chloride on the basis of performance and cost.

Additional studies are being undertaken, namely, the international multi-utility study to further the understanding of the occurrence of manganese (Mn) in drinking water. Although Mn is currently undetectable in Philadelphia's drinking water, other 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 study will help the Water Department avoid manganese problems that may result from treatment modifications that are under consideration. Specifically, the delay of chlorination until after filtration in order to reduce disinfection by-product formation for future regulation.

Future studies will include protocols to ascertain the effect of lower chloramine residuals in the distribution system in order to reduce disinfection by-products, and investigating the boosting of chloramine residuals in the distribution system to maintain lower disinfection by-product target levels.

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. Recent water demands are shown on Table III-2.

Table III-2 Baxter Plant Daily Demands		
<u>Year</u>	<u>Average Daily Output</u>	<u>Maximum Daily Output</u>
	mgd	mgd
2001	149	191
2002	154	186
2003	155	185
2004	151	197

Sixty-six of the original 94 rapid sand filters have rebuilt underdrains and have been converted to a dual media configuration. This program will continue until all 94 filters have been converted. The plant staff has evaluated various operational techniques to reduce the magnitude of the post-backwash turbidity spike. It has been determined that a combination of holding the filter out of service for a period of 2 hours following the backwash, combined with a stepped backwash sequence will greatly reduce this spike.

The new SCADA system installed as part of the Partnership program to monitor the turbidity of each filter effluent has enabled the plant staff to identify problems with individual filters that could not be noticed without this higher level of monitoring. The impacts of process changes and improvements can also be observed much easier and quicker. Also, the backwash system capital improvements project, completed in 2003, provides variable flow capability for washwater pumps. The new system allows for greater flexibility in selecting various pump/tower combinations and in settings wash water flows to optimize and customize filter backwashes resulting in cleaner filters and reductions in post backwash turbidity peaks.

Other projects either planned or ongoing at the Baxter plant include:

- The flow pattern in the flocculators has been modified to improve mixing and floc settling characteristics. Improved settled water turbidity has resulted from this modification.
- A major construction project associated with rehabilitation of the roof drainage system and other structural repairs to the finished water underground storage basins has been underway for the past several years and should be completed by 2006.
- A two-phase project to convert from liquid chlorine to sodium hypochlorite is well underway. The first phase, which will convert one half of the plant to the new disinfectant, is estimated to be complete by May 2005 with the second phase projected for completion 8 to 12 months after Phase I.
- The switchgear for the pretreatment/intake buildings is undergoing replacement with completion expected by April 2005.
- The design for replacement of the switchgear in the filter building has been completed and is expected to go out for competitive bids in fiscal year 2006.
- A project to dredge solids from the raw water basin is expected to go to competitive bidding in early 2007.

Staffing at Baxter treatment plant recently increased from 52 to 54 budgeted positions with the addition of two municipal guards to increase plant security as recommended in the Vulnerability Assessment conducted by the Department.

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 water demands are shown on Table III-3.

Table III-3 Queen Lane Plant Daily Demands		
<u>Year</u>	<u>Average Daily Output</u>	<u>Maximum Daily Output</u>
	mgd	mgd
2001	71	96
2002	71.9	97.0
2003	68.8	98.1
2004	71.4	91.5

Projects either planned or ongoing at the Queen Lane plant include:

- All chemical dosing and sampling lines throughout the plant are being replaced. This project is expected to be completed in June 2005.
- Replacement and upgrade of the Distributed Control System to a Windows-based system is expected to be complete in June 2005.
- Sulfuric acid and sodium hydroxide storage and feed systems, to support an enhanced coagulation mode of operation, have been installed and are expected to be fully operational by June 2005.
- A project to replace and upgrade the Backwash Pump switchgear is expected to be complete by the fall of 2005.
- Projects to be undertaken in fiscal years 2006 – 2008 include repairs to the washwater tank, infrastructure repairs, switchgear upgrades, replacement of filter drain valves and backwash valves, concrete repairs to a number of facilities, rehabilitation of floc/sedimentation basins 1 and 4, relining of the ferric chloride storage tanks, construction of an equipment storage building, elimination of the raw water basin bypass to the filters and renovation of the chemical-maintenance building shop area.

Staffing at the Queen Lane Plant recently increased from 52 to 54 budgeted positions with the addition of two municipal guards to increase plant security as recommended in the Vulnerability Assessment conducted by the Department.

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 water demands are shown on Table III-4.

Table III-4 Belmont Plant Daily Demands		
<u>Year</u>	<u>Average Daily Output</u>	<u>Maximum Daily Output</u>
	mgd	mgd
2001	44	49
2002	42.7	57.9
2003	51.6	59.3
2004	45.9	53.7

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

Pilot plant testing to address both EPA's enhanced coagulation rule and other studies to optimize treatment including rapid mix and sedimentation evaluations have been conducted over the past four years. The pilot plant testing will subsequently focus on EPA's Enhanced Surface Water Treatment Rule requirements and will involve study of advanced treatment processes including ozonation and dissolved air flotation (DAF) thickening.

The dissolved air flotation (DAF) clarification project was conducted at Belmont because the algae loading on that river is greater and more variable than the Delaware. The results indicated that DAF was a viable clarification technology that would reduce algae related problems and allows for greater treatment plant capacity if implemented. However, the cross over to a new clarification technology would require significant capital expense and a significant continual expense in the form of greater energy consumption, that could not take advantage of lower off-peak electric rates. This, in addition to no apparent need to increase overall plant capacity, limited the usefulness of DAF technology. Consequently, after a few months of testing that portion of the research was terminated.

The grouting and concrete repair work at the South Filter Basin was completed in June 2003 and concrete repairs to the clearwell were completed in June 2004. Other projects recently completed at the Belmont plant include:

- Replacement of the major valves on the backwash system in the spring of 2004.

- Repairs to the concrete in the rapid mix influent valve chamber, along with replacement of the electrical conduit, were completed in June 2004.
- A new potassium permanganate storage building was completed in October 2002.
- A sodium hydroxide feed system was installed and completed in March 2003.
- Replacement and upgrade of the Distributed Control System to a Windows-based system.

Future projects either planned or ongoing at the Belmont plant include:

- Replacement of electrical switch gear in 2006.
- Solids removal from and concrete repairs to the East and West sedimentation basins is scheduled for the summer of 2006.
- Other planned projects include replacement of the pretreatment control valves in the flocculation basins, power distribution improvements, concrete rehabilitation, redesign of the sulfuric acid feed system and improvements to the ammonia and zinc-phosphate feed systems.

Staffing at Belmont has a budgeted level of 50 positions from 45 including the addition of two municipal guards to increase plant security as recommended in the Vulnerability Assessment conducted by the Department.

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. Authorized positions for the Division are 351. Currently, there are 30 vacancies.

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 water supply cost effectively, while being responsive to our customers' and environmental needs. Major components of the distribution system include: 3,160 total miles of pipeline (417 miles of transmission and

2,743 miles of distribution mains), 28,000 hydrants and 84,700 valves (82,750 valves 12” and smaller and 1,950 valves 16” and larger).

The table below shows the major performance parameters for the unit for the last 3 fiscal years.

Table III-5 Repair Record			
Service Parameter	FY 02	FY 03	FY 04
Breaks Repaired	522	988	794
Discontinuance Orders Completed	1331	1778	2261
Valves Repaired	172	167	162
Leak Survey (miles of pipeline)	1313	1421	1160
Hydrants Repaired	5108	4849	4883

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. The program consists of: leak surveys, utilization of information from the newly developed 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.

In order to assure proper operation of the network’s 84,700 valves, a valve tracking program is in place. This program records all valve activities (operation, inspection, repair and replace). The table below summarizes the valve program for fiscal 2004.

Table III-6 Valve Maintenance (2004)			
Valves	Total	Small (12” or smaller)	Large (16” or larger)
Operated	12,834	11,526	1308
Found defective	235	203	32
Repair/Replace	162	151	11
Inspected via Water Main Relay Program	1812		

In fiscal year 2004 hydrant availability was 97.5%. The Water Department attributes this high reliability to a proactive program incorporating routine inspections, repairs, and

painting. For fiscal 2004 there were 5014 inspections, 4883 repairs and 2824 hydrants painted. In addition 1206 tamper-proof hydrant locks were installed. Over 54% of the department's hydrants have locking devices. Hydrant abuse has been drastically reduced.

In fiscal 2004 the unit implemented several programs to provide more cost effective service. The maintenance section consolidated field supervision as the leak survey crew size was reduced from 3 to 2. Streamlined procedures reduced D-order job time by 38%. Unit supervisors utilize laptop computers for field access to system information and fire hydrant rehabilitation (reconditioning returned hydrants in lieu of purchasing new hydrants) saved in excess of \$500,000.

In fiscal 2002 the unit took over responsibility for maintenance of the water mains, valves and hydrants at the Philadelphia Navy Yard, now the Philadelphia Naval Business Center. Work continues to properly document this additional asset and develop appropriate maintenance procedures.

In January 2005 the non-potable high pressure fire system (50 pipe miles, 1000 hydrants and 2 pumping stations) was decommissioned. The standard pressure fire system has provided the fire protection service in the Center City area for the past several years and will continue to provide the fire protection service in that area in the future. Planning is underway to determine the disposition of these assets.

Unit maintenance activities are tracked using a variety of computer programs. These programs include: distribution (DMIS), valves (VMIS) and hydrants. Future plans call for migrating all these programs over to the department-wide Maximo system. This will allow all department maintenance activities to be tracked uniformly and also 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 forces. The chart below details the unit's success for these three parameters.

Table III-7 Pumping Unit Activity			
	FY 02	FY 03	FY 04
Pump availability	95.4	95.9	96.0
Station Efficiency (wire to water)	78.4	77.8	77.9
% planned work (a productivity measurement)	95.1	96.4	96.4

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. Future plans call for the downsizing of selected pumps to better match system demand.

All pump maintenance is tracked by a computer program (PUMA). In order to attain uniformity, this computer program will be replaced by Maximo in fiscal year 2005.

3. Load Control Unit

The mission of the Load Control Unit is to operate and maintain the Load Control Center, and direct water transmission system operations to ensure a reliable water supply. The unit also conducts hydraulic investigations, including water loss control programs, and provides asset management support services. Additionally, the unit plays a lead role in the Water Accountability Committee and Reservoir Team. The Reservoir Team was created to better manage the strategic planning, capital program projects, and operations and maintenance functions of the Water Department reservoirs. This multi-functional team has updated all standard operating procedures and is improving as-built documentation of reservoir facilities. The Team sponsored the Reservoir Management Assessment Project in 2004, which was a comprehensive assessment of reservoir practices, conducted by 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. Currently the Strategic Planning Group is studying 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 City continues to maintain a successful water loss control program. During 2004, water losses remained stable compared with 2003. While this reflects continued good

control of losses in the city, it suggests that the city may have reached a plateau of water loss reduction with non revenue water at roughly 86 million gallons per day for the past three years. The City has cut its water losses by more than one third over the past ten years and these efforts have gained national recognition for Philadelphia as an industry leader in water loss control.

The Load Control Center and water transmission system operate continuously. All pumps are controlled centrally using a Supervisory Control and Data Acquisition (SCADA) system. The SCADA system is maintained by the unit. The Load Control SCADA System provides a reliable supply of water in a cost effective manner. The table below illustrates the unit's ability to control electrical demand (a major cost component of the operation).

Table III-8 Load Control Unit				
	FY01	FY02	FY03	FY04
Average Daily Delivered Water, mgd	270.2	263.0	270.2	263.0
Total Power Consumption, million kilowatt-hours	131.1	126.7	129.3	125.0
Total Peak Billing Demand, Kilowatts	179,754	162,178	163,773	150,124
Total Expenditures for Power	\$6,601,500	\$6,233,000	\$6,620,000	\$6,149,000
Cost per million gallon pumped (raw & treated water)	\$65.62	\$64.94	\$66.07	\$62.12

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, coordination of the Large Valve Management Program and reestablishment of the Department's hydraulic modeling capabilities.

The Load Control Unit is moving to enhance the security capabilities of the SCADA System to meet the department's long-term security objectives.

F. System Storage Pumping and Flexibility

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.

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

East Oak Lane
Fox Chase Booster
Lardners Point
Torresdale Low Service
Torresdale High Service
Torresdale Raw Water
West Oak Lane

Schuylkill Division

Belmont High Service
Belmont Raw Water
Chestnut Hill
East Park Booster
Queen Lane High Service
Queen Lane to Roxborough
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.

G. Demand Management Programs

The Water Department maintains programs to reduce uncaptured revenue and the loss of finished water from the distribution system. It has been very active in promoting new methods through the American Water Works Association, 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 nations largest Automatic Meter Reading (AMR) system, participation in important research projects on leakage management.

1. Annual Water Audit

The Water Department was the first water utility in the United States to adopt the new best management water audit approach published by the International Water Association and the American Water Works Association 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 (unmetered quantities) cause water utilities to lose a portion of the revenue to which they are entitled. Real Losses are physical losses, largely leakage. These losses inflate the marginal water production costs for water utilities. 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. Achieving this level would mean targeting an additional real loss reduction of 24.7 mgd for the Water Department.

Table III-9 Water Consumption or Losses					
Component	FY2000	FY2001	FY2002	FY2003	FY2004
Water Delivered, mgd	280.5	270.2	263.0	270.2	263.0
Billed Consumption, mgd (may include some unmetered consumption)	185.8	181.7	178.2	183.4	176.9
Non-revenue Water, mgd	91.9	85.8	84.8	86.7	86.1
Unbilled Consumption, mgd	3.0	2.4	2.5	3.0	2.4
Apparent Losses, mgd	18.6	14.5	13.1	13.3	11.1
Real Losses, mgd	70.1	68.9	69.2	70.5	72.6
Infrastructure Leakage Index, dimensionless	12.3	12.7	13.1	11.9	12.1

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2. Leak Detection

The Leak Detection Survey program operates within the Water Conveyance Section. Summary results of this proactive program are tabulated below.

Service Parameter	FY 01	FY 02	FY 03	FY 04
Leak Survey (miles of pipeline)	1690	1313	1421	1160
Leakages Abated (mgd)	27.1	27.7	38.4	35.9

3. Meter Management Program

The Water Department's water meter management program includes two major initiatives: an Automatic Meter Reading (AMR) program and a large meter replacement program, which involves larger meters serving commercial and industrial customers. These two programs are discussed below.

a. Automatic Meter Reading Program.

The Automatic Meter Reading (AMR) project, involving the replacement of all residential water meters, which are generally either 5/8-inch or 3/4-inch meters, with new meters equipped with radio transmitter meter reading devices (ERT/meters) is the largest and most significant water automatic meter reading endeavors to be implemented in the country. This program is substantially complete with 96 percent (about 471,000) residential and commercial customers having AMR capability. The program to replace large meter commercial and industrial customers with AMR is underway and is 78% (13,700) complete. Significant improvements in customer service have already become apparent as a result of this program. The project also provides benefits in the areas of leak detection and theft reduction. Additional benefits of the program 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

b. Large Meter Program

Another successful effort implemented by the Water Department involves the large meter replacement program. Generally, the large meters are defined as those greater than one-inch in size. Approximately 3 percent of all meters fall in this category. 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 effort of downsizing the over 14,000 large meters in the system has also been undertaken. Approximately 250 meters per year have been downsized on average during the past four years. The large meter replacement program has resulted 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.

4. Loss Control

The Water Department has a comprehensive loss control program, overseen by the Water Accountability Committee, a multi-functional team including personnel from the Water Department and the Water Revenue Bureau. Oversight for this program is shared between Water Conveyance managers and members of the Water Accountability Committee. 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 Loss control program strives to reduce the volume of non-revenue water.

Major elements of this program are: compilation of the annual water audit, leak detection and repair crews, disconnecting unused service piping via Discontinuance (D-orders), Revenue Protection Program, reduction of unauthorized fire hydrant use, piloting the use of District Metered Areas, piloting other innovative technology and benchmarking.

Leak detection crews use state-of-the-art technology (leak correlator and correlating leak loggers) to proactively survey water mains. In fiscal 2004, 1160 miles of mains were

surveyed. Survey results pinpointed 216 leaks. An important activity in leak prevention is the disconnection of a vacated water service from the main. In fiscal 2004 the unit performed 2261 disconnects (D-orders).

The Revenue Protection Program focuses on correcting accounts where there is a potential to increase revenues. Each year the program pursues targeted groups of accounts perceived as areas of missed water consumption and billings. For the past three years program focus has been on “zero usage (consumption)” accounts. The chart below summarizes the program results.

Table III-11 Water Recovered		
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	1.114	\$1,782,000
2004	1.67	\$2,003,000

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. Over 54% of the department’ hydrants have locking devices. Hydrant abuse has been drastically reduced. It is the department’s intent to have tamper-proof locks installed on all hydrants in the near future. Program results are summarized below.

Table III-12 Unauthorized Hydrant Use	
Fiscal Year	Unauthorized Hydrant Usage Expressed as mgd
2001	1.873
2002	3.227
2003	3.421
2004	1.022

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 IWA/AWWA water audit format. This provides the ability to compare department progress with national and international water providers.

Loss control programs are never complete. Future activities will build on successful efforts of the past. Future program initiatives include:

- Participation in American Water Works Association Research Foundation “Leakage Management Technologies” project.
- Utilize the full potential of the proposed Oracle billing system to enhance the management of customer account data.
- Increase staff levels to enhance revenue collections.
- Continue searching for opportunities to establish a warranty program to rapidly repair leaks on customer services connection piping.
- Restructure work order management systems to better track leak categories and repair times.

Further reduce time between leak identification and repair.

- Investigate programs to reduce leakage losses through pressure control.

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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 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 plant and the eventual construction of the original Southeast and Southwest plants as primary treatment facilities in the 1950s. The 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 federal census, the total service area population is approximately 2,218,000, including approximately 1,518,000 people within the City and 700,000 in the 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 3,000 miles of sewers, 16 pumping stations, 85,000 manholes, 175 combined sewer regulating chambers, 89 tide gates, 25 storm relief structures, 75,000 stormwater inlets, and 23 metering chambers to monitor flows from surrounding townships. There are 585 miles of sanitary sewer, 620 miles of storm sewer, 1595 miles of combined sanitary and storm sewer, and 135 miles of major interceptor sewer that convey wastewater to the treatment plants. A total of 20 miles of outfalls also exist. 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 3 on the following page.

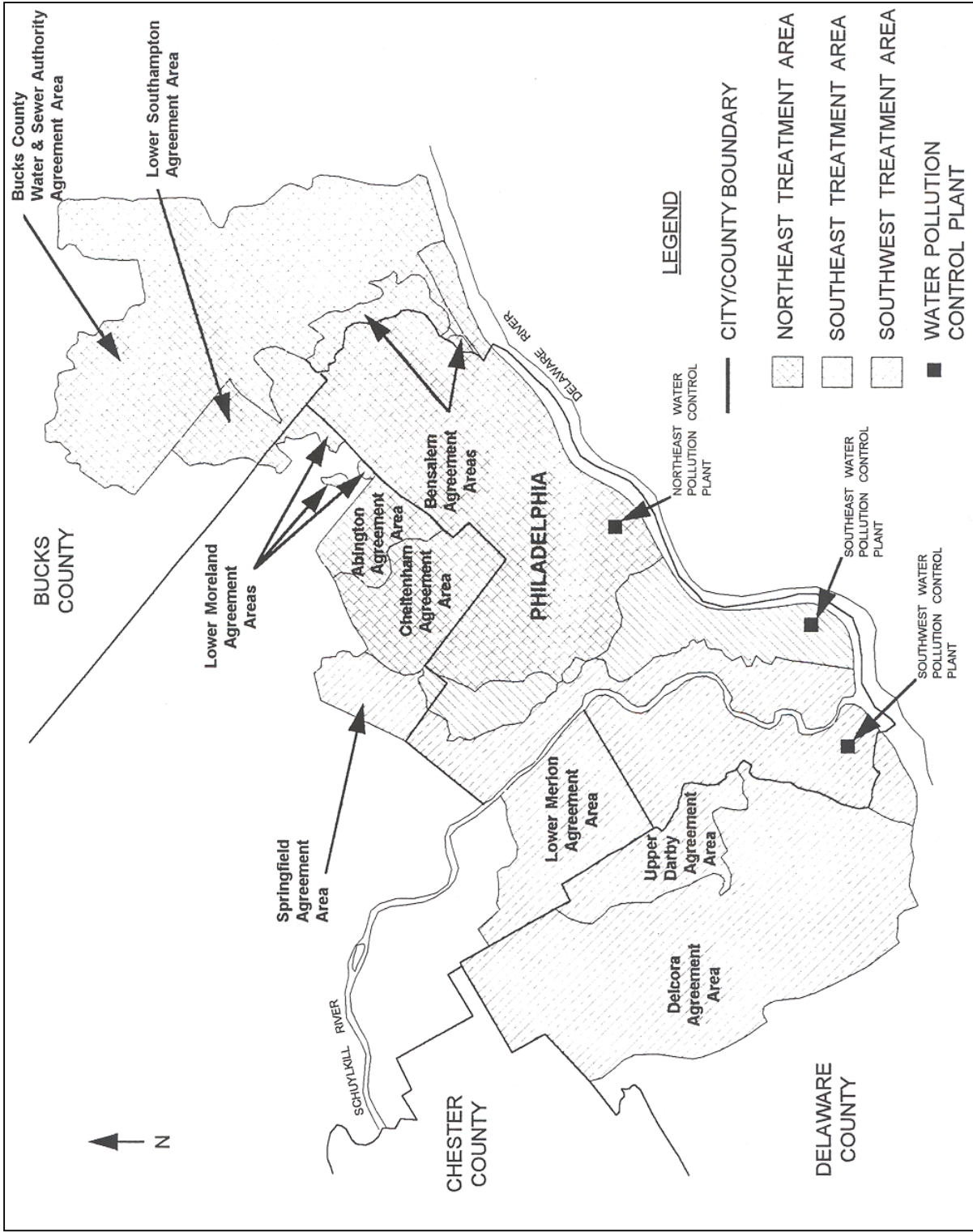


Figure 3 – Wastewater Service Areas

Wholesale suburban customer wastewater treatment contractual limits and average daily flows in fiscal year 2004 are as follows:

Table IV-1 Suburban Flows to WWTP's		
	Annual Average Daily Flow Maximum (mgd)	Average Daily Flow in Fiscal Year 2004 (mgd)
Northeast Plant	56.1	39.3
Southeast Plant	1.0	0.6
Southwest Plant	<u>84.7</u>	<u>54.1</u>
Total	141.8	94.0

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.

Since June of 2003, Bucks County Water and Sewer Authority (BCWSA) has been delivering wastewater to the Water Department in excess of its annual daily contractual limit of 20 MGD. The parties filed for arbitration on this issue as provided in the wholesale service agreement. On March 11, 2005 an agreement was executed by the Water Department and Bucks County Water & Sewer Authority to resolve flow exceedance and other issues. The settlement provides for two payments to the Water Department. The first payment will be made on May 30, 2005 in the amount of \$ 9.0 million; a second payment of approximately \$ 9.6 million will be made on August 1, 2005. In return, the Water Department will agree to increase BCWSA's annual daily flow limit from 20 MGD to 24 MGD. Further the Water Department agrees to lengthen the term of the current contract by 15 years, thus extending it to the year 2038.

The Water Department has been serving Delaware County Regional Authority (DELCORA) under a thirty year agreement to provide 50 MGD of wastewater treatment capacity at its Southwest Water Pollution Control Plant. Fiscal year 2004 revenues under this agreement were approximately \$ 6.8 million. The long term agreement recently expired and the Water Department has continued to serve DELCORA under an extension to the agreement. Currently the Water Department and DELCORA have agreed to extend the current agreement to July 31, 2005 while the parties negotiate a revised service agreement.

A small additional flow and load contribution is from septage haulers. Tincum Township may send its sludge to Southwest Plant in the near future. The Water Department is looking for other opportunities to utilize its excess capacity to generate revenue.

C. Awards

1. Water Pollution Control Plants (WPCPs)

The three WPCPs have been operating regularly with an outstanding performance record. In recognition of this performance, all three plants have been granted Gold or Silver Awards by the Association of Metropolitan Sewerage Agencies (AMSA) on an annual basis. To be eligible, a Gold Award requires that no NPDES permit violations be assessed to the treatment facility for an entire year, while a Silver Award requires that no more than five NPDES permit violations be assessed to the treatment facility for the year. The recent record of AMSA awards received by Philadelphia's three WPCPs is summarized below.

- *Southwest WPCP* – Has been awarded consecutive Gold Awards from 1995 through 2001, a Silver Award in 2002 and Gold in 2003 and 2004.
- *Northeast WPCP* – Has been awarded consecutive Gold Awards from 1997 through 2003. The Northeast Plant did not receive an AMSA award for 2004, the first time in 10 years. During December of 2004 the plant received an influent load of an undetermined toxic substance, negatively impacting the plants secondary system and ultimately the plant effluent for nearly two weeks. The resulting permit violations for the month disqualified the plant from receiving an AMSA award despite 11 prior months of perfect compliance.
- *Southeast WPCP* – Will be awarded the AMSA Platinum Award representing zero NPDES permit violations for calendar years 2000-2004.

2. Collectors System

As part of the National Clean Water Act Recognition Awards Program, the Water Department received the Combined Sewer Overflow Control Program Excellence award for 2003.

D. Wastewater Treatment Plant Discharge Limits.

As the owner and operator of three publicly owned treatment works that discharge into the navigable waters of the United States, which are also water bodies of Pennsylvania, the Water Department must assure that the effluent from these treatment works meets federal secondary treatment standards, other DRBC standards, and does not violate the NPDES

permit issued for each of the three plants by the PaDEP in conjunction with US EPA Region III. Additionally, the Water Department must comply with PaDEP regulations which control operation of wastewater plants and DRBC regulations related to discharges to the Delaware River.

NPDES permits for the Northeast, Southeast, and Southwest WPCPs became effective August 2000. Current NPDES permits for the Northeast, Southeast and Southwest WPCPs were issued on July 7, 2000, became effective on August 1, 2000 and will expire July 7, 2005. These permits with PaDEP provide flexibility to treat additional flows resulting from efforts to control combined sewer overflows. Applications for all three plant NPDES permit renewals have been submitted to PaDEP in anticipation of new permits being issued in August 2005.

These permits will remain in effect for a five-year period. The current 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 review of the wastewater system status. Key components of the permits and several of the more significant changes that have been negotiated with these permits are summarized below.

- *Industrial Pretreatment Program.* The Water Department will need to re-evaluate its local limits. The schedule calls for the local limits re-evaluation to be completed within one year of the permit issuance date. The new permits also mandate annual reporting as part of the Chapter 94: Municipal Wasteload Management Report.
- *Carbonaceous Biological Oxygen Demand (CBOD).* The permits governing effluent discharges from the Northeast and Southwest WPCPs have replaced monitoring and reporting of the standard biological oxygen demand (BOD) parameter with that of CBOD.
- *Chronic Whole Effluent Toxicity Testing.* Sampling and analysis for Whole Effluent Toxicity (WET) shall be performed quarterly for permit years one and two, and annually for the remaining three years of the permit. Long-term, the data may yield toxicity units from which numerical effluent limits can be developed and incorporated into future updates of the plant NPDES permits..
- *Chlorine Minimization.* All three wastewater treatment plants have now replaced gaseous chlorine with liquid sodium hypochlorite as a primary disinfectant. The focus of this program is to reduce chlorine dosages used

for disinfection, thereby minimizing the chemical's toxic effects on the receiving waters while simultaneously maintaining NPDES discharge limits. The permit calls for total residual chlorine (TRC) effluent concentrations to be at or below 1.0 mg/l for permit years 1 and 2. TRC levels for permit years 3, 4 and 5, shall be reduced to 0.2 mg/l at the Southeast and Southwest WPCPs, and 0.3 mg/l at the Northeast WPCP.

Depending upon the plants' capability to meet these stricter limits, implementation of dechlorination systems may be required in the future. It is noted that while the TRC effluent concentration has been reduced, the new permits have also removed the previously permitted requirement which prohibited TRC effluent concentration levels of 1,000 coliform colonies per 100 milliliter sample in more than 10 percent of samples tested. That requirement would have made it substantially more difficult to comply with the new TRC limits without the addition of dechlorination facilities.

- *Sludge Dewatering Summary Report.* This report is included in the NPDES discharge permit reporting obligation. The report includes statistics on sludge flow to the Biosolids Recycling Center as well as the quantity of sludge processed.
- *Management and Control of Combined Sewer Overflows (CSOs).* The NPDES permits include specific requirements for control of CSOs within the respective watershed areas served by the three WPCFs and also broader City-wide requirements, briefly described as follows:
 - The permits identify the locations of the CSO outfalls and control structures within the plant watershed areas and require reporting of all operations, maintenance, and inspection efforts undertaken at these structures. Increased emphasis has also been placed on reducing the frequency and volume of untreated sewage discharge through the CSOs. This requires the WPCPs to treat more flows during wet weather events. However, the permits recognize the WPCPs' maximum design rated hydraulic capacities and allow for less stringent calculation and reporting of mass loading and effluent concentrations when total daily flows exceed these maximum rated hydraulic values.
- The permits also specify other CSO control requirements that meet both technology and water quality based standards in accordance with the Clean Water Act. To meet this set of requirements, the Water Department, in its annual Chapter 94 Report, must demonstrate: 1)

continued implementation and compliance with both the nine minimum controls (NMC), and 2) implementation of the CSO Program's Long Term Control Plan (LTCP), dated January 24, 1997. The LTCP identifies additional control of CSOs to be implemented in three phases. Phase I is the implementation of the nine minimum controls (NMC), which have been approved by PaDEP and is underway. Phase II addresses capital improvement projects that will further increase the capture of CSOs, thereby decreasing CSO discharges and improving receiving water quality. Phase III is based on watershed based planning and management of CSOs. Watershed planning and management is expected to identify long-term improvements throughout the watersheds, resulting in even greater water quality improvements and ultimately, the attainment of water quality standards. The three steps comprising Phase III are; Step 1 - Preliminary Reconnaissance, Step 2 - Watershed Work Plan and Initiative, and Step 3 -Watershed Plan Implementation. Steps 1 and 2 were completed in 2004. Completion of Step 3 is dependent on the program elements and outcomes of the first two steps.

The DRBC's toxic impact study on the Delaware River is still ongoing. This study will also evaluate wasteload allocations from various discharges, including the three Water Department wastewater treatment plants. Although the results of the study are presently not available, the Water Department could possibly be required to meet stricter limits on several chemical pollutants. Consequently, this could also lead to more stringent pretreatment regulations by the Water Department on its industrial and commercial customers. However, the full impacts on the Water Department's operations will not be known until the DRBC report is finalized. It is the Water Department's understanding that there will be no limits for PCBs in the new wastewater permits, but there will be a direction for best management practices to reduce the pounds of PCBs going to the river.

Table IV-2 Current NPDES Effluent Limitations

<u>Effluent Characteristic</u>	<u>Discharge Limitation</u> (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 (mg/l)	30 ⁽³⁾
BOD (lbs/d)	19,650 ⁽³⁾
BOD (% removal)	86 ⁽³⁾
BOD (% removal at flows > MDF)	See footnote 6
TSS (mg/l)	30
TSS (lbs/d)	52,540 ⁽¹⁾ , 50,040 ⁽²⁾ , 23,025 ⁽³⁾
TSS (% removal)	85
TSS (% removal at flows > MDF)	See footnote 7
pH	6-9
Fecal Coliform	200/100 ml ⁽⁴⁾
Total Residual Chlorine (permit years 1 & 2)	1
Total Residual Chlorine (permit years 2, 3 & 5)	0.3 ⁽¹⁾ , 0.2 ⁽²⁾
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 CBOD₅ 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 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
 CBOD₅ Carbonaceous Biological Oxygen Demand
 BOD Biochemical Oxygen Demand
 TSS Total Suspended Solids
 AMF Average Monthly Flow
 MDF Maximum Daily Flow

E. Storm Water Permit

The Water Department was issued its first NPDES Phase I storm water permit in September 1995, by PaDEP. This permit had a 5-year term that expired in September 2000. The Water Department applied for a new permit in March, 2000 as required. At this time, PaDEP and the department are in the midst of finalizing a new stormwater permit, which is expected to become effective in 2005. Among other requirements, the permit requires the Water Department to reduce storm water based pollution of natural streams, creeks and rivers, from (1) residential and commercial areas, (2) construction sites, (3) industrial sites, and (4) illicit connections.

An application for the renewal of the NPDES Stormwater Permit that expired in 2000 is currently under consideration by the PA DEP. The new application continues the provisions of the original permit. Additional language has been provided in the application to mirror the scope of the completed Consent Order (July 98).

It is envisioned that the new stormwater permit will have two major components; continue elimination of illicit connections and erosion control for developers. In March 2004, an agreement was made with PaDEP for correction of illicit connections. It is noted that the Water Department complies with the permit's quarterly and annual reporting requirements.

F. Clean Air Act

The Federal Clean Air Act, as amended (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 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 to sodium hypochlorite, RMPs are no longer required.

In June 2001, Title V major source operating permits were issued to the Northeast WPCP and the combined site of the Southwest WPCP and the Biosolids Recycling Center.

The Title V permits require bi-annual reporting for NO_x and VOC emissions. Together with its Title V permits, the Water Department reports on its RMP program activities, including training and evacuation and response drills.

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. There were no odor violations reported with the Water Department's first Title V Operating Permit Monitoring Report submitted in July 2001.

During Calendar Year 2004, one odor violation was issued at the SW/BRC facility and three violations at the Northeast facility. Due to the odor incidents, the Water Department has hired a consultant to assist in the development of a long-term odor control strategy. In the short-term the Water Department has budgeted over \$3.5 million in 2005 for the addition of odor control chemicals. 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 their 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.

G. Northeast WPCP

1. Capacity

The Northeast plant serves northeast Philadelphia and suburban areas in southeast Bucks and eastern Montgomery counties. The plant is sized for a design average flow of 210 mgd and a peak flow of 420 mgd. Future plans call for the treatment of more flow during storm conditions. In order to accept more flows beyond 420 mgd, two hydraulic bottlenecks will need to be eliminated. Capacity between the preliminary treatment building and the primary tanks and between the final tanks and the chlorine contact tanks will need to be increased.

During fiscal year 2004, the plant treated an average flow of approximately 191 mgd. Plant performance is normally well below permit limits. Effluent concentrations are normally at or below 10 mg/l for CBOD and TSS. Total Residual Chlorine (TRC) levels are also below permit requirements.

2. *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. In October 2003, the Northeast was delisted from the Risk Management Plan “RMP” requirements because sodium hypochlorite disinfection was permanently brought on-line eliminating the need for liquid chlorine.

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. Therefore, phosphoric acid is added to assure proper nutrient levels are maintained.

Key activities or improvements that have recently been made or are currently in progress include the following:

(1) Projects recently completed:

- Replacing the existing gaseous chlorine disinfection system with a new sodium hypochlorite system
- Rehabilitating final settling tanks 1-6
- Rehabilitating variable frequency drives (VFDs) for return sludge pumps in final settling tanks

(2) Projects either planned or ongoing include:

- Rehabilitating the secondary treatment aeration system: this will allow for more efficient use of air and better control of the secondary treatment system. The project is under construction.
- Bar screen replacement - Low Level Sewers. Installation of climber screens in five of the six low level channels is complete. The remaining low level bar screen is currently being replaced under contract. The replacement of the two high level bar screens will then follow under the same contract.
- Provide New Conduit from PTB to Set 2 Primary Tanks - planned for FY 2007.

3. *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. Key activities or

improvements that have recently been made or are currently in progress include the following:

- (1) Projects recently completed.
 - Digester gas piping replacement
 - Replace sludge heat exchangers
 - A closure plan for the existing sludge lagoons has been submitted to PaDEP. Other than groundwater sampling, no major capital expenditures are likely.
- (2) Projects planned for FY 2006 include:
 - Replace existing sludge pumps and valves on barges
 - Gas tank inspection and bladder replacement

4. Facility and Utility Maintenance Projects

Recently completed and planned facility and utility maintenance projects are reported below.

- (1) Projects recently completed.
 - Masonry repairs and new roof installation for the PTB
 - Replacement of natural gas main
- (2) Projects planned for FY 2006 include:
 - Elimination of street drains to effluent conduit
 - Replace Blower Building switchgear

5. 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 first phase of upgrades is completed and the second stage is planned for FY 2006. The following unit processes are automated: influent flow splitting to the primary tanks, return sludge, hypochlorite disinfection, digester feeding, and portions of the dissolved air flotation thickening system. Future plans call for the automation of the aeration tanks and the remainder of the dissolved air flotation thickening system. 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. 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. Asset identification is now underway.

The Northeast WPCP is operated seven days per week, three operating shifts daily. Approximately 110 (132 authorized) total staff, including administrative, operations, and maintenance personnel are employed at the Northeast plant. There are two certified operators. Currently, there are 22 vacant positions. Vacancies in the electrical and HVAC trades are considered the most critical. Electrical maintenance needs are being met on an interim basis by sharing staff between the plants and the biosolids recycling center.

Other significant Operation and Maintenance programs are detailed below:

- The chlorine minimization program continues. This program has resulted in both cost savings and water quality benefits.
- Newly installed digester gas lines have allowed for more digester utilization for building heat and a reduction in overall gas/fuel oil purchases.
- A newly installed density meter is being used to control primary sludge pumping. Per cent solids for the primary sludge is trending upward (from 4.5% Total Solids (TS) to 4.6% TS). The thicker primary feed to the digesters is resulting in a slightly higher percent solids for digested sludge solids sent to the barge (2.2 %TS to 2.3%TS).
- Plans call for providing additional operator training in wastewater plant operation.
- Subsequent to commissioning sodium hypochlorite disinfection, the plant has de-registered from Risk Management Plan requirements associated with handling gaseous chlorine.

6. Odor Issues

The Water Department continues its long standing commitment to managing odor emissions at the Northeast facility. In fiscal 2004 the plant received 4 odor violations. Odor violations by fiscal year are detailed below:

Fiscal Year	1999	2000	2001	2002	2003	2004
Violations	13	7	4	7	12	4

The Department has strengthened its odor minimization program. Some highlights of the Department's program appear below:

1. Plant staff continues their proactive approach to minimizing odors and to address odor complaints quickly.
2. Plant staff strives to maintain a good rapport with the neighboring community and with AMS staff.
3. Routine 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:
 - Community outreach.
 - Seasonal adjustments to process control variables to minimize odor.
 - The creation of standard operating procedures focusing further on odor control.
 - Continuous use of an odor reducing chemical(sodium permanganate)
 - Development of an Odor Control Master Plan via an outside consultant.
 - Utilization of university researchers in guiding the odor control strategies.
4. All research to date indicates that the major cause of odor is the breakdown at the plant of dimethylsulfoxide (DMSO) into dimethylsulfide (DMS). A local manufacturer is the source of the DMSO. The Water Department is working with the industry to reduce the spikes and total quantity of DMSO. Sodium permanganate continues to be used to eliminate plant odors. Chemical costs for odor abatement were in excess of 2,000,000 in FY 04.

7. Cogeneration System

As part of its efforts to lower power costs and conserve energy, the Water Department developed a cogeneration facility on the Northeast plant site in 1993. A similar facility is in operation at the Southwest WPCP. Both cogeneration facilities are operated and maintained under a 20-year contract by Calpine Philadelphia, Inc., a subsidiary of Calpine Eastern Corporation.

The Cogeneration facility utilizes excess digester gas and generates electricity. In fiscal year 2004, the facility utilized 145,860 scf/day of digester gas and generated approximately 5600 kwh/day for plant use.

The Northeast and Southwest facilities are subject to Philadelphia Electric Company's (PECo) "Interruptible Rate" tariff. This rate is considerably lower than the "High Tension" tariff and also does not have a demand charge. The cogeneration facility includes a standby electric generating facility comprised of diesel-powered generators with a capacity of 10 megawatts, which is approximately equal to the plant load. Calpine operates these standby facilities whenever utility electrical power service is curtailed to the treatment plants.

H. Southeast WPCP

1. Capacity

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, which receives approximately 19 percent of the wastewater flow in the City's total service area.

The Southeast plant was built in 1955 to provide preliminary and primary treatment for domestic and industrial wastes. Modifications and additions since 1983 have upgraded the plant to a full secondary treatment facility. 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 2004 was 91 mgd. Plant performance is excellent. Effluent concentrations of less than 10 mg/l for BOD and TSS are consistently achieved. Total residual chlorine levels are also below permit requirements. In FY 2004, there were no odor complaints.

2. *Liquid Stream Process*

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.

Since 1996, lower than design 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.

A number of process and operations programs have been instituted which have resulted in substantial cost reduction and safer operation. Some of these modifications are presented below:

- A chlorine minimization program has been underway for several years. This program has resulted in both cost savings and environmental benefits.
- In March 2002 liquid chlorination was eliminated. Risk Management Planning and all associated activities have been greatly reduced.
- The operation of the secondary treatment process on atmospheric air rather than cryogenic oxygen continues to save electrical power (approximately \$53,000 per month). 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 phosphorous, return activated sludge and mixed liquor suspended solids allow for more precise process control and reduction of chemicals.

Other projects completed, ongoing or planned at the Southeast plant include the following:

- Primary sludge transfer pump replacement project - complete
- Rehabilitation of Aeration Tank Controls - complete
- Replacement of Influent Pump Controls - complete
- Installation of a new distributed control system - complete

- Modifications to the rotating scum pipes on the final clarifiers - substantially complete
- Replacement of actuators and telescoping valves on the final clarifiers - multi year project 80% complete
- Evaluation of Sludge Force Mains – camera inspection of river crossing found no significant issues. In FY 2005 will inspect for pipe thickness.
- Permanent sodium hypochlorite facilities - scheduled for completion FY 2005
- Primary tank chain and flight replacement-in projects control
- HVAC Rehabilitation Southern Buildings - in projects control
- Rehabilitation of influent pumping station crane-in projects control
- Expansion joint repairs in gallery - in projects control
- Remove cryogenic oxygen generation system - in design
- Modify scum transport from Concentration building - in design
- Repairs to Chlorine Mixing Chamber and New Mixers - under design
- Rehabilitation of Grit and Screening Handling System - under design
- Renew Electrical Gear Access Buildings 5 & 6 – design underway

3. *Sludge and Scum Stream Process*

Primary sludge is pumped to a wetwell 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 is pumped to scum concentration tanks. The scum is collected and transported to the Southwest plant for separate processing and ultimate disposal to a landfill.

4. *Operation and Maintenance*

The plant administration building contains the general service offices, laboratory, and a 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. The laboratory houses equipment to evaluate plant biological and chemical processes and to generate regulatory reports. 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 approximately 84 percent of the total maintenance work orders. 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.

The plant operates continuously and has an authorized staffing level of 68. There are 3 certified operators. There are 9 vacancies. Currently there is a need to fill semi skilled laborer and clerical positions. With the advances of technology, future staff needs will revolve around recruiting and retaining electrical and instrumentation staff.

I. Southwest WPCP

1. Capacity

The Southwest WPCP serves the western portions of Philadelphia and areas in eastern Delaware and southeastern Montgomery counties. The Southwest plant was built in 1954. In the 1970's the plant was expanded and improved to handle a 200 mgd average annual design flow and a 400 mgd peak flow. 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 most limiting bottleneck is between the primary clarifiers and aeration basins. Options to resolve this limitation include the construction of a bypass channel or to provide intermittent pumping. Another key to increasing the plant's hydraulic capacity, is the potential modification of the plant's Influent Pumping Station. The Water Department's Office of Watersheds has identified a storm flow strategy that could deliver a significant amount of flow to the pumping station.

During fiscal year 2004, the plant treated an average of 193 mgd. Plant performance is well below permit limits. Effluent concentrations are consistently below 10 mg/l for CBOD and TSS. Total Residual Chlorine (TRC) levels are also below permit requirements. In fiscal year 2004 the plant had no odor violations.

2. Liquid Stream Process

The plant 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 plant 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.

Key improvements that have recently been completed, are currently in progress, or are planned include the following:

Completed Projects

- Influent pump station screw pumps – replaced all upper and lower bearings
- Installation of hypochlorite day tank for plant water system
- Replacement of scum collection equipment in the final tanks
- East final tanks preventive maintenance - 2004, West side – 2003
- Painting Cryogenic Facilities

Ongoing Projects

- Replacing hydrogritter assemblies
- Replace return sludge pumps
- Rehabilitation of primary tank collection equipment
- Replacement of waste activated sludge line
- Cryogenic Plant Main Air Compressor - inspect/rehabilitate rotating assemblies

Planned Projects

- Rehabilitate final tank collection equipment
- Rehabilitate primary tank electrical system
- Rehabilitate plant water electrical system
- Rehabilitate piping and controls - LOX storage facilities
- Motor control center primary tank #1 -install PLC

3. 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 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 BRC.

Key improvements that have recently been completed or are ongoing are included below.

Projects completed

- Installation of six new digested sludge pumps
- Overhaul DAF tanks #2, #4 and #6
- Installation of new VFDs for sludge gas compressors #1 and #2
- Installation of new VFDs for digested sludge pumps

Projects Ongoing

- Digester cleaning
- Sludge lagoon closure plan. Report to PaDEP under development. Other than groundwater monitoring, no major capital expenditures are likely.

4. Facility and Utility Maintenance Projects

Ongoing facility and utility maintenance projects are reported below.

- Rehabilitate plant side HVAC systems
- Update plant phone system

5. Operation and Maintenance

The plant is continuously operated seven days per week. Approximately 113 (129 authorized) total staff, including administrative, operations, and maintenance personnel are employed at the Southwest facility. There are 3 certified operators. Currently, there are 16 vacant positions. Most of the vacancies are for semi-skilled laborers. In the future, the hiring and retaining of computer literate electricians and electronic technicians will become a major challenge.

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 make decisions regarding process control. The process control computer system has recently been upgraded. The system monitors all unit processes and currently controls:

- 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

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.

Plant staff is utilizing a computerized maintenance management system (MAXIMO) to plan and schedule all maintenance activities. For fiscal year 2004, 85% percent of the maintenance work orders were planned. An aggressive predictive maintenance is also practiced by the plant staff. All information obtained from the predictive maintenance activities is loaded into the computer to build upon the equipment history database. Predictive maintenance tasks include oil analysis, vibration analysis and infrared thermography.

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 used to generate inspection work orders. Results of facility inspections are used in the capital planning process.

In December 2003, an uncontrolled discharge from the Philadelphia Airport (deicing operation) caused a single NPDES permit violation. Subsequent department intervention and monitoring has resulted in reducing peak loads. Plant effluent quality has since returned to its award winning level.

Plant staff are evaluating the feasibility of operating the plant without the current oxygen producing facility. If current loads remain constant (no additional organic loading from the deicer operation for example) cryo shut down or oxygen plant downsizing would be possible.

A chlorine minimization program has been underway for several years. This program has resulted in both cost savings and environmental benefits.

Standard operating procedures have been recently updated. Areas of updating included plant water, grit removal and an alternative operating scenario where air would be used in the aerators, when pure oxygen is not available.

Plant staff have provided raw sludge samples to Changing World Technologies. They are reviewing the feasibility of converting sludge into valuable natural resources such as oils, gases and carbon.

6. Cogeneration System

Similar to the cogeneration facility developed at the Northeast plant site, in 1993 the Water Department also contracted the installation and operation of a cogeneration facility at the Southwest plant. Due to the availability of this standby power, the Northeast and Southwest facilities are subject to Philadelphia Electric Company's (PECo) "Interruptible Rate" tariff. This rate is considerably lower than the "High Tension" tariff, as a fixed demand is used in determining the billed charges. The cogeneration facility includes a standby electric generating facility comprised of diesel-powered generators with a capacity of 10 megawatts, which is approximately equal to the plant load. Calpine operates these standby facilities whenever utility electrical power service is curtailed to the treatment plants.

Southwest flares all digester gas not used for plant heating purposes. Currently, none of the excess gas is utilized by the Cogen facility.

J. Biosolids Recycling Center

1. Introduction

Philadelphia terminated the ocean disposal of sludge, now known as 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 BRC, formerly known as the Sludge Processing and Distribution Center, was completed in 1989.

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 liquid biosolids is pumped to the dewatering facility and centrifuged. The generated cake is used in a variety of programs

(compost, landfill, stripmine reclamation, and farm application). All centrate is returned to the Southwest wastewater facility.

Cake destined for composting is mixed with wood chips, composted, cured, and dried. After drying the woodchips are screened from the mixture and the screened material is placed in temporary storage. Here, the material is sampled and tested to ensure that regulatory parameters for this product are met.

Many of the utilization programs use cake material. After dewatering, the cake material is temporarily stored on-site prior to utilization.

3. Product Utilization

Various outlets for the compost material and biosolids cake have been identified and others continue to be developed. Finding markets or means of utilizing biosolids and compost is an ongoing task that is influenced by changing regulatory requirements and market circumstances.

The table below details production utilization quantities for fiscal year 2004.

Table IV-4 BRC Production	
Utilization Program	Wet Tons
Screened – Marketing	9,520
Screened – Give Away	4,543
Mine mix – Landfill Disposal	2,156
Cake – EcoTechnology Demonstration	0
Cake – Stripmine Reclamation	11,081
Cake – Pennsylvania Agricultural	36,983
Cake – Maryland Agricultural	28,082
Cake – Landfill Disposal	82,054

Screened – Marketing

During fiscal year 2004, Philadelphia released a bid for the highest offer to market its biosolids compost as a soil conditioner in the metropolitan region. The firm of Banfe Recycling was awarded the concession, replacing the long-standing marketing company, PRS Materials. PRS Materials replaced Philadelphia’s compost with a competing compost, and took actions to protect its own market, which has the firm presently in a legal dispute with the City of Philadelphia over trademark infringement for continued use of the “Earthmate” product name. The development of a replacement marketing and distribution

system by Banfe Recycling has been slower than anticipated, and the Water Department has placed substantial compost in temporary stockpile.

Screened – Give Away

Philadelphia makes its compost available at no charge for public works and community improvement projects.

Mine Mix – Landfill Disposal

While Philadelphia has not produced for a decade its biosolids product for reclamation uses known as “mine mix,” the city retained a stockpile of mine mix, which has deteriorated and has now proved surplus and will be disposed through landfilling.

Cake – EcoTechnology Demonstration

EcoTechnologies, Inc., has constructed, on land leased from the City, a process evaluation facility that will employ a process consisting of flash drying (using a ring dryer) and gasification. The gas will be utilized as the energy source for the dryer. If it operates as designed, the facility will produce a residual that will be 98 percent dry solids and compliant with Class A biosolids requirements.

Cake – Stripmine Reclamation

Reclamation with biosolids of land stripped during coal mining activity is one of Philadelphia’s longest-standing recycling programs. The project is currently operated in Schuylkill County, PA, in the anthracite coal region, and the contractor is Waste Management and Processors, Inc., an affiliate of the Reading Anthracite Company.

Cake – 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.

Cake – Maryland Agricultural

Several years back, 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 growers operating close by. Today, the Pennsylvania and Maryland agricultural programs are approximately equivalent in the amount of biosolids recycled.

Cake – 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 accepting municipal solid waste and that commingle the biosolids with the waste during daily disposal activities.

Other utilization approaches are also being pursued. They include:

Landfill Bioreactor

The landfill bioreactor is a technology that makes use of biosolids for conversion of decomposable trash into methane. Because in this approach biosolids contributes to energy recovery, Philadelphia is exploring a contract with an operator of a bioreactor to take biosolids on a small scale for trial purposes.

Tree Farm

The use of biosolids in silviculture has been demonstrated for nearly 20 years in Maryland, using a covered trench system, into which special, fast growing poplar trees are planted. Philadelphia is planning to employ this method of silviculture through its mine reclamation contractor, with the view of showing its applicability throughout the year, including winter.

Winter Storage for Farmland Use

Philadelphia is planning to extend the season of its agricultural program by using scientific principles demonstrated in recent odor and pathogen control research. Philadelphia will employ the beneficial changes that occur to biosolids during medium-term storage (a month or longer) to devise standard operating procedures for environmentally acceptable off-season storage.

Dredge Material Soil Blending

As part of a long-range plan to deepen the Delaware River for port uses, Philadelphia has granted approval along one edge of its property permitted for biosolids processing the construction of a rail line for transport of dredge material. Philadelphia is studying ways in which its biosolids might be made suitable as an amendment to the dredge material to manufacture topsoil suited to reclamation uses in northeastern Pennsylvania.

4. **Operation and Maintenance**

The BRC operates continuously Monday through Friday utilizing 15 shifts. The BRC has an authorized staffing level of 128 with 112 currently filled. Most of the vacancies are in the materials handling group (equipment operators). The breakdown of the staff is as follows:

	<u>No. of Employees</u>
Materials Handling	41
Process Control	19
Maintenance	40
Administration	10
Utilization	<u>2</u>
	112

Many of the unit processes are automated. Automated systems include polymer mixing, centrifuges, centrate system, mixing conveyors, and compost screening.

Preventive maintenance is actively practiced at the BRC. The unit has begun to use MAXIMO for preventive maintenance scheduling and tracking work orders. Predictive maintenance is performed by a third party.

In the past few years, odor violations resulting from BRC operations have declined. This is because BRC staff maintains a proactive approach to minimize odors. In the last five years only seven violations have been issued. There was one violation in FY 2004. Key aspects of BRC's odor minimization and control program include the following steps:

- Manage biosolids stockpiles and inventory to minimize odors.
- Ensure that biosolids materials are aerated to avoid septic conditions.
- Remove standing water throughout the site.
- Utilize outside expertise to model and provide guidance.
- Utilize operating staff as the first alert to detect odor generation.

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.

5. Projects

Key improvements that have recently been completed are ongoing or planned are listed below:

Completed

- Water heater installation for dewatering building
- Improvements to security and communication systems
- Rehabilitation of perimeter fence
- Replaced existing centrifuges (1-4)
- Replaced sludge feed pumps
- Replacement of polymer solution pumps
- Construction of new boilers in the dewatering and mixing building
- Installation of fire hydrants and backflow preventers

Ongoing

- Screen control and motor control center upgrades
- Ventilation system modifications for dewatering building
- Replacement of truck scale

Planned

- Repair structural steel at pier
- Modification and drainage improvements to road serving offsite storage

Projects on hold pending BRC contracting out program

- Replacement of woodchip feeders and live bottom hopper #1
- Replace exterior wall & panels & windows in dewatering and mixing buildings
- Data acquisition and control for composting temperature monitoring
- Provide added locker room facilities
- Provide office and lab building for screening system site
- Replace blower motor control centers

6. Cost Effective Initiatives

Significant cost reductions have occurred at the BRC by contracting out certain functions, increasing the productivity of other functions, installing more efficient machinery, and increased streamlining of work processes. This has resulted in a reduction of employees from a high of 212 to 112 and a budget reduction from \$31.6 million in fiscal year 1993 to \$18.1 million in fiscal year 2004. Other cost reduction initiatives either underway or planned include:

- Centrifuge upgrade is producing a dryer cake
- Productivity enhancements via instrumentation and automation
- Modified polymer bidding approach resulted in a lower unit cost for polymer and better centrate quality
- Reduced heating costs and emissions by switching to natural gas
- Continual focus on developing recycling alternatives that provide flexibility and lower overall costs
- Develop a rail siding within the BRC site

7. Class A versus B

The Water Department's long-range strategy is to move more of their utilization programs to Class A material. This class of biosolids is more marketable, more acceptable to the general public, more aesthetic, and perceived to have fewer odors.

The Water Department began in summer 2003 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 an engineering consultant to develop a request for proposal. It was based on 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, submitted a proposal on November 24, 2004. This team offered to build a pair of sludge dryers. This proposal is under evaluation by a team drawn from several City agencies to determine if it would be in the Department's best interests to pursue a contract with them.

The Water Department continues to look for programs or alternatives that would provide Class A material. A short list of other initiatives follows:

EcoTechnology, Inc.

A demonstration project with Eco-Technology (EcoTech) is underway. EcoTech will employ a process consisting of flash drying (using a ring dryer) and gasification. The gas will be utilized as the energy source for the dryer. The resulting product will be 98 percent dry solids and compliant with Class A biosolids requirements. The material generated from the process will be a char and can be reintroduced into the

compost as supplemental amendment. EcoTech has constructed its ring dryer facility at the BRC site. The system can process eight to ten wet tons per hour of dewatered biosolids cake. Although the ring dryer has been tested, the gasification system still requires field testing before the system is made operational.

Enhancing Digester Operation

Public concerns with biosolids most often involve odor nuisances and risks of pathogen transmission, also known as “vector attraction.” Philadelphia employs conventional anaerobic digesters as accepted technology for pathogen and vector attraction reduction. In its commitment to principles of continual improvement, Philadelphia is studying ways to upgrade digester facilities to accomplish high performance standards. Evidence developed from several fully-operational facilities in North America and Europe, show that upgraded digesters are able to meet “Class A” pathogen standards and greatly reduce odors in final products.

Chemical Stabilization of Digested Biosolids

An accepted technology for reducing pathogens and odors in biosolids is the use of lime kiln or cement kiln dust to accomplish stabilization. Philadelphia is examining ways of using these procedures to create a product that can be stored without risk of nuisances during winter and summer seasons, during which demand for biosolids is low.

K. Wastewater Collection and Pumping

1. Organization and Responsibility

The Wastewater Collection section presides over an extensive urban network. As described previously, 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. The Wastewater Collection section is subdivided into four units. The units and their principal areas of responsibility are identified below:

- (1) Sewer Maintenance - responsible for maintenance and repair of sewers (storm, sanitary, and combined)
- (2) Inlet Cleaning - responsible for cleaning all storm water inlets
- (3) 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

- (4) 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 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, relieving choked sewers and inspecting laterals. In July 2003, the responsibility to maintain Drainage Rights of Way was transferred from the Water Department to Fairmount Park. At the same time, the 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, and outfall repair.

The authorized staff level for the unit is 182. Currently, there are 25 vacancies. Critical vacancies for the unit are Equipment Operators and Heavy Equipment Operators. The table below illustrates some of the unit’s service levels.

Table IV-6 Sewer Maintenance Unit Work Order History			
Maintenance Category	Fiscal Year		
	2002	2003	2004
Sewers and Laterals Examined	8,472	9,337	10,674
Waterway Restoration- tons of debris removed	----	----	276
Inlets Reset and Reconstructed	10,886	9615	9678

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. The Unit is now more consistently able to manage their work order backlog. The reorganization has also allowed the unit to dedicate two crews full time to planned work. These proactive crews perform 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.

CCTV video inspections have preliminary identified 253 locations (53,000 linear feet) where root growth may impact sewer service. A contract is scheduled to be let in

FY2006 that will chemically treat these locations. This proactive approach should prevent a number of choked sewer complaints.

3. *Inlet Cleaning Unit*

The unit is primarily responsible for the inspection and cleaning of over 75,000 storm water inlets. The unit is also responsible for the maintenance of inlet covers (retrieving, replacing, and locking) and relieving choked inlet traps and outlet piping. Inlet cleaning has an authorized staff of 108 and a current vacancy level of 12. Critical vacancies include Heavy Equipment Operators. The following is a four year look at the unit’s performance.

Table IV-7 Inlet Cleaning			
Fiscal Year	Inlets Cleaned	% planned work	Response time (days)
2001	95,796	91	3.23
2002	91,853	89	2.68
2003	92,457	90	4.00
2004	86,975	88	3.90

4. *Flow Control Unit*

This 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, the rain gauge network. The unit also performs all CCTV sewer inspections. The authorized staffing for the unit is 84. Sixteen (16) positions are currently vacant. Critical vacancies include Instrumentation and Electronic Technicians.

Combined Sewer Overflow System

The combined sewer overflow system consists of 177 CSO points, 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. A key goal in the maintenance of the CSO structures is to eliminate dry weather overflows (DWO). The table below provides a five year history of DWOs.

Table IV-8 DWO Activity					
Fiscal Year	2000	2001	2002	2003	2004
Dry weather overflows	29	22	35	25	8

DWOs have trended downward between FY02 and FY05. Over time, as more status information becomes available about the CSOs (via instrumentation), the opportunity to minimize the number and the duration of DWOs will increase.

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). The unit's goal is to provide this comprehensive maintenance to each structure annually.

Remote monitoring of CSOs has increased over time. Currently over 220 level and flow monitors are in place at 142 sites. At the end of fiscal year 2004 31% of the CSO monitoring sites were operable.

To further enhance the capture of CSO volume, the Water Department is establishing a Real Time Control (RTC) center at its Fox Street facility. Establishment of this RTC center is one of the capital programs detailed in the CSO Program Long Term Control Plan. The RTC will consolidate a variety of existing monitoring/control systems (remote pump stations, CSO structures, rain gauges and inter-district diversions). A new building has been constructed at Fox Street which will house the RTC. Bidding for the instrumentation and control system is scheduled for fiscal year 2005 with commissioning the following year.

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.

The unit's goal is to perform these inspections in a production mode and inspect 354 miles of sewer annually. A five year inspection history is provided below.

Table IV-9 Inspection History					
Fiscal Year	2000	2001	2002	2003	2004
Water Dept. Crews	66.4	62.8	51.7	36.9	48.8
Contractor Crews	--	---	16.1	107.7	110.2
Total Miles	66.4	62.8	67.8	144.6	159.0

Wastewater/Storm Pumping Stations

The wastewater system includes 16 sanitary pumping stations and 3 stormwater pumping stations. 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. Maintenance of these facilities is the responsibility of the Flow Control unit. All the pumping stations are automated and remotely monitored. Each station has an emergency standby generator. Preventive and predictive maintenance is routinely practiced, and 85 percent of the maintenance work orders are planned. Main pump equipment availability averaged 98.5 percent in fiscal year 2004. The Pumping Unit is in the process of implementing the Department's computerized maintenance management system software to schedule O&M and capital inspections for its 16 pumping stations. To date Pumping has entered the CFAP assets at four pumping stations. Once each facility is completed, CFAP inspections will be identified and an inspection schedule developed for the remaining pump stations.

Capital projects recently completed or planned for the remote pumping stations include:

42nd Street pumping station - rehabilitation of mechanical, electrical and instrumentation components, completed in fiscal year 2002

Neill Drive pumping station - rehabilitation of mechanical, electrical and instrumentation components, completed in fiscal year 2003

Linden Avenue pumping station - rehabilitation of mechanical, electrical and instrumentation components is under design

Central Schuylkill pumping station - installation of new dry pit submersible pumps and mechanical bar screens is under design.

Odor Control

The unit operates and maintains two remote odor control facilities. 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. 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.

Wastewater Metering Chambers

The unit maintains 23 chambers for the metering of flows from the surrounding communities. The sites are routinely inspected and flow meter calibration is done annually. One hundred (100) percent of the flow signals are telemetered to Fox Street. Operational availability of all flow metering averaged 82% in fiscal year 2004 versus a unit goal of 95%.

Rain Gauge Network

The city-wide system is operated and maintained by the 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*

This unit's primary function is to provide technical expertise to the operating units through engineering evaluations and studies. The unit investigates complex drainage and flooding problems. It also conducts hydraulic analysis of the collector system through field surveys and computer aided calculations. The 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 3 vacancies. Several of the unit's projects are highlighted below.

Defective Lateral Detection and Abatement Program

The program was initiated in fiscal year 1994 to insure Water Department compliance with NPDES Stormwater regulations which required in-part the elimination of illicit connections. The seventeen 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 2004 was 593 and 135 respectively. It is estimated that the program has eliminated 84 million gallons per year of sanitary flow from the City streams. Through June 2004, the group had tested 21,995 properties, found 619 illicit connections of which 593 have been repaired. Quarterly and annual reports are provided by the Office of Watersheds to the PaDEP.

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.

Manhole Identification

The Water Department, with the assistance of a consulting firm, is developing a system to number manholes (85,000) within the city's drainage basins. The numbering system will allow for consistency with all TV inspection work, and facilitate manhole identification for field crews. The numbering system is presently being loaded into the department's Engineering Record Viewer (ERV).

EPA Capacity Management Operation and Maintenance (CMOM) Program

Although the CMOM provision of the EPA's proposed sanitary sewer overflow rule isn't expected to be enacted in the immediate future, many state regulatory agencies have begun incorporating CMOM programs into NPDES permit requirements. There are a variety of planning efforts underway in the department to prepare for CMOM. One example is the development of a database that tracks and records sewer cleaning and flushing activities performed by Sewer Maintenance. The database will eventually tie to information developed in the sewer assessment program and provide another collector system management tool. This database, once developed, can be expanded to provide sanitary sewer overflow (SSO) incident tracking. Information developed will also be utilized in the sewer assessment program and provide another collector system management tool.

L. Toxics Reductions and Control

Under the National Pollutant Discharge Elimination System (NPDES) administered by the EPA, 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 (IWU) is to ensure compliance with federal industrial pretreatment standards. The IWU handles a wide variety of additional assignments including: monitoring wastewater characteristics from townships, determining industrial surcharges, investigating spill incidents, managing both the Water Department's hazardous chemical storage tanks compliance program and the asbestos abatement program, providing support for the Title V air permit compliance, hazardous waste removal contracts, and the pretreatment support required for the Department's CSO program effort. The IWU also provides stormwater sampling services related to the department's cross connection (sanitary to storm) program.

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 industries are subject to local limits which take into effect 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 were re-evaluated in July 2001, to assure protection of the water pollution control plants. This was a requirement of the NPDES permits. The Department's report submitted to the EPA in July, 2001 has been accepted. The Water Department has issued final discharge permits to all categorical and significant users. Thus far, over 145 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 unit samples and inspects each permitted user at least once annually.

The IWU utilizes the self monitoring and its own monitoring information to assure compliance. In fiscal year 2004, 1281 samples were collected. Most of the categorical and significant users are complying with their limitations. However, during fiscal year 2004, 17 were reported to the EPA as being in significant non-compliance for calendar year 2003. The IWU's pretreatment program is computerized. Computerization includes review of industrial directories to identify candidate SIUs, review of compliance status and generation of compliance letters, public notices and notices of violation.

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 borne by the customer. In fiscal year 2004, over 2,400 samples were collected by the Industrial Waste

Unit for the surcharge billing of 75 industries. Surcharge revenues for the three years are shown below.

Table IV-10 Industrial Waste			
Fiscal Year	2002	2003	2004
Revenue	\$5,166,000	\$5,889,876	\$4,820,227

Private septage haulers are licensed in the City and spot-checked randomly to ascertain compliance with discharge standards. The IWU issues permits to septage haulers. Septage haulers can only dump at the Southwest wastewater plant. All trucks are sampled prior to discharge. Chemical haulers are prohibited from discharging into the sewer collection system.

The industrial waste unit also responds to all spill incidents. In fiscal year 2004, the unit responded to 222 incidents. The Unit has computerized the data base for spill response and clean-up information so that the information is more easily retrievable.

M. Bureau of Laboratory Services

The Water Department's Bureau of Laboratory Services (BLS) is a state-of-the-art facility which is under the Planning and Engineering Division. BLS is comprised of the following five groups: (1) Administrative Branch, (2) Inorganic Branch, (3) Materials Engineering Laboratories Branch, (4) Organic Branch, and (5) 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 and biosolids analyses and support the water treatment laboratories which are under the direct supervision of each plant's manager. 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.

BLS was intimately involved in the preparation of a Cross Connection Control Manual for the City which provides standards for the prevention of water contamination.

They are also responsible for overseeing the licensing of plumbers with respect to cross connection control.

The current staff of 114 includes 99 individuals in support of daily operations testing and 15 individuals aiding capital improvements project testing.

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

The 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 are tested for chemical and bacteriological parameters to assure product quality.

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 2005-2010 involve total expenditures of \$687,312,000 at projected fiscal year 2004 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. 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, combined sewer overflows and conveyance and wastewater collection system rehabilitation. 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. The capital improvement program is managed under the Project Controls section, under Planning and Engineering.

B. Fiscal Years 2005-2010 Capital Improvement Program

The Water Department has initiated a comprehensive review and update of its six-year, Capital Improvement Program (CIP) for fiscal years 2005-2010. 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 will be modified to provide flexibility, communication, and accountability. Finally, it is anticipated that an improved multi-year capital budgeting process will be 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 2005-2010	
Engineering and Administration	\$ 113,922,000
Improvements to Treatment Plants	256,000,000
Improvements to Conveyance System	131,580,000
Improvements to Collector System	137,810,000
Storm Flood Relief/ CSO	24,000,000
Vehicles	<u>24,000,000</u>
	\$687,312,000

1. *Engineering and Administration*

This program provides for all Engineering and Administrative personnel connected 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 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 26 miles of water mains (0.8% of the total system) 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 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 brings similar benefits as does its counterpart in water conveyance. Lastly, this category covers the

conversion of old septic tank systems to public sewers, particularly in the northwesterly sections of the City.

5. Storm Flood Relief/CSO

This project, which is ongoing, entails the construction of new storm flood relief sewers in flood-prone areas as well as projects related to the Combined Sewer Overflow program. The benefits of this program are to control excessive erosion, manage the water sheds in terms of capturing and conveying stormwater, reduction of sewer maintenance activity, and minimization of citizen complaints related to chronic flooding.

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.

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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, 2005, through June 30, 2010. Revenue projections for retail service customers are based on the schedules of rates for water and wastewater service, which became effective July 1, 2003. The Water Department is currently in the middle of rate hearings for retail service rates. Based upon the first phase of the hearings an overall rate increase of approximately 13 percent was placed into effect on February 1, 2005. Projected additional revenues from this recent increase are reflected in Table VI-8. The rate hearings are now focused on proposed increases for fiscal years 2006 through 2008, which are currently projected to amount to slightly over 4 percent for each of the three fiscal years. Beyond fiscal year 2008, additional annual operating revenue increases are projected to be necessary to meet the Water Department's projected expenses and to comply with the rate covenants of the General Ordinance. A projected statement of revenues and expenses for the six-year 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 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 2004, the latest available unaudited revenue and expense estimates for fiscal year 2005, and the approved operating and capital budgets for fiscal year 2005.

The Water Department operates on a modified accrual basis of accounting. Revenues are recorded upon a 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 and wastewater service, without further authorization of the City Council, at levels which provide sufficient revenue to meet all 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 bond ordinance covenants.

The Water Department retained Black & Veatch in early fiscal year 2001 to assist in the development of cost of service based rates for the period of fiscal years 2002 through 2004. 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 September 4, 2001, were based in large part on the Black & Veatch studies. Subsequent increases for retail service customers became effective in July 1, 2002 and July 1, 2003. Rates applicable to wholesale water and wastewater customers were also developed by Black & Veatch and became effective July 1, 2001.

One of the most significant aspects of the previous rate hearings, and the rates that were approved as a result of those hearings, was the redistribution of costs associated with the collection, conveyance, and treatment of stormwater from residential customers to non-residential customers. These changes were based upon studies related to a review of alternative stormwater cost allocation methodologies and associated charges were conducted by the Water Department and a team of consultants, which included the involvement of a citizen's advisory group, comprised of a diverse cross-section of business, institutional, and residential interests. The study results indicated that the previously existing methodology for allocating costs associated with stormwater recovered a proportionately greater share of such costs from residential accounts, when compared to a more appropriate method which recognizes both gross and impervious property areas. The redistribution of stormwater costs from residential to non-residential accounts over a three step phase-in was recognized in the rates which were in effect during the period of fiscal years 2002-2004.

As indicated above, the first phase of the ongoing rate hearing process related to rates for fiscal years 2005 through 2008, has resulted in an overall rate increase of approximately 13 percent which became effective February 1, 2005. The increase was comprised of an overall increase of 17 percent in retail water rates and an increase of 10 percent for retail wastewater rates. These rate increases were implemented on an across-the-board basis. The schedule of retail rates shown in Table VI-1 on the left side of the table are those that were in effect as of July 1, 2003, are the basis for the "base" level of revenue projections used in this report, and do not include the impacts of the recent rate adjustment in February 2005. The rates shown on the right side of Table VI-1 are the rates that became effective February 1, 2005.

In addition to the existing General Service rates presented in Table VI-1, special reduced rates are applicable to certain properties or customer groups such as charitable

TABLE VI-1
GENERAL SERVICE
WATER AND WASTEWATER RATES

Monthly Service Charges

Meter Size inches	Existing Water Rates (Eff. 07/01/03) (b)	Proposed Water Rates (Eff. 02/01/05) (c)	Existing Wastewater Rates (Eff. 07/01/03) (b)	Proposed Wastewater Rates (Eff. 02/01/05) (c)
	\$/month	\$/month	\$/month	\$/month
5/8 (a)	3.43	4.02	13.55	14.89
3/4	3.67	4.30	64.63	71.00
1	4.44	5.20	104.96	115.31
1-1/4	5.34	6.24	157.25	172.75
1-1/2	5.91	6.91	205.09	225.30
2	8.22	9.62	326.13	358.27
3	13.02	15.23	607.57	667.44
4	23.65	27.66	1,015.82	1,115.92
6	44.36	51.89	2,026.82	2,226.54
8	67.43	78.87	3,237.13	3,556.11
10	98.79	115.54	4,656.39	5,115.23
12	160.91	188.20	8,666.66	9,520.67

Quantity Charges

Monthly Water Usage	Water Rates		Monthly Water Usage	Wastewater Rates	
	07/01/03 Charge Per Mcf \$/Mcf	02/01/05 Charge Per Mcf \$/Mcf		07/01/03 Charge Per Mcf \$/Mcf	02/01/05 Charge Per Mcf \$/Mcf
First 2 Mcf	16.62	19.44	All Billable Water Usage	14.36	15.78
Next 98 Mcf	13.17	15.40			
Next 1,900 Mcf	11.72	13.70			
Over 2,000 Mcf	8.76	10.25			
			Wastewater Surcharge	07/01/03 Charge Per Pound \$/lb	02/01/05 Charge Per Pound \$/lb
			BOD in excess of 250 mg/l	0.214	0.235
			SS in excess of 350 mg/l	0.214	0.235

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.

(b) Does not reflect rate increase effective February 1, 2005.

(c) Rates effective February 1, 2005.

institutions, schools, and eligible senior citizens as prescribed by ordinance. Currently, the rates for these customers amount to 75 percent of the General Service rates. A reduced rate is also applicable to the Philadelphia Housing Authority amounting to 95 percent of the General Service rates. Charges are also established for municipal and private fire protection and for dischargers of high strength wastewater.ervice Water and Wastewater Rates

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 are presently the subject of the rate hearings. The existing rates for wholesale customers became effective July 1, 2004, with additional increases approved for these customers effective July 1, 2005, July 1, 2006, and July 1, 2007. For purposes of revenue projections from wholesale customers beyond fiscal year 2008, 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 2005 through 2010 under rate schedules for water and wastewater service for General Service customers and Contract Service customers that became effective July 1, 2003 and July 1, 2004, 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, and 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. 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.

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 2005 revenues from the City are expected to amount to

approximately \$24,370,000. This includes \$6,376,000 in public fire protection charges. In

TABLE VI-2
PROJECTED REVENUE
UNDER RATES EFFECTIVE JULY 1, 2003
(in thousands of dollars)

Line No.		Fiscal Year Ending June 30,					
		2005	2006	2007	2008	2009	2010
Operating Revenue							
Water Operations							
1	Metered Sales to General Customers	120,463	119,887	119,016	118,142	117,272	116,398
2	Municipal Service	6,226	6,226	6,226	6,226	6,226	6,226
3	Private Fire Meters	1,315	1,315	1,315	1,315	1,315	1,315
4	Public Fire Protection	6,376	6,176	5,976	5,776	5,576	5,576
5	Contract Service	6,412	6,623	7,790	8,055	8,060	8,060
6	Subtotal Water Service Revenue	140,792	140,227	140,323	139,514	138,449	137,575
7	Other Operating Revenue	5,297	5,282	5,289	5,274	5,255	5,235
8	Total Water Operations	146,089	145,509	145,612	144,788	143,704	142,810
Wastewater Operations							
9	Metered Sales to General Customers	216,075	214,903	213,396	211,810	210,379	208,865
10	Municipal Service	11,768	11,768	11,768	11,768	11,768	11,768
11	Contract Service	21,858	22,252	23,188	24,030	24,030	24,030
12	Excess Strength Service Charge	5,090	5,270	5,460	5,640	5,820	6,010
13	Subtotal Wastewater Service Revenue	254,791	254,193	253,812	253,248	251,997	250,673
14	Other Operating Revenue	7,271	7,240	7,208	7,177	7,145	7,114
15	Total Wastewater Operations	262,062	261,433	261,020	260,425	259,142	257,787
16	Total Operating Revenue	408,151	406,942	406,632	405,213	402,846	400,597
Nonoperating Income							
17	Interest Income - Capital Funds (a)	2,045	4,078	2,405	6,891	5,155	3,352
18	Interest Income - Operating Funds (b)	3,582	2,901	2,387	1,787	1,435	1,460
19	Total Nonoperating Income	5,627	6,979	4,792	8,678	6,590	4,812
20	Total Water Department Revenue	413,778	413,921	411,424	413,891	409,436	405,409

(a) Includes interest income on the Construction Fund and on the 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 the Revenue and Rate Stabilization Funds.

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 decommissioning of the high pressure system results in an overall loss in revenues of 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.

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 recent addition of this new wholesale service customer is a result of the Water Department's continuous efforts to market its available water supply capacity. The contract with Aqua Pennsylvania is for up to 11 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). Projected revenue from wholesale wastewater customers is shown on Line 11 of Table VI-2.

Since June of 2003 Bucks County has been delivering wastewater to the Water Department in excess of its annual daily contractual limit of 20 MGD. The parties filed for arbitration on this issue as provided in the service agreement. At the same time, both parties continued discussions in an attempt to reach an agreement to resolve this and other related issues. Formal execution of a contract amendment which resolved the issues took place on

March 11, 2005. The settlement provides for two payments to the Water Department. The first payment will be made on May 30, 2005, in the amount of \$ 9.0 million; a second payment of approximately \$ 9.6 million will be made on August 1, 2005. In return, the Water Department has agreed to increase Bucks County's annual daily flow limit from 20 MGD to 24 MGD. Further the Water Department agreed to lengthen the term of the current contract by 15 years, thus extending it to the year 2038.

The payments resulting from the settlement and amended agreement with Bucks County are not currently reflected in Table VI-8, as the potential disposition of these funds will be the subject of discussion during the second phase of the rate hearing process. The potential impact of these payments on Table VI-8 would be one or a combination of the following: (1) a reduction in the revenue increases shown in Table VI-8 for fiscal years 2006 through 2008; (2) an increase in the balance in the Rate Stabilization Fund as of the end of fiscal year 2008; and (3) an increase in the deposits into the Residual Fund, which could be accomplished by providing greater than 1.20 debt service coverage for senior lien debt in one or more of the fiscal years 2006 through 2008.

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. 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 period. An interest rate of 2.0 percent has been assumed in estimating interest income on the various operating funds and accounts, and 3.0 percent for the Debt Service Reserve Account, and 2.0 percent for the Construction fund. 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 2005 through 2010 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. 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 2005 through 2010 costs for the capital improvement program are stated at estimated fiscal year 2004 cost levels. An annual inflation allowance of 3 percent has been recognized on Line 13 of Table VI-3 beginning with fiscal year 2005.

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-3
CAPITAL IMPROVEMENT PROGRAM
(in thousands of dollars)

Line No.	Fiscal Year Ending June 30,						
	2005	2006	2007	2008	2009	2010	
WATERWORKS IMPROVEMENTS							
1	Engineering and Administration	8,734	8,734	8,734	8,734	8,734	8,734
2	Water Treatment and Plant Improvements	20,091	18,480	18,480	18,480	18,480	18,480
3	Main Replacement	21,930	21,930	21,930	21,930	21,930	21,930
4	Vehicles	2,000	2,000	2,000	2,000	2,000	2,000
5	Subtotal	52,755	51,144	51,144	51,144	51,144	51,144
WASTEWATER COLLECTION AND TREATMENT							
6	Engineering and Administration	10,253	10,253	10,253	10,253	10,253	10,253
7	Water Pollution Control Plant Improvements	25,909	23,520	23,520	23,520	23,520	23,520
8	Sewer Replacement	24,510	22,660	22,660	22,660	22,660	22,660
9	Storm Flood Relief	4,000	4,000	4,000	4,000	4,000	4,000
10	Vehicles	2,000	2,000	2,000	2,000	2,000	2,000
11	Subtotal	66,672	62,433	62,433	62,433	62,433	62,433
12	Total Improvements (Line 5 + Line 11)	119,427	113,577	113,577	113,577	113,577	113,577
13	Inflation Adjustment (a)	3,583	6,917	10,531	14,255	18,090	22,040
14	Inflated Total	123,010	120,494	124,108	127,832	131,667	135,617

(a) Cost estimates for fiscal years 2005 through 2010 are in terms of fiscal year 2004 cost levels.
An allowance is provided for inflation of 3 percent per year beginning with fiscal year 2005.

Net cash financing requirements indicated in Table VI-4 are assumed to be primarily met from future revenue bond issues, Capital Account deposits, and transfers to the Construction Fund from the Residual Fund. Projected revenue bonds 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 2010 is expected to be met by issuance of an additional \$550,000,000 of water and wastewater revenue bonds, including \$250,000,000 from the Series 2005A Bonds. The projected scheduling of the proposed bond issues are anticipated to be May 2005, for the Series 2005A Bonds and July 1, 2007, for a second proposed bond issue of \$300,000,000. Each bond issue is expected to provide financing of the capital program for the ensuing two-year period.

TABLE VI-4

**ANNUAL CASH CAPITAL IMPROVEMENT
FINANCING REQUIREMENTS
(in thousands of dollars)**

<u>Fiscal Year Ending June 30</u>	<u>Total Capital Improvements</u>	<u>Net Cash Flow Adjustment</u>	<u>Net Financing Required</u>
2002	121,018	(10,602)	110,416
2003	130,828	(9,673)	121,155
2004	134,753	(1,222)	133,531
2005	138,796	(1,259)	137,537
2006	142,959	(1,296)	141,663
2007	147,248	(1,335)	145,913
	815,602	(25,387)	790,215

Table VI-5 presents an estimate of the flow of funds in the Construction Fund of the Water Department for fiscal years 2005 through 2010. Line 1 of the table shows the total amount of the proposed 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 bond issues. Lines 6 through 15 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 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. Line 9 of Table VI-5 shows transfers into the Construction Fund from the Residual Fund. As monies begin to flow into the Residual Fund, it is assumed that the 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.

Lines 16 and 17 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, an interest earnings rate of 3.0 percent has

TABLE VI-5

**PROJECTED FLOW OF FUNDS - CONSTRUCTION FUND
WATER DEPARTMENT
(in thousands of dollars)**

Line No.		Fiscal Year Ending June 30,					
		<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>
	Disposition of Bond Proceeds						
1	Proceeds from Sale of Bonds	250,000			300,000		
	Transfers:						
2	Debt Reserve Account (a)	17,201			20,642		
3	Cost of Bond Issuance (b)	3,750			4,500		
4	Construction Fund (c)	229,049			274,858		
5	Total Issue	<u>250,000</u>			<u>300,000</u>		
	Construction Fund						
6	Beginning Balance	84,471	239,988	158,479	74,394	265,486	177,442
7	Transfer From Bond Proceeds	229,049			274,858		
8	Capital Account Deposit	16,708	17,068	17,428	17,788	18,148	18,508
9	Transfer From Residual Fund	21,000	16,000	16,500	20,000	19,000	20,000
10	Total Available	<u>351,228</u>	<u>273,056</u>	<u>192,407</u>	<u>387,040</u>	<u>302,634</u>	<u>215,950</u>
11	Net Cash Financing Required	<u>111,240</u>	<u>114,577</u>	<u>118,013</u>	<u>121,554</u>	<u>125,192</u>	<u>129,609</u>
12	Ending Balance	<u>239,988</u>	<u>158,479</u>	<u>74,394</u>	<u>265,486</u>	<u>177,442</u>	<u>86,341</u>
	Debt Reserve Account						
13	Beginning Balance	157,426	174,628	174,628	174,628	195,270	195,270
14	Transfer From Bond Proceeds	17,202			20,642		
15	Ending Balance	<u>174,628</u>	<u>174,628</u>	<u>174,628</u>	<u>195,270</u>	<u>195,270</u>	<u>195,270</u>
	Interest Income						
16	Construction Fund (d)	2,045	3,753	2,080	5,937	4,201	2,398
17	Debt Reserve Account (e)	4,923	5,319	5,319	5,948	5,948	5,948
18	Total Interest Income	<u>6,968</u>	<u>9,072</u>	<u>7,399</u>	<u>11,885</u>	<u>10,149</u>	<u>8,346</u>

(a) Amount of Debt Service Reserve Account deposit estimated to be equal to maximum annual future debt service payment.

(b) Cost of bond issuance assumed at 1.5 percent of issue amount.

(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 Residual Fund up to a maximum amount of \$4,994,000, with the balance being transferred to the Revenue Fund.

been assumed for the Debt Service Reserve Account, and 2.0 percent has been assumed for the Construction Fund. 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.

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 2005 through 2010 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.

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 six-year study period. Fiscal year 2005 expense projections are based on the Water Department's budgeted expenditures for that year. 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 proposed fiscal year 2005 budgeted expenditures downward slightly to reflect recent actual expenditure experience. Projection of labor intensive items of expense reflect stipulations of the current labor agreement, in which a bonus of \$750 per employee is applicable for fiscal year 2005, with wage adjustments of 2 percent effective July 1, 2005, 3 percent effective July 1, 2006, and 4 percent effective July 1, 2007. Beyond fiscal year 2008, labor costs are assumed to increase at 3 percent annually. Electric power costs are expected

to increase 2.5 percent annually through the study period. All other purchased services, materials and supplies, and equipment expenditures are projected to increase at 3.5 percent annually from the adjusted 2005 budgeted expenditures level throughout the study period.

TABLE VI-6
PROJECTED OPERATION AND MAINTENANCE EXPENSE
(in thousands of dollars)

Line No.		Fiscal Year Ending June 30,					
		<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>
	Water Operations						
1	Personal Services	51,287	51,697	53,509	55,933	57,902	59,939
2	Purchased Services	23,359	25,425	25,383	26,018	26,668	27,335
3	Materials and Supplies	14,647	15,159	15,690	16,239	16,807	17,396
4	Equipment	1,376	1,548	1,602	1,659	1,717	1,777
	Contributions, Indemnities, Refunds						
5	and Taxes	2,409	2,494	2,581	2,671	2,765	2,862
6	Interdepartmental Charges	19,616	19,868	20,261	20,985	21,590	22,212
7	Subtotal Operating Expenses	<u>112,694</u>	<u>116,191</u>	<u>119,026</u>	<u>123,504</u>	<u>127,449</u>	<u>131,520</u>
8	Less: Liquidated Encumbrances	<u>(4,800)</u>	<u>(4,800)</u>	<u>(4,800)</u>	<u>(4,800)</u>	<u>(4,800)</u>	<u>(4,800)</u>
9	Operating Expenses - Water	<u>107,894</u>	<u>111,391</u>	<u>114,226</u>	<u>118,704</u>	<u>122,649</u>	<u>126,720</u>
	Wastewater Operations						
10	Personal Services	80,041	80,705	83,548	87,349	90,372	93,550
11	Purchased Services	38,736	41,829	41,503	42,541	43,604	44,694
12	Materials and Supplies	15,518	16,061	16,623	17,205	17,807	18,431
13	Equipment	2,331	2,599	2,690	2,784	2,881	2,982
	Contributions, Indemnities, Refunds						
14	and Taxes	4,103	4,246	4,395	4,549	4,708	4,873
15	Interdepartmental Charges	35,852	36,305	37,015	38,336	39,441	40,578
16	Subtotal Operating Expenses	<u>176,580</u>	<u>181,746</u>	<u>185,775</u>	<u>192,763</u>	<u>198,814</u>	<u>205,107</u>
17	Less: Liquidated Encumbrances	<u>(7,200)</u>	<u>(7,200)</u>	<u>(7,200)</u>	<u>(7,200)</u>	<u>(7,200)</u>	<u>(7,200)</u>
18	Operating Expenses - Wastewater	<u>169,380</u>	<u>174,546</u>	<u>178,575</u>	<u>185,563</u>	<u>191,614</u>	<u>197,907</u>
19	Total Operating Expenses	<u>277,274</u>	<u>285,937</u>	<u>292,800</u>	<u>304,267</u>	<u>314,263</u>	<u>324,627</u>

Interdepartmental charges for service provided to the Water Department by other City departments and agencies anticipated through the six year 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 fiscal year 2005 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 period of fiscal years 2005-2010. The proposed \$250,000,000 Series 2005A Bonds are anticipated to be issued May 2005. Debt service on this issue assumes a 30-year amortization schedule, a 5.50 percent interest rate, and equal annual principal and interest payments. The first debt service payment on the Series 2005A Bonds is projected to occur in fiscal year 2006. A second bond issue during the study period of \$300,000,000 is projected to be issued July 1, 2007. Similar assumptions for debt service payments on this bond issue have been made, as for the Series 2005A Bonds, with the first debt service payment for this second bond issue projected to occur in fiscal year 2008. Table VI-7 summarizes the total revenue bond debt service projected for the study period. As indicated in footnote (b) related to Line 3 of Table VI-7, the projected annual debt service payments on the Series 2005B Bonds are assumed to be equal to the annual debt service payments on the refunded Series 1995 Bonds.

TABLE VI-7
FUTURE DEBT SERVICE REQUIREMENTS
(in thousands of dollars)

Line No.		Fiscal Year Ending June 30,					
		<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>
	Revenue Bonds						
1	Outstanding Bonds	156,776	152,846	152,849	152,859	152,852	152,852
2	Series 2005A Bonds (a)		17,201	17,201	17,201	17,201	17,201
3	Series 2005B Bonds (b)		4,491	4,491	4,491	4,491	4,491
4	Projected Future Bonds (c)				20,642	20,642	20,642
5	Total Revenue Bonds	<u>156,776</u>	<u>174,538</u>	<u>174,541</u>	<u>195,193</u>	<u>195,186</u>	<u>195,186</u>
	Pennvest Loan						
6	Pennvest Parity Loans	384	384	384	384	384	384
7	Pennvest Subordinate Loans	1,227	1,227	1,227	1,227	1,227	1,227
8	Total Debt Service	<u>158,387</u>	<u>176,149</u>	<u>176,152</u>	<u>196,804</u>	<u>196,797</u>	<u>196,797</u>

(a) Assume 5.5% interest, term of 30 years, level annual principal and interest payments, May 2005 closing date.

(b) Debt service on the Series 2005B Bonds are assumed to be equal to the debt service on the refunded Series 1995 Bonds.

(c) Assume 5.5% interest and term of 30 years, level annual principal and interest payments, and July 1, 2007 closing date.

Lines 5 and 6 of Table VI-7 show the debt service payments on the outstanding Pennvest loans. Line 5 shows the annual debt service of \$384,000 which is related to a parity revenue bond issued through Pennvest dated April 30, 2000. Line 6 shows the annual debt service of \$1,227,000, 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 in order 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 2005 requirement amounts to \$16,708,000 and increases during the period to \$18,508,000 in fiscal year 2010.

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 2005 through fiscal year 2010 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.

TABLE VI-8

**PROJECTED REVENUE AND REVENUE REQUIREMENTS
WATER DEPARTMENT OPERATIONS 1989 GENERAL ORDINANCE
(in thousands of dollars)**

Line No.		Fiscal Year Ending June 30,					
		2005	2006	2007	2008	2009	2010
OPERATING REVENUE							
1	Water Service - Existing Rates	140,792	140,227	140,323	139,514	138,449	137,575
2	Wastewater Service - Existing Rates	254,791	254,193	253,812	253,248	251,997	250,673
3	Total Service Revenue - Existing Rates	395,583	394,420	394,135	392,762	390,446	388,248
	Additional Service Revenue Required:						
4	FY 2005	13,883	33,221	33,197	33,082	32,886	32,701
5	FY 2006		17,640	17,627	17,566	17,462	17,364
6	FY 2007			18,355	18,291	18,183	18,080
7	FY 2008				19,045	18,933	18,826
8	FY 2009					52,092	51,799
9	FY 2010						15,811
10	Total Additional Service Revenue Required	13,883	50,861	69,179	87,984	139,556	154,581
11	Total Water and Wastewater Service Revenue	409,466	445,281	463,314	480,746	530,002	542,829
12	Transfer From (To) Rate Stabilization Fund	38,210	31,070	22,110	37,090	(40)	(650)
13	Other Income (a)	18,195	19,501	17,289	21,129	18,990	17,161
14	Revenues	465,871	495,852	502,713	538,965	548,952	559,340
OPERATING EXPENSE							
15	Water and Wastewater Operations	221,806	229,764	235,524	244,946	253,232	261,838
16	Direct Interdepartmental Charges	55,468	56,173	57,276	59,321	61,031	62,790
17	Total Operating Expense	277,274	285,937	292,800	304,267	314,263	324,628
18	NET REVENUES AFTER OPERATIONS	188,597	209,915	209,913	234,698	234,689	234,712
DEBT SERVICE							
Senior Debt Service							
Revenue Bonds							
19	Outstanding Bonds	156,776	152,846	152,849	152,859	152,852	152,852
20	Pennvest Parity Loans	384	384	384	384	384	384
21	Series 2005A Bonds (b)		17,201	17,201	17,201	17,201	17,201
22	Series 2005B Bonds (c)		4,491	4,491	4,491	4,491	4,491
23	Projected Future Bonds (d)				20,642	20,642	20,642
24	Total Senior Debt Service	157,160	174,922	174,925	195,577	195,570	195,570
25	Total Senior Debt Service Coverage	1.20 x	1.20 x	1.20 x	1.20 x	1.20 x	1.20 x
Subordinate Debt Service							
26	Pennvest Subordinate Loans	1,227	1,227	1,227	1,227	1,227	1,227
27	Total Subordinate Debt Service	1,227	1,227	1,227	1,227	1,227	1,227
28	Total Debt Service on Bonds	158,387	176,149	176,152	196,804	196,797	196,797
29	CAPITAL ACCOUNT DEPOSIT	16,708	17,068	17,428	17,788	18,148	18,508
30	TOTAL COVERAGE (L18/(L28+L29))	1.07 x	1.08 x	1.08 x	1.09 x	1.09 x	1.09 x
RESIDUAL FUND							
31	Beginning of Year Balance	10,997	3,512	4,211	4,044	4,150	4,895
32	Interest Income	13	0	0	0	0	0
Deposits							
33	End of Year Revenue Fund Balance	13,502	16,698	16,333	20,106	19,744	19,407
34	Deposit for Transfer to City General Fund (e)	4,924	4,994	4,994	4,994	4,994	4,994
Less							
35	Transfer to Construction Fund	21,000	16,000	16,500	20,000	19,000	20,000
36	Transfer to City General Fund	4,924	4,994	4,994	4,994	4,994	4,994
37	End of Year Balance	3,512	4,211	4,044	4,150	4,895	4,302
RATE STABILIZATION FUND							
38	Beginning of Year Balance	128,596	90,386	59,316	37,206	116	156
39	Deposit From (To) Revenue Fund	(38,210)	(31,070)	(22,110)	(37,090)	40	650
40	End of Year Balance	90,386	59,316	37,206	116	156	806

(a) Includes other operating and nonoperating income, including interest income on funds and accounts transferable to the Revenue Fund.

(b) Based on \$250,000,000 bonds reflecting 5.5% interest, term of 30 years, level annual principal and interest payments, issued May 2005 with the first principal and interest payments due in FY2006.

(c) Debt service on the Series 2005B Bonds is projected to equal the debt service on the refunded Series 1995 Bonds.

(d) Based on \$300,000,000 with 5.5% interest, term of 30 years, level annual principal and interest payments, issued July 2007 with bonds reflecting first principal and interest payments due in FY2008.

(e) Transfer of interest earnings from the Bond Reserve Account must first go to the Residual Fund shown in Line 34 to satisfy the requirements for the Transfer to the City General Fund, with the balance going to the Revenue Fund included in Line 13.

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, 2003 and for wholesale customers the rates which have been put in place for fiscal years 2005 through 2008 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 *rate* increase of approximately 13 percent was placed into effect February 1, 2005. The anticipated additional revenue to be realized as receipts during fiscal year 2005 over the five months from February through June 2005 amounts to \$13,883,000. This translates to an average overall percentage *revenue* increase of 8.42 percent during this period as shown on Line 4. Annual revenue increases of 4.13 percent are proposed for the fiscal years 2006 – 2008 which are presently being reviewed as a part of the ongoing rate hearing process.

As indicated by the positive year-end balances shown on Line 33 of Table VI-8, implementation of these revenue increases will 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, the authorizing General Ordinance covenants that during any given fiscal year the Water Department 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 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 projection 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.

In order 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 February 1, 2005, is necessary during the study period, and such requirements are reflected in the revenue projections shown on Lines 5 through 9 of Table VI-8. As shown on Lines 25 and 30, the levels of additional service revenue projected for the study period will 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 33 indicate that Charter requirements are also satisfied. It is important to note that under the General Ordinance, which provides for the various rate covenants discussed above, that 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 31-37) and the Rate Stabilization Fund (Lines 38-40) are also presented in Table VI-8 for the period through fiscal year 2010. As indicated on Line 37 of Table VI-8, a balance of between approximately \$3,000,000 and \$5,000,000 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 transfer of available Residual Fund balances to the Construction Fund in the amounts shown on Line 35 of Table VI-8.

As indicated in the previous discussion regarding the settlement of the dispute with Bucks County on March 11, 2005, and the associated contract amendment and scheduled settlement payments by Bucks County to the Water Department, there are three potential uses, or combinations of uses, of the payments resulting from this settlement. In reviewing Line 40 of Table VI-8, the projected end of year balance in the Rate Stabilization Fund, it is noted that the Rate Stabilization Fund is projected to be nearly depleted by the end of fiscal year 2008. Accordingly, it is urged that at least a portion of the payments from the Bucks County settlement be allowed to remain in the Rate Stabilization Fund to provide a working capital balance to enable more flexible day to day financial operations within the Water Department, as well as to mitigate the projected revenue increase indicated for fiscal year 2009.

In conclusion, based upon 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 Covenants 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.

In conducting our analyses and in forming an opinion of the projection of future operations summarized in this report, we have made certain assumptions with respect to conditions, events, and circumstances that may occur in the future. The methodology utilized in performing the analyses follows generally accepted practices for such projections. Such assumption and methodologies are summarized in this report and are reasonable and appropriate for the purpose for which they are used. While we believe the assumptions are reasonable and the projection methodology valid, actual results may differ materially from those projected, as influenced by the conditions, events, and circumstances that actually occur.

APPENDIX III

SUMMARIES OF CERTAIN AUTHORIZATIONS FOR THE BONDS

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APPENDIX III

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”) the Tenth Supplemental Ordinance to the General Ordinance (the “Tenth Supplemental Ordinance”), and an agreement (the “Covenant Agreement”) between the City and the Fiscal Agent containing covenants for the benefit of the Bond Insurer. 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, the Tenth Supplemental Ordinance and the Covenant Agreement, 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 2007A and Series 2007B Bonds are being issued under the terms of The First Class City Revenue Bond Act and the General Ordinance and pursuant to the Tenth 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 be 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 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 2007A and Series 2007B Bonds are being issued under the terms of the General Ordinance and pursuant to the Tenth Supplemental Ordinance. The Tenth Supplemental Ordinance (see below) sets forth the specific terms of the Series 2007A and Series 2007B Bonds. The following summarizes the terms of the General Ordinance, prior to being supplemented pursuant to the Tenth 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 Tenth 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 Series 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 by one or more Supplemental Ordinances 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 §1 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 (t) 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 pay 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(0 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(0)(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, all 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 TENTH SUPPLEMENTAL ORDINANCE

The Series 2007A and Series 2007B Bonds will be issued under and are subject to the Tenth Supplemental Ordinance which supplements the provisions of the General Ordinance. Reference is made to the Tenth Supplemental Ordinance and the General Ordinance, which provide more complete details of the terms of the Series 2007A and Series 2007B Bonds. All capitalized and defined terms used in the following summary of the Tenth Supplemental Ordinance which are not otherwise defined in this Official Statement are defined as in the General Ordinance.

The Tenth 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 supplemented and further authorizing an agreement relating to certain Qualified Swap

payments to be made in connection with the outstanding City of Philadelphia, Water and Wastewater Revenue Bonds, Series of 1993 and Series of 1995 (the “Outstanding Bonds”) or the refunding bonds used to refund such Outstanding Bonds.

The Tenth 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 Water and Wastewater Revenue Bonds of the City (the “Bonds”), a sum or sums which in aggregate shall not exceed the principal amount authorized in the Tenth Supplemental Ordinance to be expended as specified therein and summarized below. The Tenth Supplemental Ordinance further authorizes the Bond Committee, or a majority of them, on behalf of the City to enter into an agreement relating to Qualified Swap payments to be made on a parity basis with the payment of the interest on the Outstanding Bonds or the Bonds. In accordance with the General Ordinance, the Bond Committee, or a majority of them, shall approve final terms of the Bonds (including the Qualified Swap payments) in its Determination prior to, and as a condition of issuance of the Bonds. Such Determination shall be deemed a supplement to the Tenth Supplemental Ordinance.

The aggregate principal amount of the Bonds shall not exceed three hundred fifty million dollars (\$350,000,000) 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.

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 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 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 Tenth 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 Tenth Supplemental Ordinance.

The Tenth Supplemental Ordinance provides that the 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 2007A Bonds and Series 2007B Bonds, as appropriate and may include serial bonds, terms bonds, Capital Appreciation Bonds, as specified in the Determination.

The Bonds issued pursuant to the Tenth 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 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 Bonds, if any, shall be payable as provided in the Determination. The 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 Tenth Supplemental Ordinance, or with the Act or the General Ordinance.

The Bond Committee, or a majority of them, or the Director of Finance is further authorized, on behalf of the City, as permitted by law, to enter into Qualified Swap(s) (and an option to enter into such Qualified Swap(s)) with respect to all or a portion or portions of the Outstanding Bonds and the Bonds if it determines and certifies that such Qualified Swap(s) will assist the City in more effectively managing its interest costs and that the implementation of such Qualified Swap(s) will not impair the financial viability of the System.

The Tenth Supplemental Ordinance provides that the 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 Tenth Supplemental Ordinance provides that proceeds of the bonds shall be used only to refund and redeem all or any portion of the outstanding City Water and Wastewater Revenue Bonds Series of 1993 and Series of 1995; 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 Bonds.

Accrued interest on Bonds issued under the Tenth Supplemental Ordinance shall be deposited in the Sinking Fund. Remaining 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 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 proceeds of the Bonds required for the defeasance of obligations to be refunded or otherwise defeased, as specified in the Tenth Supplemental Ordinance, may be deposited in an escrow fund or account.

The City covenants in the Tenth Supplemental Ordinance that, so long as any 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) on the Bonds and the principal thereof when due. Prior to enactment of the Tenth Supplemental Ordinance by City Council, an opinion of the City Solicitor shall be filed with the City Council pursuant to the Act.

The Tenth 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 Bonds as may be necessary or advisable in order that the 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 Bonds and in order to maintain the exclusion of interest on the 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 Bonds.

The Tenth 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.

AGREEMENT REGARDING COVENANTS FOR THE BENEFIT OF THE BOND INSURER

As noted on the front cover page of this Official Statement, the City's Water and Wastewater Revenue Refunding Bonds, Series 2007A and Series 2007B (the "Bonds") are insured by the Bond Insurer (as defined below). The Covenant Agreement (the "Covenant Agreement") dated as of _____, 2007 between the City and U.S. Bank National Association, as fiscal agent (the "Fiscal Agent") is for the benefit of the Bond Insurer and not for the benefit of the holders of the Bonds, and the City, with the consent of the Bond Insurer, may amend the Covenant Agreement at any time without the consent of the holders of the Bonds.

The following is a summary of certain terms defined in the Covenant Agreement and used in this Official Statement. Reference should be made to the Covenant Agreement for a full and complete statement of its terms and any capitalized term used herein but not defined are used as defined in the Covenant Agreement.

Definitions

“Bond Insurer” means Ambac Assurance Corporation, a New York domiciled financial guaranty insurance company, or any successor thereto or assignee thereof.

“Policy” means the financial guarantee insurance policy issued by the Bond Insurer insuring the payment when due of the principal of and interest on the Bonds as provided therein.

Bond Insurer Consent in Lieu of Holders

The Bond Insurer’s consent shall be required in lieu of consent of holders of the Bonds, when required, for the following purposes: (i) execution and delivery of any supplemental ordinance or any amendment, supplement or change to or modification of the General Ordinance (ii) removal of the Fiscal Agent and selection and appointment of any successor fiscal agent; and (iii) initiation or approval of any action not described in (i) or (ii) above which requires consent of holders of the Bonds.

Upon the occurrence and continuance of an event of default as described in Article VIII of the General Ordinance, the Bond Insurer shall be entitled to control and direct the enforcement of all rights and remedies granted to the holders of the Bonds or the Fiscal Agent for the benefit of the holders of the Bonds under the General Ordinance, including, without limitation: (i) the right to accelerate the principal of the Bonds, and (ii) the right to annul any declaration of acceleration of the Bonds, and the Bond Insurer shall also be entitled to approve all waivers of events of default relating to the Bonds.

Acceleration

In the event that the maturity of the Bonds is accelerated, the Bond Insurer may elect, in its sole discretion, to pay all or a portion of the accelerated principal and interest accrued on such principal to the date of acceleration (to the extent unpaid by the City) with respect to the Bonds, and the Fiscal Agent shall accept such amounts. Upon payment of all of such accelerated principal and interest accrued to the acceleration date as provided above, the Bond Insurer’s obligations under the Policy shall be fully discharged.

Subrogation

The Bond Insurer shall, to the extent it makes any payment of principal of or interest on the Insured Bonds, become subrogated to the rights of the recipients of such payments in accordance with the terms of the Policy.

Defeasance of Insured Bonds

In addition to the limitations imposed by the Act and the General Ordinance, the Bond Insurer has imposed restrictions on the types of investments used to defease the Bonds. Upon a defeasance of the Bonds, the City is required to deliver, among other documents, a verification that sufficient funds are available to accomplish the defeasance.

Information Reporting Requirements

The City has covenanted with the Bond Insurer to provide periodic financial and operational reports and notices in addition to the requirements of the General Ordinance.

Covenant Defaults

The Bond Insurer has imposed restrictions on the permissible grace and cure periods for defaults by the City of its obligations under the General Ordinance.

Redemption of the Insured Bonds

The Bond Insurer's consent is required prior to the selection for redemption of the Bonds insured by the Policy.

Expenses of the Bond Insurer

The City has agreed to reimburse the Bond Insurer for the Bond Insurer's expenses incurred in exercising its rights under the General Ordinance and other transaction documents relating to its insurance of the Bonds, including the Covenant Agreement.

Breach of Covenants with the Bond Insurer

A breach by the City of a covenant in the Covenant Agreement will be considered a breach of a covenant with respect to the Bonds for purposes of the Act and the General Ordinance.

Amendments and Modifications

No provision of the General Ordinance or the Bond Committee Determination, dated _____, 2007 relating to the Bonds, and no material provision of the Covenant Agreement, the Bonds or the security for the Bonds may be modified without the consent of the Bond Insurer. The Bond Insurer must also provide consent prior to the City entering into any contract or taking any action that might impair or prejudice the rights of the Bond Insurer or the security or sources of payment for the Bonds.

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APPENDIX IV

CERTAIN INFORMATION CONCERNING THE CITY OF PHILADELPHIA

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THE GOVERNMENT OF THE CITY OF PHILADELPHIA

General

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 now in effect, there are today 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 June 1, 2006, the Office of the City Controller had 129 employees, including 80 auditors, 30 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 on a 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, and the City Representative and Director of Commerce (the "City Representative and 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 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 City Representative and Director of Commerce is charged with the responsibility of giving wide publicity to any items reflecting the activities and accomplishments of the City, its inhabitants, and commerce and industry, and is charged with the responsibility of promoting and developing commerce and industry.

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, purchasing, and some aspects of property management through the Procurement Department; 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 Street, his chief of staff, his cabinet and the City Controller:

John F. Street, Mayor, was sworn in as Philadelphia's 97th mayor on January 3, 2000 and was re-elected to a second 4-year term on November 4, 2003. Elected to Philadelphia City Council in 1979, Mayor Street took his City Council seat in 1980. For nearly 20 years he represented the City's Fifth Councilmanic District, distinguishing himself as a fighter for working people and neighborhoods. He was unanimously elected City Council President in 1992 and again in 1996. Mayor Street received his B.A. from Oakwood College in Huntsville, Alabama, and a J.D. from Temple University Law School.

Joyce S. Wilkerson, Chief of Staff, began practicing law as a legal service attorney first in California and later in Philadelphia. Ms. Wilkerson worked as Housing Counsel at the Philadelphia Redevelopment Authority where she represented the Redevelopment Authority in its capacity as issuer of housing bonds. More recently, Ms. Wilkerson served as Chief Staff Attorney to the City Council of Philadelphia. Ms. Wilkerson has a B.A. degree from the University of Pennsylvania and a J.D. degree from Boalt Hall School of Law at the University of California, Berkeley.

Vincent J. Jannetti, Acting Secretary of Financial Oversight and Director of Finance, was appointed in December 2004. Mr. Jannetti is a life-long Philadelphian and a City employee for over 30 years. Mr. Jannetti was most recently Deputy Director of Finance for Debt Management as well as Executive Director of the Sinking Fund Commission, responsible for overseeing the issuance of new debt as well as budgeting and payment of debt service on City general obligation bonds and revenue bonds. Mr. Jannetti earned a Bachelor of Science in Business Administration from Villanova University.

Romulo L. Diaz, Jr., was appointed on April 1, 2005 as City Solicitor. 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 his appointment, Mr. Diaz was Chair of the Commercial and Regulatory Law Group of the City's Law Department, which he joined in March 2002. Prior thereto, he held numerous legal, management and policy positions at increasing levels of trust and responsibility in the federal government, including assistant administrator for management at the U.S. Environmental Protection Agency, and Deputy Chief of Staff and Counselor to the Secretary of Energy. He received the Secretary of Energy's Gold Award for coordinating the Department of Energy's reform efforts that streamlined the Department's regulations and paperwork burden. He chaired several international groups, including NATO's Petroleum Planning Committee from 1992-1995 during a major realignment of the North Atlantic Alliance. Mr. Diaz received his J.D. from the University of Texas School of Law and B.A. from the University of Texas at Austin. He is licensed to practice in Pennsylvania, New Jersey, the District of Columbia and Texas. He is a Charter Fellow of the Federal Bar Association; Treasurer of the Hispanic Bar Association of Pennsylvania; and a Director of Servicemembers Legal Defense Network and the Pan American Association of Philadelphia.

Pedro A. Ramos, Managing Director, was appointed in April 2005. Prior to his appointment as Managing Director, Mr. Ramos served as City Solicitor from March 2004. Mr. Ramos was a Vice President and the Chief of Staff to University of Pennsylvania President, Dr. Judith Rodin. Mr. Ramos joined the Penn President's Office in January 2002. Mr. Ramos' legal career started at Ballard Spahr Andrews & Ingersoll, LLP, where he worked since his graduation from law school through December 2001, when he left the partnership to work at Penn. His primary area of practice was employee benefits. Mr. Ramos is also a former member and president of the Board of Education of The School District of Philadelphia. Mr. Ramos has served on several boards in the Philadelphia community. Mr. Ramos is a 1992 cum laude graduate of the University of Michigan Law School, a 1987 graduate of the University of Pennsylvania, and a 1983 graduate of Central High School in Philadelphia.

Loree D. Jones, Secretary of External Affairs, was appointed in April 2006. Prior to her recent appointment, Ms. Jones served as First Deputy Managing Director for the City since September 2002. She has served as Executive Director of the African Studies Association; a manager at Epic Horizon, a resort development firm; an African studies instructor in the Department of Sociology at Rider University; and a teaching assistant in the History Department at Princeton University. She holds a Bachelor of Arts degree in History from Spelman College and a Master of Arts degree in History from Princeton University.

Stephanie W. Naidoff, the City Representative and Director of Commerce, was appointed on March 8, 2004. Earlier, she was the founding President of the Kimmel Center for the Performing Arts from 1997 to 2001. Before taking on that assignment, she had a long career as an attorney starting out in Federal service with the U.S. Department of Health and Human Services, then as General Counsel to Thomas Jefferson University and then with the law firm of Morgan, Lewis and Bockius. She is a graduate of the University of Pennsylvania Law School in 1966 and Goucher College in 1963.

Jacqueline E. Barnett, Secretary of Education, was appointed in August 2005. Prior to her current appointment, Ms. Barnett served for four years as Senior Education Policy Advisor to Congressman Chaka Fattah. In her role she was immersed in the work leading to the creation of the College Opportunity Resources for Education (Core) Philly Scholarship program. Ms. Barnett is a 2001 graduate with honors from NOVA Southeastern University, a 1989 graduate of Fisk University, and a 1984 graduate of the High School for the Creative and Performing Arts in Philadelphia.

Sylvester M. Johnson, Police Commissioner/Secretary of Public Safety. Mr. Johnson is a thirty-six year veteran of the Philadelphia Police Department. Prior to his current appointment, Mr. Johnson was, since April 1998, Deputy Commissioner of Operations under former Police Commissioner John F. Timoney. Mr. Johnson attended Philadelphia Community College, Temple University, the Senior Management Institute for Police at Harvard University, Pennwalt Corporation's Targeted Management Training, the United States Secret Service Dignitary Protection Training, the Federal Bureau of Investigation's ("FBI") National Academy Class 172, and the FBI National Executive Institute.

Janice Woodcock was appointed Executive Director of the City Planning Commission and Secretary of Strategic Planning and Initiatives by the Mayor in October 2006. Ms. Woodcock is a registered architect in

Pennsylvania, New Jersey and Washington and a LEED accredited professional. She holds a Bachelor of Arts in Sociology from St. Lawrence University, New York, and a Masters of Architecture Degree with a certificate in Urban Design from the University of Washington in Seattle. Prior to coming to Philadelphia in the early 1990s, Ms. Woodcock worked as a planner for firms in Portland, Boston and Seattle, including the firm of Jones and Jones Architecture and Landscape Architecture, a leader in the environmental design field. In Philadelphia, Ms. Woodcock worked at the architectural firm of Cecil Baker & Associates on a wide range of residential, commercial and public projects, including a report for Chestnut Street in Philadelphia called, "Turning on the Lights Upstairs," a study of how to occupy the vacant upper floors of historic buildings. Ms. Woodcock also managed her own firm prior to coming to work at the City. In 2004 she joined the City's Capital Program Office as Project Director for the Fairmount Park Team where she served as Project Director until her appointment as Planning Commissioner.

Kevin R. Hanna was appointed Secretary of Housing and Neighborhood Preservation by the Mayor in December 2002. Mr. Hanna has more than 20 years' experience in economic development and banking finance. Before joining the City of Philadelphia, he served for five years as the first president of the Atlanta Development Authority (ADA), an independent public authority created by the City of Atlanta to promote the growth of its downtown area and the redevelopment of its surrounding communities. Prior to 1996, Mr. Hanna was vice president, public finance, First Union Capital Markets, Atlanta. Mr. Hanna earned a Bachelor of Science in Economics degree from Davidson (N.C.) College where he is on the Board of Trustees. He received a Master of Business Administration degree with concentration in banking finance from the University of North Carolina at Chapel Hill and was awarded a fellowship by the Consortium for Graduate Studies in Business.

Terry Phillis, Chief Information Officer, was appointed in September of 2006. For over 20 years, Mr. Phillis has provided leadership at the executive level in technology-driven organizations. He has had experience in strategic planning and tactical problem solving coupled with operational and sales responsibilities as well as success in acquisition, integration and process reengineering. As Chief Information Officer, Mr. Phillis is responsible for strategic and tactical initiatives in the delivery of reliable, dependable and available IT infrastructure capabilities to over 14,000 employees serving City constituents. He oversees all development and support functions involving core services to the City as well as Project Management Organizational issues relating to IT initiatives. He is also responsible for establishment of an Information Security office that sets policy regarding protection of IT infrastructure with appropriate monitoring and enforcement of the City's data.

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, formerly The Hospitals 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.

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.

As of the close of business on June 30, 2006, the principal amount of PICA bonds outstanding was \$674,305,000.

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 1996 through 2006, and the current estimate for Fiscal Year 2007 is set forth below:

<u>Year</u>	<u>Amount</u>
1996	\$218.8 million
1997	218.2 million
1998	236.1 million
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 (actual)
2007	321.5 million (estimated)

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 Fourteenth Five-Year Plan to City Council on January 25, 2005. City Council approved the Fourteenth Five-Year Plan on June 16, 2005. On June 21, 2005, PICA requested the City to make revisions to the Fourteenth Five Year Plan relating to the City's estimates of certain revenues. The City responded to the PICA requests and submitted a revised Fourteenth Five Year Plan to PICA on July 20, 2005. PICA approved the Plan on July 21, 2005. In the Fourteenth Five-Year Plan, the City projected a balanced budget in each of the five years covered by the plan through a continued strategy based upon implementation of management initiatives, productivity improvements, cost containments, certain workforce restructurings, and revenue enhancements.

The Mayor presented the Fifteenth Five-Year Plan (the "Plan") to City Council on January 24, 2006. City Council approved the Fiscal Year 2007 Budget on May 25, 2006, and the Mayor signed it on June 8, 2006. The Plan was revised to reflect changes made to the Fiscal Year 2007 budget by City Council, and a revised Plan was submitted to PICA on June 1, 2006. The PICA Board approved the Plan on July 5, 2006.

CITY FINANCIAL PROCEDURES

Except as otherwise noted, the financial statements, tables, statistics, and other information contained in this Appendix IV 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, 2006 (the "Fiscal Year 2006 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 2006 Comprehensive Annual Financial Report.

Fund Structure

The major operations of the City are conducted through the Principal Operating Funds (Debt Related), which include the General Fund. In addition, the City has three other Principal Operating Funds that are not debt related ("Non-Debt Related Funds"), two of which are financed solely from grants from the Commonwealth and Federal governments. Collectively, the Principal Operating Funds (Debt Related and Non-Debt Related Funds) are referred to herein as the "Principal Operating Funds."

Principal Operating Funds

The Debt Related Funds that contain resources that may be used for the payment of debt include the General Fund, the resources of which are available for any City purpose, and the County Liquid Fuels Tax Fund and the Special Gasoline Tax Fund, the resources of which are available only for servicing general obligation debt issued for construction of public roads or streets. The other Debt Related Funds include the Water Fund and the Aviation Fund, the resources of which are not generally available for City purposes, other than the operations of the City's Water Department and the City's Division of Aviation, respectively.

The Non-Debt Related Funds, the resources of which are not available for other City purposes, include the Grants Revenue Fund, the Community Development Fund, the Hotel Room Rental Tax Fund, the Car Rental Tax Fund and the HealthChoices Behavioral Health Revenues Fund.

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-one individual governmental funds. The City's Comprehensive Annual Financial Report for the City's fiscal year ended June 30, 2006, 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 for the City's fiscal year ended June 30, 2006, 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 HealthChoices 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 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, eight Special Revenue Funds (County Liquid Fuels Tax, Special Gasoline Tax, HealthChoices Behavioral Health, Hotel Room Rental Tax, Grants Revenue, Community Development, Car Rental Tax 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 Capital Improvement Fund budget is adopted annually by the City Council. The Capital Improvement budget is appropriated by project for each department. All transfers between projects exceeding twenty percent of each project's original appropriation must be approved by City Council. Any funds that are not committed or expended at year-end are lapsed.

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. Within ten days after the adoption of each of such ordinances and their receipt by the Mayor, the Mayor must act upon such ordinances or the ordinances become effective.

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 2007 through 2012.

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-sixth 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, 2005. 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, certain capital project 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 written procedures adopted by the Office of Director of Finance.

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.

Written 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 Philadelphia Home Rule Charter, the City Treasurer is the primary 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 under contract with the City, which 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, 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. If the market values fall 5% below cost, a written explanation is required from the investment manager outlining the reasons for the decline and outlining the steps, if any, that are needed to correct the situation. In the management of the City’s short-term investments (usually 2 year or less) the Finance Director has established internal controls. The internal controls are designed to prevent and control losses of City funds arising from fraud, employee error, and misrepresentation by third parties, unanticipated changes in financial markets, or imprudent actions by any personnel.

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. 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 July of each 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 2006 Budget

The City's Fiscal Year 2006 budget was approved by City Council on June 2, 2005 and signed by the Mayor on June 16, 2005. This budget was prepared by the City in conjunction with the Fourteenth Five-Year Plan. The Fourteenth Five-Year Plan, which covers Fiscal Years 2006-2010, was approved by City Council on June 16, 2005. On June 21, 2005, PICA requested the City to make revisions to the Fourteenth Five Year Plan relating to the City's estimates of certain revenues. The City responded to the PICA requests and submitted a revised Fourteenth Five Year Plan to PICA on July 20, 2005. PICA approved the Plan on July 21, 2005.

Fiscal Year 2006 Results

The City ended Fiscal Year 2006 on the legally enacted basis with a positive fund balance of \$254.5 million. This increase in fund balance is the result of improved tax performance, particularly Real Estate Transfer and Business Privilege Tax, obligations below estimated levels, and an increase in prior year fund balance adjustments. Fiscal Year 2006 Fund Balance results exceed previous estimates by \$52.9 million.

Fiscal Year 2007 Budget

The City's Fiscal Year 2007 budget was approved by City Council on May 25, 2006, and signed by the Mayor on June 8, 2006. This budget was prepared by the City in conjunction with the Fifteenth Five-Year Plan. The PICA Board approved the Fifteenth Five-Year Plan on July 5, 2006. The current FY07 General Fund estimate projects an FY2007 fund balance of \$171.7 million.

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Table IV-1
CITY OF PHILADELPHIA GENERAL FUND
SUMMARY OF OPERATIONS
(LEGAL BASIS) (AMOUNTS IN MILLIONS OF USD)

	Actual 2002	Actual 2003	Actual 2004	Actual 2005	Actual 2006	Current Estimate 2007
REVENUES						
Real Property Taxes	373.6	361.1	377.7	392.7	395.8	407.8
Personal Property Taxes	0.0	0.0	0.0	0.0	0.0	0.0
Wage and Earnings Tax	1,006.0	1,013.4	1,049.6	1,073.6	1,111.2	1,141.4
Net Profits Tax	13.4	11.7	13.0	13.7	14.6	14.6
Business Privilege Tax	295.8	286.1	309.2	379.5	415.5	408.0
Sales Tax	108.1	108.0	108.0	119.9	127.8	135.0
Other Taxes ^(a)	<u>148.5</u>	<u>156.3</u>	<u>202.2</u>	<u>250.9</u>	<u>304.1</u>	<u>280.5</u>
Total Taxes	<u>1,945.4</u>	<u>1,936.6</u>	<u>2,059.7</u>	<u>2,230.3</u>	<u>2,369.0</u>	<u>2,387.3</u>
Locally Generated Non-Tax Revenue	209.1	245.2	207.4	200.9	235.9	240.3
Revenue from Other Governments	687.7	876.6	801.1	1,054.6	924.5	997.8
Receipts from Other City Funds	<u>24.7</u>	<u>27.3</u>	<u>24.7</u>	<u>26.3</u>	<u>24.9</u>	<u>25.7</u>
Total Revenue	<u>2,866.9</u>	<u>3,085.7</u>	<u>3,092.9</u>	<u>3,512.1</u>	<u>3,554.3</u>	<u>3,651.1</u>
OBLIGATIONS/APPROPRIATIONS						
Personnel Services	1,188.3	1,246.7	1,278.3	1,243.5	1,250.2	1,328.5
Purchase of Services	920.5	1,007.1	1,050.3	1,090.1	1,065.7	1,153.1
Materials, Supplies and Equipment	80.0	76.0	70.6	71.5	82.1	89.0
Employee Benefits	485.8	540.6	598.9	704.7	760.2	880.0
Indemnities, Contributions and Grants	123.8	122.9	95.1	113.5	110.9	112.8
City Debt Service	101.8	97.1	93.7	89.7	82.9	97.7
Other	30.2	32.4	32.0	36.7	38.6	31.2
Payments to Other City Funds	<u>50.7</u>	<u>30.4</u>	<u>29.1</u>	<u>36.6</u>	<u>35.4</u>	<u>61.6</u>
Total Obligations/Appropriations	<u>2,981.1</u>	<u>3,153.2</u>	<u>3,248.0</u>	<u>3,386.3</u>	<u>3,426.0</u>	<u>3,753.9</u>
Operating Surplus (Deficit) for the Year	(114.2)	(67.5)	(155.4)	125.8	128.2	(102.8)
Net Adjustments – Prior Year	23.2	19.8	17.3	17.2	30.1	20.0
Funding for Contingencies	0.0	0.0	0.0	0.0	0.0	0.0
Cumulative Fund Balance Prior Year	<u>230.0</u>	<u>139.0</u>	<u>91.3</u>	<u>(46.8)</u>	<u>96.2</u>	<u>254.5</u>
Cumulative Adjusted Year End Fund Balance (Deficit)	<u>139.0</u>	<u>91.3</u>	<u>(46.8)</u>	<u>96.2</u>	<u>254.5</u>	<u>171.7</u>

(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)

	<u>Actual</u> 2002	<u>Actual</u> 2003	<u>Actual</u> 2004	<u>Actual</u> 2005	<u>Actual</u> 2006	Current Estimate 2007
REVENUES						
General Fund	2,866.9	3,085.7	3,092.8	3,512.1	3,554.3	3,651.1
Water Fund ^(a)	404.2	440.8	438.3	451.4	490.3	508.8
Aviation Fund ^(b)	184.2	219.8	241.4	249.0	271.5	323.3
Other Operating Funds ^(c)	<u>35.8</u>	<u>39.2</u>	<u>39.0</u>	<u>38.6</u>	<u>41.9</u>	<u>47.9</u>
Total Revenue	<u>3,491.1</u>	<u>3,785.5</u>	<u>3,811.5</u>	<u>4,251.1</u>	<u>4,358.0</u>	<u>4,531.1</u>
OBLIGATIONS/APPROPRIATIONS						
Personnel Services	1,339.1	1,406.0	1,444.7	1,409.0	1,412.9	1,502.8
Purchase of Services	1,050.3	1,147.4	1,197.0	1,250.0	1,233.5	1,345.1
Materials, Supplies and Equipment	121.9	120.0	119.2	121.9	136.2	154.2
Employee Benefits	541.8	600.6	662.1	784.9	845.3	979.4
Indemnities, Contributions and Taxes	129.1	128.5	99.7	117.3	116.5	124.1
Debt Service ^(d)	330.7	358.0	344.6	336.8	337.6	367.8
Other	30.3	32.4	32.0	36.7	38.6	31.2
Payments to Other City Funds	<u>97.5</u>	<u>93.9</u>	<u>95.5</u>	<u>97.0</u>	<u>119.4</u>	<u>148.9</u>
Total Obligations/Appropriations	<u>3,640.7</u>	<u>3,886.8</u>	<u>3,994.8</u>	<u>4,153.6</u>	<u>4,240.0</u>	<u>4,653.5</u>
Operating Surplus (Deficit) for the Year	(149.6)	(101.3)	(183.4)	97.5	118.0	(122.4)
Net Adjustments Prior Year	43.1	50.2	41.0	45.8	60.6	45.2
Funding for Contingencies	0.0	0.0	0.0	0.0	0.0	0.0
Cumulative Fund Balance (Deficit) Prior Year End	<u>289.6</u>	<u>183.1</u>	<u>132.0</u>	<u>(10.4)</u>	<u>132.9</u>	<u>311.5</u>
Cumulative Adjusted Year End Fund Balance (Deficit)	<u>183.1</u>	<u>132.0</u>	<u>(10.4)</u>	<u>132.9</u>	<u>311.5</u>	<u>234.3</u>

- (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, 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.

The City submitted its Fifteenth Five Year Plan to PICA on June 1, 2006. The PICA Board approved the Fifteenth Five Year Plan on July 5, 2006.

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 of Principal Operating Funds (Debt Related)

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 1997-2006 and Table IV-4 for General Fund tax revenues for Fiscal Years 2002-2006. The following description does not take into account revenues in the Non-Debt Related Funds. The tax rates for Fiscal Years 1997 through 2006 are contained in the Fiscal Year 2006 Comprehensive Annual Financial Report.

Real Property Taxes — A real estate tax on all taxable real property is levied at a rate of 82.64 mills on the assessed value of residential and commercial property located within the City’s boundaries. From Fiscal Year 2003 onward, the City’s portion of the rate is 34.74 mills and the School District’s portion is 47.90 mills.

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 1995-2007, and the annual wage and earnings tax receipts in such fiscal years.

<u>Fiscal Year</u>	<u>Resident Wage and Earnings Tax Rates*</u>	<u>Non-Resident Wage and Earnings Tax Rates</u>	<u>Annual Wage and Earnings Tax Receipts (including PICA Tax) (Amounts in Millions)</u>
1995	4.9600%	4.3125%	\$1,070.2
1996	4.8600	4.2256	1,096.3
1997	4.8400	4.2082	1,106.1
1998	4.7900	4.1647	1,158.1
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 (actual)	4.3010	3.7716	1,436.3
2007 (estimated)	4.2600	3.7557	1,460.3

* Includes PICA Tax

In the Fifteenth Five-Year Plan, the Mayor proposed further reductions in this tax rate for each of the Fiscal Years 2007-2011. The Fifteenth Five-Year Plan proposed reducing the wage tax from its current level of 4.3010% for residents and 3.7716% for non-residents to 3.8626% for residents and 3.5538% for non-residents by Fiscal Year 2011. 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.

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.

<u>Tax Year</u>	<u>Business Privilege Tax/Gross Receipts</u>
1996	3.000 mills
1997	2.950 mills
1998	2.875 mills
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

In the Fifteenth Five-Year Plan, the Mayor also proposed further reductions in this tax rate for each of Fiscal Years 2007-2011. The City proposes to accelerate the rate reductions for the gross receipts portion of the business privilege tax so that by Fiscal Year 2007, this tax will be only 51 percent of the rate that prevailed when the City began its tax cuts in 1996.

All business activity is also assessed a one-time \$200 licensing fee administered by the Department of Licenses and Inspections.

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 table below sets forth the City Sales Tax collected in Fiscal Years 1996 through 2006 and budgeted collections for Fiscal Year 2007.

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<u>Fiscal Year</u>	<u>City Sales Tax Collections</u>
1996	\$82.4 million
1997	91.4 million
1998	94.5 million
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 (actual)	127.8 million
2007 (estimated)	135.0 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 2007 General Fund budget projects that approximately 27.3% of General Fund revenues will be received from other governmental jurisdictions, including: (1) \$496.9 million from the Commonwealth for health, welfare, court, and various other specified purposes; (2) \$198.9 million from the Federal government; and (3) \$64.9 million from other governments, in which revenues are primarily principal and interest payments on loans made by the City on SEPTA’s behalf and the Convention Center Service Fee offset. In addition, the projected net collections of the PICA Tax of \$237.0 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. The Water Department resumed making the payment in Fiscal Year 2005.

The City is planning on providing a surety bond or an insurance policy in lieu of approximately \$130 million of the funds and investments currently held in the Debt Reserve Account. Such a transaction would require additional appropriations in both the Water Fund and the Water Residual Fund which have been included in the

Water Fund budget request for Fiscal Year 2008 and is dependent, among other things, on City Council approval and market conditions; there can be no assurance that such transaction will take place. This substitution would reduce Net Reserve Earnings below that which would be expected if such substitution did not occur. See “SECURITY FOR THE BONDS -- Debt Reserve Account” in the forepart of this Official Statement.

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 the City budgeted the receipt of the \$18,000,000 payment and the grant back of such amount to PGW. The City’s Fifteenth Five-Year Plan assumes that the \$18,000,000 payment will be made in each of Fiscal Years 2007 and 2008 and that the City will grant back such payment to PGW in each such Fiscal Year. The Fifteenth Five-Year Plan assumes that the \$18,000,000 payment will be forgiven beginning in Fiscal Year 2009.

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 Year 2002 and Fiscal Year 2003 that totaled \$15,326,571 and \$11,629,311, respectively. The amount that was transferred from the PPA to the City’s Aviation Operating Fund as rent on June 30, 2004 was \$14,539,053. The Fiscal Year 2005 transfer was \$27,239,000 under the Lease Agreement. The Fiscal Year 2006 transfer was \$30,186,642 under the Lease Agreement.

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.

Act 9 Litigation – On February 9, 2004, the Commonwealth enacted Act 9, which provides for the extension of the term of the Agreement of Cooperation for a period of ten (10) years. Act 9 additionally requires that the PPA turn over to the School District the portion of the annual revenue from on-street parking operations which it collects on behalf of the City, net of the PPA’s operating and administrative costs, that exceeds \$25,000,000.

In April 2004, the City filed a lawsuit in the Commonwealth Court challenging the constitutionality of Act 9. The City named the PPA and the Governor of Pennsylvania as defendants in the lawsuit. The Commonwealth Court has ruled that Act 9 is constitutional, and the City has appealed such ruling to the Pennsylvania Supreme Court. The City has been granted a final extension by the Court to file its brief by May 7, 2007.

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 2006 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.

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Table IV-3
City of Philadelphia
Summary of
Principal Operating Funds (Debt Related)
Revenues by Major Source
Fiscal Years 1997-2007
(Legal Basis)
(Amounts in Millions of USD)

<u>Fiscal Year</u>	<u>Real & Personal Property Taxes^(a)</u>	<u>Wage Earnings & Net Profits Taxes^(a)</u>	<u>Business Privilege Tax^(a)</u>	<u>Sales and Use Tax^(a)</u>	<u>Other Taxes^(b)</u>	<u>Total Taxes</u>	<u>Water & Wastewater Charges</u>	<u>Airport Charges</u>	<u>Other Locally Generated Charges</u>	<u>Total Local Revenue</u>	<u>Revenue from Other Govts</u>	<u>Revenue from Other City Funds</u>	<u>Total Revenues</u>
1997	358.2	885.4 ^(c)	246.4	91.4	93.8	1,675.2	291.0	125.8	236.8	2,328.8	587.9	44.1	2,960.8
1998	333.9 ^(d)	926.9 ^(c)	237.4	94.5	122.1	1,714.8	288.8	126.6	253.7	2,383.9	620.7	46.1	3,050.7
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 ^(e)	314.0 ^(e)	111.3	130.0 ^(e)	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 (Current Estimate)	407.8	1,156.0	408.0	135.0	280.5	2,387.3	477.1	319.8	240.3	3,424.5	1,028.7	77.8	4,531.0

(a) See Table 7 in the Fiscal Year 2006 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) The City ceased collecting the Personal Property Tax in Fiscal Year 1997.

(e) 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 2002-2007
(Amounts in Millions of USD)

	Actual	Actual	Actual	Actual	Actual	Current Estimate
	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>
REAL PROPERTY TAXES						
Current	333.2	329.4	332.6	353.2	354.1	366.8
Prior	40.4	31.7	45.1	39.5	41.7	41.0
Total	<u>373.6</u>	<u>361.1</u>	<u>377.7</u>	<u>392.7</u>	<u>395.8</u>	<u>407.8</u>
WAGE AND EARNINGS TAX ^(b)						
Current	981.8	987.2	1,034.5	1,066.0	1,104.0	1,133.4
Delinquent	24.2	26.2	15.1	7.6	7.1	8.0
Total	<u>1,006.0</u>	<u>1,013.4</u>	<u>1,049.6</u>	<u>1,073.6</u>	<u>1,111.1</u>	<u>1,141.4</u>
BUSINESS TAXES						
Business Privilege						
Current	273.8	238.7	269.9	326.7	390.5	383.0
Delinquent	22.0	47.4	39.2	52.8	25.0	25.0
Sub-Total Business Privilege	<u>295.8</u>	<u>286.1</u>	<u>309.1</u>	<u>379.5</u>	<u>415.5</u>	<u>408.0</u>
Net Profits Tax						
Current	11.4	10.1	11.3	12.0	11.8	12.1
Delinquent	2.0	1.6	1.7	1.7	2.8	2.5
Sub-Total Net Profits Tax	<u>13.4</u>	<u>11.7</u>	<u>13.0</u>	<u>13.7</u>	<u>14.6</u>	<u>14.6</u>
Total Business Taxes	<u>309.2</u>	<u>297.8</u>	<u>322.1</u>	<u>393.2</u>	<u>430.1</u>	<u>422.6</u>
OTHER TAXES						
Sales and Use Tax	108.1	108.0	108.0	119.9	127.8	135.0
Amusement Tax	13.8	14.1	18.3	13.5	17.0	17.4
Real Property Transfer Tax	96.7	103.4	141.3	192.3	236.4	210.0
Parking Taxes	37.9	38.7	42.5	45.0	48.4	49.6
Other Taxes	0.1	0.1	0.1	0.1	2.3	3.5
Sub-Total Other Taxes	<u>256.6</u>	<u>264.3</u>	<u>310.2</u>	<u>370.8</u>	<u>431.9</u>	<u>415.5</u>
TOTAL TAXES	<u>1,945.4</u>	<u>1,936.6</u>	<u>2,059.6</u>	<u>2,230.3</u>	<u>2,368.9</u>	<u>2,387.3</u>

(a) See Table 7 in the Fiscal Year 2006 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 2007**

	Location	2007 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, 2006, the City employed 27,156 full-time employees with the salaries of 22,819 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					Estimated
	2002	2003	2004	2005	2006	2007
General Fund						
Police	7,800	7,983	7,704	7,368	7,287	7,408
Streets	2,080	2,009	1,937	1,788	1,858	1,939
Fire	2,458	2,479	2,336	2,248	2,270	2,428
Health	856	782	756	667	662	748
Courts	2,039	2,058	2,039	2,004	1,936	1,965
Other	<u>9,289</u>	<u>9,400</u>	<u>8,987</u>	<u>8,890</u>	<u>8,806</u>	<u>9,280</u>
Total General Fund	24,522	24,711	23,759	22,965	22,819	23,768
Other Funds	<u>4,700</u>	<u>4,659</u>	<u>5,035</u>	<u>4,649</u>	<u>4,616</u>	<u>5,350</u>
TOTAL	<u>29,222</u>	<u>29,370</u>	<u>28,794</u>	<u>27,614</u>	<u>27,435</u>	<u>29,118</u>

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 ("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.

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 outside its jurisdiction. The City has appealed this decision to the Commonwealth Court. Both sides have filed their respective briefs. The City is currently preparing its reply brief. It is anticipated that oral argument will take place in the summer of 2007.

The present FOP contract contains 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 health-care 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.

The following table presents employee wage increases for the Fiscal Years 1998 through 2008.

**Table IV-7
City of Philadelphia
Employee Wage Increases
Fiscal Years 1998-2008**

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%	(d)	3.0%	(d)	3.0%	(e)	3.0%	(f)
2000	4.0%	(g)	4.0%	(g)	4.0%	(h)	4.0%	(i)
2001	No increase	(j)	No increase	(j)	3.0%		3.0%	
2002	3.0%	(k)	3.0%	(k)	4.0%		4.0%	
2003	3.0%	(l)	3.0%	(l)	3.0%		3.0%	
2004	3.0%		3.0%		3.5%		3.5%	
2005	No increase	(m)	No increase	(m)	3.0%		3.0%	
2006	2.0%		2.0%		3.0%		3.0%	(p)
2007	3.0%	(n)	3.0%	(n)	3.0%		3.0%	(p)
2008	4.0%	(o)	4.0%	(o)	4.0%		4.0%	(p)

- (a) Second year of a four year contract: 3% effective December 15, 1997.
- (b) Second year of a two year contract: 4% effective September 15, 1997.
- (c) Second year of a four year contract: 4% effective September 15, 1997.
- (d) Third year of a four year contract: 3% effective December 15, 1998.
- (e) First year of a two year contract: 3% effective September 15, 1998.
- (f) Third year of a four year contract: 3% effective September 15, 1998.
- (g) Fourth year of a four year contract: 4% effective March 15, 2000.
- (h) Second year of a two year contract: 4% effective September 15, 1999.
- (i) Fourth year of a four year contract: 4% effective September 15, 1999.
- (j) First year of a four year contract: cash bonus of \$1,500 paid in August 2000.
- (k) Second year of a four year contract: 3% effective December 15, 2001.
- (l) Third year of a four year contract: 3% effective December 15, 2002.
- (m) 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.
- (n) Third year of a four year contract: 3% effective December 15, 2006.
- (o) Fourth year of a four year contract: 4% effective December 15, 2007.
- (p) 3-year contract, currently under appeal.

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Employee Benefits

The City provides various pension, life insurance, health, and medical benefits for its employees. General Fund employee benefit expenditures for Fiscal Years 2002 through 2007 are shown in the following table.

Table IV-8
City of Philadelphia
General Fund Employee Benefit Expenditures
Fiscal Years 2002-2007
(Amounts in Millions of USD)

	<u>Actual</u>					<u>Current Estimate</u>
	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>
Pension Contribution	196.6	205.7	229.4	315.5	346.5	419.1
Health/Medical/Dental	187.6	226.6	253.7	285.9	291.8	328.9
Social Security	57.4	59.4	60.6	59.9	60.8	64.3
Other	44.2	48.9	55.2	43.4	61.1	67.7
Total	<u>485.8</u>	<u>540.6</u>	<u>598.9</u>	<u>704.7</u>	<u>760.2</u>	<u>880.0</u>

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 dollar payments 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 ending in 2025.

Based on an actuarial schedule providing payments increasing at 5.0% per annum, the unfunded accrued liability of \$1.8 billion, as of July 1, 2002 should be fully amortized by 2019.

Non-uniformed employees become vested in the Municipal Pension Plan upon the completion of ten years of service or upon attainment of age fifty-five. 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 or upon attainment of age forty-five. Upon retirement, uniformed employees may receive up to 100% of their average final compensation depending upon their years of credited service.

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 Local 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 1997 through 2006 is contained in the Fiscal Year 2006 Comprehensive Annual Financial Report.

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 2002 through 2007.

Table IV-9
City of Philadelphia
Purchase of Services in the General Fund
Fiscal Years 2002-2007
(Amounts in Millions of USD)

	Actual					Current Estimate
	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>
Human Services (a)	393.1	452.2	493.7	511.8	467.9	497.5
Public Health	73.6	68.2	69.1	60.7	61.1	67.4
Public Property(b)	144.3	135.1	132.4	133.3	137.6	151.0
Streets(c)	50.4	54.4	53.9	54.6	54.8	58.2
Sinking Fund-Lease Debt(d)	57.8	74.3	70.8	70.7	77.0	94.1
Legal Services(e)	29.5	30.9	33.4	33.5	33.6	35.4
First Judicial District	21.9	27.5	23.0	28.3	24.4	23.4
Licenses & Inspections(f)	25.9	2.9	6.0	3.1	11.5	11.4
Emergency(g)	11.6	13.9	12.0	22.1	28.6	26.4
All Other	<u>142.9</u>	<u>147.7</u>	<u>156.0</u>	<u>172.0</u>	<u>169.2</u>	<u>188.3</u>
Total	<u>951.0</u>	<u>1,007.1</u>	<u>1,050.3</u>	<u>1,090.1</u>	<u>1,065.7</u>	<u>1,153.1</u>

(a) Includes payments for care of dependent and delinquent children.

(b) Includes payments for SEPTA, space rentals, utilities, and telecommunications.

(c) Includes solid waste disposal costs.

(d) Includes 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 Years 2002 and 2006 and current estimate for 2007.

(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.

Act 9 requires that the PPA transfer to the School District at the end of each fiscal year commencing with fiscal year 2004 that portion of the net revenues derived from the system of on-street parking operations which exceeds \$25,000,000. The City has instituted a lawsuit in the Commonwealth Court challenging the constitutionality of Act 9. See “Revenues of the City – Philadelphia Parking Authority – Act 9 Litigation” above.

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 is scheduled to mature in Fiscal Year 2007; however, the budget for Fiscal Year 2007 does not include the \$45 million payment, and the current Five-Year Plan projects that the loan will be repaid in the City’s Fiscal Year 2009. The extension of the repayment date to Fiscal Year 2009 is subject to City Council approval. In addition, in order to assist PGW, (i) the City agreed to forgo the \$18 million annual rental payment in Fiscal Year 2005, and (ii) the City’s Fifteenth Five-Year Plan contemplates that in each of the Fiscal Years 2007 and 2008, the City will make a grant to PGW equal to the annual rental payment received from PGW in such Fiscal Years. The \$18 million grant back was appropriated by the City for Fiscal Year 2006 and Fiscal Year 2007. The Plan assumes that the \$18 million rental payment will be eliminated in Fiscal Year 2009.

City Payments to SEPTA

The City’s Fiscal Year 2006 operating subsidy payment to SEPTA was \$56.7 million. The Fiscal Year 2007 budget projects operating subsidy payments to SEPTA of \$60.3 million. The Fifteenth Five-Year Plan provides that the City’s contribution to SEPTA will increase to \$64.7 million by Fiscal Year 2011.

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, 2006, the Constitutional debt limitation for tax-supported general obligation debt was approximately \$1,335,608,000 (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, 2006, the City’s total amount of authorized general obligation debt was \$1,548,089,000, which includes approximately \$362,319,000 of self-sustaining debt, which does not count against the Constitutional debt limit. As of June 30, 2006, \$1,185,770,000 of general obligation debt subject to the constitutional debt limit was authorized, and of this authorized amount, \$968,180,000 was issued and outstanding. As of June 30, 2006, a balance of \$217,590,000 remained authorized and unissued, and a balance of \$149,838,000 remained available for future authorization.

The remaining authorized and unissued balance of \$217,590,000 of general obligation debt subject to the Constitutional debt limit was utilized by the issuance of General Obligation Bonds, Series 2006, on July 27, 2006.

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 the 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. Each note issue was repaid when due prior to the end of the fiscal year of issuance. The City issued \$310 million of Tax and Revenue Anticipation Notes in July 2006. The notes are due on June 29, 2007.

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 2006. 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, 2006, see the Fiscal Year 2006 Comprehensive Annual Financial Report.

Of the total balance of City tax-supported general obligation bonds issued and outstanding at June 30, 2006, approximately 14.8% is scheduled to mature within 5 years and approximately 34.4% 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, 2006, 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	\$213.0 million
PAID	\$1.8 billion
Parking Authority	\$71.3 million
Redevelopment Authority	\$277.4 million
Hospitals Authority	\$24.3 million
Convention Center Authority	\$227.1 million

Source: Office of the Director of Finance

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 \$3.2 million in Fiscal Year 2005 and \$2.3 million in Fiscal Year 2006 toward the repayment of these bonds. See “Revenues of the City – Philadelphia Parking Authority.”

The Hospitals Authority has issued bonds on behalf of the Community College of Philadelphia (“CCP”). These bonds are secured by, among other things, payments to be made by the City as the local sponsor pursuant to the enabling legislation that authorized the creation of CCP. As the local sponsor, the City is obligated to pay up to 50% of the debt service on bonds issued on behalf of CCP. The principal amount of such bonds for which the City is obligated to make such payments was \$24,335,000 as of June 30, 2006; this amount represents 50% of the \$48,670,000 principal amount of bonds issued and outstanding for CCP purposes as of June 30, 2006.

Recent Financings

In July of 2006, the City issued General Obligation Bonds, Series 2006. The principal amount of these bonds was \$217,590,000. The purpose of these bonds was to provide funding for various capital projects of the City.

Table IV-10
City of Philadelphia
City-related Bond Indebtedness
June 30, 2006
(Amounts in Thousands of USD)

	<u>Governmental Fund Types</u>				<u>Enterprise Funds</u>			<u>All Funds Total</u>
	<u>General Fund</u>	<u>Municipal Authority Fund</u>	<u>PICA</u>	<u>Total</u>	<u>Water Fund</u>	<u>Aviation Fund</u>	<u>Total</u>	
<u>Bonded Debt Outstanding, July 1, 2005</u>	<u>990,895</u>	<u>229,977</u>	<u>723,585</u>	<u>1,944,457</u>	<u>1,921,892</u>	<u>1,101,720</u>	<u>3,023,612</u>	<u>4,968,069</u>
<u>Increases:</u>								
PAR Value of Bonds Issued:								
General Obligation	-	-	89,950	89,950	-	-	-	89,950
Revenue	-	-	-	-	-	124,985	124,985	124,985
<u>Total Bonds Sold</u>	<u>-</u>	<u>-</u>	<u>89,950</u>	<u>89,950</u>	<u>-</u>	<u>124,985</u>	<u>124,985</u>	<u>214,935</u>
<u>Decreases</u>								
Matured Bonds:								
General Obligation	19,960	16,998	49,270	86,228	1,151	-	1,151	87,379
General Obligation Refunded	-	-	89,960	89,960	-	-	-	89,960
Revenue	-	-	-	-	77,968	35,495	113,463	113,463
<u>Total Decrease</u>	<u>19,960</u>	<u>16,998</u>	<u>139,230</u>	<u>176,188</u>	<u>79,119</u>	<u>35,495</u>	<u>114,614</u>	<u>290,802</u>
<u>Bonded Debt Outstanding, June 30, 2006</u>	<u>970,935</u>	<u>212,979</u>	<u>674,305</u>	<u>1,858,219</u>	<u>1,842,773</u>	<u>1,191,210</u>	<u>3,033,983</u>	<u>4,892,202</u>

Source: Office of Director of Finance

CITY CAPITAL IMPROVEMENT PROGRAM

The Capital Improvement Program for Fiscal Years 2007-2012 contemplates a total expenditure of \$5,123,297,000 of which \$1,930,718,000 is to be provided from Federal, Commonwealth, and other sources and the remainder through City funding. The following table shows the amounts anticipated to be spent each year from various sources of funds for capital projects. City Council adopted the Capital Improvement Program for Fiscal Years 2007-2012 on May 25, 2006.

Table IV-11
City of Philadelphia
Fiscal Years 2007-2012
Capital Improvement Program
(Amounts in Thousands of USD)

	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2007-2012</u>
CITY FUNDS - TAX SUPPORTED							
Carried-forward Loans	216,672	0	0	0	0	0	216,672
Operating Revenue	41,403	11,250	11,250	11,250	5,250	5,250	85,653
New Loans	59,000	70,709	68,261	65,863	65,890	65,745	395,468
Pre-financed Loans	4,110	1,000	1,000	1,000	1,000	1,000	9,110
PICA Pre-financed Loans	<u>1,274</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1,274</u>
Tax-supported Subtotal	322,459	82,959	80,511	78,113	72,140	71,995	708,177
CITY FUNDS – SELF SUSTAINING							
Carried-forward Loans	715,773	0	0	0	0	0	715,773
Operating	84,485	18,068	18,268	17,868	18,068	18,268	175,025
New Loans	<u>142,076</u>	<u>142,698</u>	<u>226,313</u>	<u>291,622</u>	<u>437,024</u>	<u>327,871</u>	<u>1,567,604</u>
Self-Sustaining Subtotal	942,334	160,766	244,581	309,490	455,092	346,139	2,458,402
REVOLVING FUNDS							
	26,000	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>26,000</u>
OTHER THAN CITY FUNDS							
Federal	343,438	49,638	78,682	58,121	81,535	64,982	676,396
Federal Off Budget	111,686	154,401	115,887	52,000	86,400	36,400	556,774
State	64,282	10,997	6,448	6,894	6,240	6,523	101,384
State Off Budget	47,619	58,457	51,209	54,816	61,983	59,378	333,462
Other Governments/Agencies	34,514	0	0	0	0	0	34,514
Other Governments/Off Budget	831	1,384	1,239	1,016	1,432	1,262	7,164
Private	<u>143,609</u>	<u>530</u>	<u>10,025</u>	<u>26,820</u>	<u>20,020</u>	<u>20,020</u>	<u>221,024</u>
Other Than City Funds Subtotal	<u>745,979</u>	<u>275,407</u>	<u>263,490</u>	<u>199,667</u>	<u>257,610</u>	<u>188,565</u>	<u>1,930,718</u>
TOTAL	2,036,772	519,132	588,582	587,270	784,842	606,699	5,123,297

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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 and \$21.7 million for Fiscal Year 2006. Estimates of settlements and judgments from the General Fund are \$25.1 million, \$25.1 million, \$24.0 million, \$24.0 million, and \$24.0 million for Fiscal Years 2007 through 2011, 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 2006, payments for claims arising from labor settlements in the General Fund amounted to \$1.42 million of which \$1.36 million was paid from the Indemnities account, and \$.06 million from the Operating budgets of the affected departments. Actual claims paid out from the General Fund for settlements and judgments averaged \$25.6 million per year over the five years from Fiscal Year 2002 through Fiscal Year 2006.

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; a claim made by a Philadelphia sports franchise alleging damages for the cancellation of a professional exhibition game allegedly because the field at Veterans' Stadium was not in playable condition; 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 and \$3.8 million for Fiscal Year 2006. The Water Department's budget for Fiscal Year 2007 contains an appropriation for Water Department claims in the amount of \$6.5 million, although the current estimate is for only \$3.5 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 practice of the City in connection with the issuance and sale of each issue of the City's bonds or notes, to require in its contract with its underwriters that the underwriters deposit the official statement of the City relating to such issue of bonds or notes with a nationally recognized municipal securities information repository (a "Repository") as soon as practicable after delivery of such official statement. It is also 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, 2006 was released on February 23, 2007. 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, 2006. Such a request should be request should be addressed to: Office of the Director of Finance (Attention: Accounting), Suite 1330 Municipal Services Building, 1401 John F. Kennedy Boulevard, Philadelphia, PA 19102. A copy of the financial statements of the City for the Fiscal Year ended June 30, 2006 may be downloaded at <http://www.phila.gov/reports/reports2.html#budget>.

The City also expects to provide financial and other information as to the City from time to time to Moody's Investors Service, Standard & Poor's Ratings Group 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.

CITY SOCIOECONOMIC INFORMATION

Introduction

The City includes within its boundaries an area of approximately 130 square miles and a resident population of approximately 1.52 million people. 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 terms of total retail sales and disposable income with approximately one-half of the population of the United States living within an overnight drive.

Quality of Life

The City is very livable with relatively low housing costs. The National Association of Realtors Affordability Index ranks the Philadelphia region as the 22nd most affordable housing market out of 180 sampled in the United States.

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, 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 includes Pennypack Park and the country's first zoo, within its 8,000 acres.

The City is a center for health, education, and science facilities with 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 eighty degree-granting institutions of higher education with a total enrollment of over 110,000 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.

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 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 major new cancer research center is also planned by the University of Pennsylvania.

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 the Philadelphia Primary Metropolitan Statistical Area ("PMSA") increased by 5.0%, less than one-half the national rate of increase.

**Table IV-12
Population
City, PMSA & Nation**

	<u>1990</u>	<u>2000</u>	<u>2004</u>	<u>% Change 1990-2000</u>	<u>% Change 2000-2004</u>
Philadelphia	1,585,577	1,517,550	1,470,151	-4.3%	-3.1%
Philadelphia PMSA*	4,856,881	5,100,931	5,800,614	5.0%	13.7%
United States	248,709,873	281,421,906	293,656,842	13.2%	4.3%

Source: U.S. Dept. of Commerce, Bureau of the Census.

* The Philadelphia, PA-NJ Primary Metropolitan Statistical Area includes the counties of Bucks, Chester, Delaware, Montgomery, and Philadelphia in Pennsylvania and the counties of Burlington, Camden, and Gloucester in New Jersey. In 1993, Salem County, New Jersey was added to the Philadelphia, PA-NJ PMSA. For 2004, New Castle County, DE, and Cecil County, MD were added.

**Table IV-13
Population Age Distribution**

Age	Philadelphia				Pennsylvania			
	1990	% of Total	2000	% of Total	1990	% of Total	2000	% of Total
0-24	563,816	35.6	551,308	36.3	4,021,585	33.8	3,877,729	32.3
25-44	490,224	30.9	444,774	29.3	3,657,323	30.8	3,515,421	29.3
45-64	290,803	18.3	307,746	20.2	2,373,629	20.0	2,701,930	22.5
65-84	217,913	13.7	186,383	12.3	1,657,270	13.9	1,666,641	13.9
85 & up	22,801	1.4	27,339	1.8	171,836	1.4	232,295	1.9
Total	1,585,577	100.0	1,517,550	100.0	11,881,643	100.0	11,994,016	100.0

Source: U.S. Dept. of Commerce, Bureau of the Census.

Age	United States			
	1990	% of Total	2000	% of Total
0-24	90,342,198	36.3	99,437,266	35.3
25-44	80,754,835	32.5	85,040,251	30.2
45-64	46,371,009	18.6	61,952,636	22.0
65-84	28,161,666	11.3	30,752,166	11.0
85 & Up	3,080,165	1.2	4,239,587	1.5
Total	248,709,873	100.0	281,421,906	100.0

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.

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Table IV-14
Office Rental Rates in Cities
Throughout the United States

(In \$ Per Square Foot)

	<u>March</u> <u>2002</u>	<u>March</u> <u>2003</u>	<u>January</u> <u>2004</u>	<u>January</u> <u>2005</u>	<u>May</u> <u>2006</u>	<u>November</u> <u>2006</u>
Atlanta	21.60	23.91	23.09	21.92	20.08	20.56
Chicago	24.02	22.30	29.97	28.47	23.77	22.97
Dallas	19.77	21.32	20.58	19.71	17.43	16.47
Denver	16.58	18.29	17.84	17.24	19.03	20.37
Houston	18.20	19.97	19.29	18.21	19.15	19.52
Los Angeles	27.42	27.62	25.56	26.55	23.12	22.59
New York	47.20	43.53	45.51	45.16	55.15	62.07
Philadelphia	22.16	23.97	23.24	21.97	22.42	22.96
Phoenix	21.11	20.90	20.38	19.39	24.29	26.19
Portland	20.00	21.55	20.59	19.65	21.58	22.41
San Francisco	30.20	28.01	27.15	27.75	30.62	31.11
St. Louis	17.83	21.93	20.52	19.91	21.12	21.75
Tampa	18.89	19.66	19.23	18.01	20.54	21.13
Washington, D.C.	30.63	39.08	31.05	35.95	42.74	43.58

Source: CB Richard Ellis, Global Market Rents 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 accordance with the federal government's plans to close military facilities, the City saw several major closure actions in the 1990's, including the Philadelphia Navy Shipyard and Naval Station ("Navy Yard"), the Philadelphia Naval Hospital, and the former Defense Supply Center of Philadelphia. At the time of their closures, these facilities employed in excess of 20,000 people.

Since these closure actions and the subsequent transfer of property from the federal government, the City has seen substantial progress in the revitalization of these assets and rebuilding the lost employment base. Most significant, employment at the former Navy Yard complex has begun to climb. In March 2000, the Philadelphia Authority for Industrial Development ("PAID") took ownership of more than 1,000 acres at the site 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 5,500 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**

	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006**</u>
Philadelphia (000)									
Labor Force	640.0	644.2	628.7	666.4	680.3	672.1	678.3	626.5	629.4
Employment	600.4	606.9	590.1	625.0	628.5	628.5	633.5	583.7	589.8
Unemployment	39.6	36.8	38.6	41.3	51.7	43.6	44.8	42.8	39.6
Unemployment Rate (%)	6.2	5.8	6.1	6.4	7.5	7.7	7.4	6.8	6.3
Philadelphia PMSA (000)*									
Labor Force	2,493.1	2,515.4	2,503.2	2,534.8	2,649.2	2,645.0	2,660.6	2,937.5	2,973.8
Employment	2,385.5	2,412.9	2,403.5	2,425.1	2,502.3	2,519.5	2,544.3	2,798.0	2,834.9
Unemployment	107.6	104.6	99.8	109.7	146.9	125.2	116.3	139.6	138.9
Unemployment Rate (%)	4.3	4.1	4.0	4.3	5.5	4.7	4.4	4.8	4.7
United States (000,000)									
Labor Force	137.7	139.4	140.9	143.7	144.9	146.5	147.4	149.3	151.8
Employment	131.5	133.5	135.2	136.9	136.5	137.7	139.3	141.7	144.9
Unemployment	6.2	5.9	5.7	6.8	8.4	8.8	8.1	7.6	6.9
Unemployment Rate (%)	4.5	4.2	4.0	4.7	5.8	5.4	5.5	5.1	4.6

Source: Pennsylvania Department of Labor and Industry, Bureau of Research and Statistics. Pennsylvania Civilian Labor Force Series by County of Residence and Pennsylvania Civilian Labor Force Series by Labor Market Area.

* For 2005, includes Cecil County, MD, and New Castle County, DE

** As of September 2006.

**Table IV-16
Philadelphia
Total Monthly Employment and Monthly Unemployment Rates
Based on Residency
2000 – 2005**

<u>Month</u>	<u>Total Employment in 000's</u>						<u>Unemployment Rate %</u>					
	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>
January	582.3	589.3	590.5	612.9	661.8	575.0	6.1	6.2	7.1	8.3	7.7	7.5
February	581.7	588.9	586.1	614.1	662.2	574.0	6.1	6.4	7.3	8.4	7.4	7.6
March	583.6	592.8	589.0	618.0	667.8	575.6	5.9	6.1	7.3	7.6	7.4	7.2
April	585.3	593.4	592.8	618.8	668.0	580.2	5.5	5.7	6.6	7.3	6.8	6.4
May	586.6	596.8	594.5	618.4	672.0	582.6	6.1	6.4	7.8	7.8	7.4	6.8
June	595.2	605.6	600.0	626.2	680.9	583.8	6.2	6.6	7.7	8.0	8.1	7.2
July	598.8	609.9	605.8	631.5	687.1	593.6	6.4	6.6	8.0	7.9	7.5	7.0
August	596.9	606.0	604.1	631.7	682.2	588.2	6.1	6.5	7.7	7.3	7.6	6.6
September	586.8	600.1	596.6	622.7	676.7	584.4	6.9	6.7	7.9	7.6	7.7	6.7
October	592.4	601.1	597.2	623.6	677.0	586.9	6.5	6.7	7.7	7.8	7.6	6.5
November	594.7	602.1	598.2	627.3	679.1	588.8	6.5	6.6	7.7	7.4	7.2	6.7
December	597.0	602.9	599.6	628.5	678.3	591.5	5.3	5.8	7.2	6.5	6.6	5.9

Source: Pennsylvania Department of Labor and Industry, Bureau of Research & Statistics.

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**Table IV-17
Philadelphia City
Non-Farm Payroll Employment***

(Amounts in Thousands)

	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>
Total Employment	675.3	685.2	695.9	687.8	686.8	679.0	660.5	657.9	671.6
Manufacturing	57.8	57.3	55.8	52.5	49.9	33.9	31.2	32.4	29.6
Non-Manufacturing	617.5	627.9	640.1	635.3	636.9	645.1	629.3	625.5	642.0
Construction & Mining	10.8	10.3	13.8	12.3	11.9	12.5	12.0	11.3	12.1
Transportation & Public Utilities	34.1	35.8	36.3	35.8	33.8	45.4	24.2	23.8	25.4
Wholesale & Retail Trade	112.5	112.3	118.4	118.1	120.2	122.3	66.9	66.3	67.2
Finance, Insurance & Real Estate	52.3	51.3	51.1	50.3	50.6	51.2	48.3	48.6	47.9
Services	291.8	293.1	298.8	300.3	302.8	299.2	353.0	349.0	367.3
Government	115.1	113.2	119.6	118.6	117.6	114.5	111.7	113.0	108.3

Source: Workforce Information News Release- January 30, 2007, Center for Workforce Information & Analysis, Department of Labor & Industry, Commonwealth of Pennsylvania.

* Includes persons employed within the City, without regard to residency.

**Table IV-18
City of Philadelphia
Largest Employers in Philadelphia
June 30, 2006
(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

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Table IV-19
Fortune 500
Largest Corporations
With Headquarters in Philadelphia, 2006

<u>Corporation</u>	<u>Type of Industry</u>	<u>Ranking</u>	<u>Revenues (\$ Millions)</u>
Sunoco	Petroleum Refining	66	\$31,176.0
Comcast	Telecommunications	94	\$22,255.0
Cigna	Health Care/Insurance	130	\$16,684.0
ARAMARK	Diversified Outsourcing Services	215	\$10,963.4
Rohm & Haas	Chemical	286	\$7,994.0
Crown Holdings	Metal Products	321	\$6,908.0
Lincoln National	Insurance: Life & Health	396	\$5,487.9

Source: Fortune Magazine web site, 2007.

Table IV-20
Total Industry Employment by Establishment
Annual Averages
(000s)

	Philadelphia PMSA									
	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>
Non-Agricultural Employment	2,257.5	2,315.6	2,322.1	2,394.2	2,426.9	2,413.1	2,450.8	2,746.8	2,774.4	2,853.4
Goods Producing	393.0	396.2	387.0	398.6	390.3	380.3	332.1	360.9	357.3	353.2
Construction & Mining	87.8	90.4	86.3	99.1	108.0	107.2	101.9	124.2	126.6	128.2
Manufacturing	305.2	305.8	300.7	299.5	282.3	273.1	230.2	236.7	230.7	225.0
Durable Goods	146.0	147.4	143.7	142.8	133.3	125.6	115.8	123.0	121.3	119.4
Nondurable Goods	159.2	158.4	157.0	156.7	149.0	147.5	114.4	113.6	109.4	105.6
Service Producing	1,864.5	1,919.4	1,935.1	1,995.6	2,036.6	2,032.8	2,118.7	2,385.9	2,417.2	2,500.2
Transp. & Public Utilities	106.9	109.9	113.4	114.3	113.5	112.0	489.1	91.8	92.3	96.0
Wholesale & Retail Trade	498.3	506.8	503.2	526.3	539.3	534.2	118.1	438.3	442.1	465.8
Fin., Insurance & Real Estate Services	157.3	161.6	162.7	169.2	170.3	168.1	177.1	218.9	219.1	219.7
Government	295.4	292.6	296.8	299.8	312.9	314.2	315.4	353.5	354.9	360.2
Federal Government	58.1	55.9	57.7	57.8	57.2	57.5	58.0	62.2	61.0	58.4
State & Local Government	237.3	236.7	239.1	242.1	255.7	256.7	257.4	291.3	293.9	301.8

Source: Workforce Information News Release- January 30, 2007, Center for Workforce Information & Analysis, Department of Labor & Industry, Commonwealth of Pennsylvania.

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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-21
Consumer Price Indices and Median Household Effective Buying Income

	1990	1998	1999	2000	2001	2002	2003	2004	2005	2006
CPI-U United States (a)	130.7	163.0	166.6	172.2	177.1	179.9	184.0	188.9	195.3	201.6
CPI-U Philadelphia PMSA (a)	135.8	168.2	171.9	176.5	181.3	184.9	188.8	196.5	204.2	212.1
Buying Income (b)										
Philadelphia	\$24,880	\$29,561	\$30,127	\$31,621	\$33,297	\$29,995	\$28,015	\$28,150	\$29,269	\$37,836
Philadelphia Metro Area*	\$33,277	\$42,852	\$44,425	\$47,152	\$49,717	\$43,800	\$41,820	\$42,852	\$44,060	\$56,936
United States	\$27,912	\$34,618	\$35,377	\$37,233	\$39,129	\$38,365	\$38,035	\$38,201	\$39,324	\$39,324

* Statistic is a measure of the Philadelphia, Camden & Wilmington Metropolitan Area. PMSA statistic was not available.

Source: (a) Consumer Price Index - All Urban Consumers. U.S. Bureau of Labor Statistics.

(b) Sales & Marketing Management's 2005 Survey of Buying Power

Table IV-22
Number of Households by Income Range in Philadelphia County

Income	Number of Households*		Percentage of Households*	
	1990	2000	1990	2000
Under \$ 9,999	136,335	109,237	22.6	18.5
\$10,000-14,999	59,331	49,035	9.9	8.3
\$15,000-24,999	108,405	89,059	18.1	15.0
\$25,000-49,999	190,237	171,215	31.7	29.0
\$50,000 and over	106,432	171,737	17.6	29.1
Total	600,740	590,283	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

Income	Number of Households (000's)		Percentage of Households	
	1990	2000	1990	2000
Under \$9,999	14,214	10,067	15.5	9.5
\$10,000-14,999	8,133	6,657	8.8	6.3
\$15,000-24,999	16,124	13,536	17.5	12.8
\$25,000-49,999	31,003	30,965	33.7	29.3
\$50,000 and over	22,519	44,312	24.5	42.1
Total	91,994	105,537	100.0%	100.0%

Source: U.S. Department of Commerce, Economics and Statistics Administration, 1990 Census of Population

Retail Sales

The following table reflects taxable sales for Philadelphia from fiscal years 1995 to 2005.

Table IV-23
Philadelphia
Taxable Retail Sales 1995-2005
(\$000's)

<u>Fiscal Year</u>	<u>Taxable Sales</u>
1995	8,636,921
1996	10,249,166
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

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 12 domestic carriers and 12 regional carriers, while six foreign flag carriers and two U.S. carriers provide international service. In addition, there are five all-cargo carriers. PHL serves as a key connecting hub for USAirways. PHL opened a new commuter terminal in 2001 and a new international terminal in May 2003. In 2005, PHL ranked fifteenth in the nation in terms of total passengers and is presently the ninth busiest in the world for aircraft operations, according to data reported by Airports Council International.

The Port of Philadelphia is one of the busiest ports in the United States, holding a leadership position in the handling of many labor-intensive cargoes. It is among the leading import destinations for Chilean fruit, cocoa beans, paper and other forest products. Containerized cargo is handled at the Port's dedicated container-handling facility, the Packer Avenue Marine Terminal. The Port's publicly owned facilities are now benefiting from a predictable and dedicated Commonwealth capital program for facility modernization and expansion, receiving \$55 million for capital improvements from FY 2005 through FY 2007. The Port also services a growing number of cruise-ship calls, along with active foreign trade sites.

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, formerly Philadelphia Suburban Corporation, and to the Bucks County Water and Sewer Authority. The City obtains approximately 56 percent of its water from the Delaware River and the balance from the Schuylkill River. The water system serves approximately 475,000 properties through 3,000 miles of mains, three water treatment plants, 13 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 473,000. The wastewater system contains three water pollution control plants, a biosolids processing facility, 13 pumping stations, and approximately 3,500 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 from sources other than industrial or commercial institutions. 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 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 extend through Fiscal Year 2012. The city again realizes significant savings under these contracts. 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-24
Characteristics of Housing Units**

	<u>1990</u>	<u>2000</u>
Total Housing Units		
City of Philadelphia	674,899	661,959
Philadelphia PMSA	1,491,310	1,565,641
Pennsylvania	4,938,140	5,249,750
Percent Owner Occupied		
City of Philadelphia	62.0%	59.3%
Philadelphia PMSA	68.5%	68.4%
Median Value of Owner Occupied Housing		
City of Philadelphia	\$48,400	59,700
Philadelphia PMSA	96,700	121,300
Pennsylvania	67,900	97,000
Number of Persons per Housing Unit		
City of Philadelphia	2.63	2.65

Source: U.S. Department of Commerce, Bureau of the Census.

Philadelphia's Competitive Advantages

The City of Philadelphia, the fifth-largest city in the U.S., with the third biggest downtown population, is at the center of the fourth largest metropolitan region. This size provides high demand from consumers – the fourth-largest retail sales in the nation – as well as a diverse network of business suppliers and complementary industries. The City's marketplace is at the center of a densely populated, affluent region along the Atlantic Coast, a region stretching from Boston through New York and Philadelphia to Baltimore and Washington, DC. Philadelphia is in a key position to access regional markets, due to the transportation infrastructure centered here, including Philadelphia International Airport, AMTRAK's Northeast Corridor service, major interstate highway access, and regional SEPTA service. The capacity of Philadelphia's transportation infrastructure is demonstrated by its median commuting time, which is 19 percent lower than the national metropolitan average. In addition, 37 percent of downtown residents walk to work, the highest percentage of any major American city. Center City is at the center of the region's transportation network, and downtown employers benefit from the large concentration of professional and business service firms located there.

Philadelphia remains uniquely affordable when compared to its peers. The National Association of Realtors Affordability Index ranks the Philadelphia region as the 22nd most affordable housing market out of 180 sampled in the U.S. According to a study by The Reinvestment Fund, a household with median income can afford a home in 79 percent of the region, with this proportion even higher within the City limits. The 2005 third quarter ACCRA Cost of Living Index rates Philadelphia as significantly more affordable than its regional peers. New York City is approximately 60 percent more expensive, Washington, DC, is 16 percent more expensive, and Boston is approximately 11 percent more expensive.

Major Industry Sectors

Philadelphia's economic outlook closely resembles the national economic outlook, and in some respects Philadelphia has performed comparatively better than similar U.S. cities. 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. The City anticipates continued positive growth moving forward and that these sectors, as well as Professional and Business Services and Information, 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 "new economy" or "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. Key to the City's success in this area is our ability to attract and retain college graduates. That effort, the Knowledge Industry Partnership (KIP), is a broad-based coalition of Greater Philadelphia civic, business, governmental, and higher education leaders working together to maximize the impact of the region's knowledge industry on the City's competitive future.

Within the knowledge economy is another sector of great importance to the City and the region, the life sciences, which includes health care, research, biotechnology and pharmaceuticals. The Innovation Philadelphia/Chamber of Commerce 2003 report "Connecting the Greater Philadelphia Innovation Economy: A Road Map for Regional Growth" identified, among other things, the region's opportunity to become an incubator for research generated by life sciences and educational institutions. Several sites now foster new incubator opportunities, including the Navy Yard, University City in West Philadelphia, and the area around Temple University.

Philadelphia's Economic Development Blueprint

The City's economic development policies are being strategically driven under the Economic Development Blueprint. Issued in March 2005, the Blueprint is a set of 10 Objectives that contain the Administration's broad agenda for Philadelphia's economic development future. The Objectives are:

- Expand the Knowledge Industry
- Support civic and cultural development
- Make Philadelphia a national model for MBE/WBE participation in the local economy
- Continue the successful development of Philadelphia's 38 miles of waterfront
- Sustain advances in neighborhood economic development
- Make City government incentive programs more predictable, objective and equitable
- Continue business attraction and expansion efforts
- Continue to reduce the cost of and barriers to doing business in Philadelphia
- Increase educational opportunity and access to literacy services
- Maintain fiscal responsibility through strategic tax allocation and tax reduction

While progress will certainly be made in additional ways, Philadelphia's economic development resources will be devoted to achieving these objectives and to benchmarking our activities in these areas. Detailed progress for each objective is described in the City's Five Year Financial Plan.

Philadelphia International Airport

Philadelphia International Airport served 31.8 million passengers, including 4.0 million international travelers, in calendar year 2006. In June 1998, a \$140 million renovation of terminals B and C was completed. A year later, construction began on a \$443 million development project to construct new international and regional terminals, funded by a 1998 Airport Revenue Bond issue. An additional \$188 million in bond financing was provided for the project in July 2001. Construction of the regional terminal

was completed in June 2001 and the new international terminal was completed in May 2003. The Parking Authority completed construction of two new Airport parking garages in the spring of 2003, which provided a total of 5,100 additional parking spaces. These Airport improvements are expected to have an economic impact of more than \$2 billion over the first twenty (20) years of operation.

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. Additionally, federal grant funding received during the past two years has enabled the Airport to begin several airfield construction projects, including the extension of Runway 17-35.

Hospitality and Tourism

One of the most encouraging trends for the City's economy has been continued growth in the hospitality and tourism industry. As a major urban center with a rich historical legacy, Philadelphia is gaining national recognition for its cultural and recreational advantages. Most recently in October 2005, National Geographic Traveler magazine named Philadelphia as America's "Next Great City." The article credits the City's efforts to connect citizens to the internet through Wireless Philadelphia, the thriving art and music scene, sustained restaurant and retail revitalization, a booming housing market in older neighborhoods, and a growing appeal to young adults as the reasons for this distinction. The many tourism assets of the region – overwhelmingly concentrated in Philadelphia itself – include Independence National Historical Park, the Philadelphia Museum of Art, the Franklin Institute, and many other museums and historical sites. The completion of the Pennsylvania Convention Center in 1993 spurred a surge of hotel and new visitor destination developments, and Center City is now home to 10,000 hotel rooms, with more on the way. Recent visitor destination additions include the Kimmel Center for the Performing Arts, the Independence Visitor Center, the National Constitution Center, Lincoln Financial Field, and Citizens Bank Park. The Center City restaurant and retail revitalization are increasingly drawing national attention and continued access and development along the City's Delaware and Schuylkill River waterfronts are only adding to the "buzz." The pending relocation of the Barnes Foundation to Benjamin Franklin Parkway and the proposed development of an entertainment district at Broad and South Streets, coupled with the Free Library and Convention Center expansion projects, will continue to enhance Philadelphia's position as a world-class city. In 2004, the Greater Philadelphia region's hospitality and tourism industry had an economic impact of \$6.8 billion, 177,000+ hospitality-related jobs, and approximately \$1.09 billion in federal, state, and local taxes.

Pennsylvania Convention Center

A key asset of the hospitality and tourism industry is the Pennsylvania Convention Center. The existence of the Center, one of the largest in the east and the attendant development of hotels within walking distance of it, has positioned the City to attract some of the most influential and sought-after conventions and shows in the country. This includes the 2000 Republican National Convention; the annual Biotechnology Industry Organization (BIO) convention in June 2005, an industry meeting attended by over 20,000 representatives of biotechnology companies across the globe; and the 2006 Professional Convention Management Association's (PCMA) convention, attended by over 1,500 meeting planners from across the country.

Convention-related business accounts for approximately 41 percent of the room nights sold in the region. Competing cities' convention-related business is less than 27 percent, and the upcoming convention center expansion will be key to the growth of Philadelphia's hospitality community. Between 1997-2004, the Philadelphia Convention and Visitors Bureau (PCVB) turned away 131 conventions totaling 1.3 million room nights because of no availability at the convention center (economic impact potential = \$698 million).

The total expansion project cost is estimated at \$700 million, and the Legislature has approved \$400 million in 2004 and \$300 million in 2006 Capital Authorizations - through the Redevelopment Assistance Capital Program (RACP). The Commonwealth has authorized funding for building design as well as site acquisition.

Barnes Foundation Relocation and Free Library Expansion

Albert C. Barnes established the Barnes Foundation in 1922 to "promote the advancement of education and the appreciation of the fine arts." The Foundation is home to one of the world's largest collections of Impressionist, Post-Impressionist and early Modern paintings, with extensive holdings by Picasso, Matisse, Cézanne, Renoir and more. The City is fully supporting the efforts of the Barnes Foundation as plans are made to relocate to the Parkway. After winning approval to do so in 2004 from the Montgomery County Orphans Court, a site has been identified, the Barnes has successfully raised \$150 million required for construction and has hired a new Director to lead building development and relocation, and a municipal working group has been formed to address operational and technical issues as they arise. The City is also maintaining a site-control transfer timetable so as not to impede development.

In addition to the planned Barnes relocation activity, the Free Library of Philadelphia is raising funds for growth. The first \$10 million of the City's \$30 million commitment to the Free Library expansion is in place, and the Library is actively engaged in detailed design efforts. A capital campaign for construction is also underway, with the goal of raising \$150 million. Library development efforts are expected to continue through 2007.

With the proposed relocation of the Barnes and the renovation and expansion of the Free Library, as well as multiple new residential projects and recent lighting, landscaping, and traffic improvements, the intended new vibrancy and creation of critical mass on the Parkway will make this five-star destination an even bigger draw.

New Sports Stadium Complex

Lincoln Financial Field, the 68,000-seat home to the Philadelphia Eagles, opened in August 2003 with great fanfare, and Citizens Bank Park, the 43,500-seat baseball stadium for the Phillies, hosted its inaugural season home opener in April 2004. This opening capped the completion of a \$1 billion investment by the City, the teams, and the State to create a four-facility stadium complex that is unmatched anywhere in the United States. Both the Phillies and the Eagles signed 30-year leases.

New Office Tower Development

Liberty Property Trust has begun the construction of the Comcast Center, a \$465 million project that will include two office buildings containing 1.25 million square feet as well as a glass-enclosed winter garden and public plaza. The structure will be the tallest building in Philadelphia and has an anticipated completion date of spring 2007. Comcast will be leasing 830,000 square feet in its new headquarters building, which is currently 70 percent leased.

In addition, the completed Cira Center by Brandywine Realty Trust has successfully attracted 900 new employees to the City of Philadelphia, with new company entrants such as McKinsey, SCA, and Brandywine Asset Management. The building contains more than 725,000 square feet of office space, and is almost fully leased. Despite the recent addition of new office space into the marketplace, the City is also experiencing positive absorption of office space, resulting in higher occupancy levels.

Economic Development Incentives

In addition to the 10 Year Tax Abatement that applies to all new construction and substantive rehabilitation projects throughout the City, a variety of Special Economic Development “zones” have been created in Philadelphia to promote revitalization and economic development. Each zone has specific benefits associated with it, including Federal, State and City tax exemptions, tax credits, or project cost assistance, with benefits expiring in various years beginning at the end of 2009. Current place-based designations include: Keystone Opportunity Zones (“KOZ”), Keystone Opportunity Expansion Zones (“KOEZ”), Keystone Opportunity Improvement Zones (KOIZ), Keystone Innovation Zones (KIZ), Empowerment Zones, and Renewal Community Designation.

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 2006, PIDC settled 76 loan transactions and provided approximately \$105 million of funding to projects valued at \$230 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 2006, PAID settled 14 bond issues for \$296 million in financing and total project costs of \$302 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 1,900 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:** During 2006, PIDC entered into an agreement with the City's Department of Public Property to market surplus real estate throughout Philadelphia. PIDC negotiated 9 different transactions with a combined sale price of \$3.0 million during the year.
- **Developer Selection:** PIDC also managed developer selection and sales of several major retail, residential, and commercial sites. Utilizing conventional RFQ/RFP methodology, six major properties are in varying phases of disposition.
- In summary, PIDC closed 23 land sales, totaling 121 acres in 2006. While these volumes exceed recent years' activity, industrial land holdings in the city are reaching all-time lows and PIDC will, therefore, continue efforts to rebuild this inventory through land acquisition in 2007.

Philadelphia 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 Philadelphia 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 Kvaerner Philadelphia Shipyard (KPS), a \$300 million state-of-the-art facility, was funded by federal, state, and local sources. Successful leasing efforts have occupied over 4.5 million square feet of space with approximately 7,000 employees of the U.S. Navy, KPS, and more than 60 other private businesses.

In September 2004, Mayor Street "rolled out" the new Navy Yard Master Plan, which focuses on mixed use development 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 U.S. Navy retains over 2,500 research and manufacturing employees at the Navy Yard. During 2006, KPS, renamed Aker Philadelphia Shipyard, started work on a \$1 billion order for ten double-hulled tankers, the first ship will be completed in February of 2007. In early 2007, Aker announced a contract which it will build 3-6 tankers, worth up to \$700 Million. Aker's \$1.7 Billion backlog will keep its 1,100 workers at capacity through 2012.
- **Liberty/Synterra:** Several years ago, PIDC selected a team led by Liberty Property Trust and Synterra Corporation to develop 72 acres with 1.4 million square feet of Class A office space. During 2006, Liberty/Synterra completed their first two buildings, a 77,000-square-foot spec building which is 70 percent leased and a 47,000 square foot build to suit headquarters for Unique Industries. In addition, construction commenced on a 50,000 square foot build to suit data center and planning began for a 100,000 square-foot laboratory building.
- **Corporate Activity:** The Navy Yard's shift from industrial base to its corporate/research future has defined itself in recent years with headquarters relocations by Vitetta, Unique Industries, Apptec Laboratory Services, and Barthco International. In 2006, Urban Outfitters, a major retailer of clothing, completed its \$95 million corporate campus in renovated historic buildings housing their 750 employees.

Keystone Innovation Zone: In March 2005 the Commonwealth designated the Navy Yard as a Keystone Innovation Zone (KIZ) with access to variety of state incentives for technology development. The KIZ team led by PIDC includes the U.S. Navy, Penn State University, the City of Philadelphia and the Ben Franklin Technology Partners of Southeastern Pennsylvania.

Hospitals and Medical Centers

Hospitals and Medical Centers: The following table presents the most recent published data regarding hospitals and medical centers in Philadelphia. Due to mergers and consolidations that have occurred or may occur in the future, this table is accurate only as of its publication date.

Table IV-25
City of Philadelphia
Hospitals and Medical Centers
(As of 2005)

Institution	Beds
Albert Einstein Medical Center	561
Belmont Center for Treatment	145
Children's Hospital of Philadelphia	344
Children's Seashore House	30
Eastern PA Psychiatric Institute	109
Episcopal Hospital	21
Fairmount Behavioral Health System	146
Fox Chase Cancer Center	100
Frankford Hospital	405
Friends Hospital	192
Graduate Hospital, main campus	241
Hahnemann Hospital	437
Jeanes Hospital	161
John F. Kennedy Memorial	141
Kensington Hospital	45
Magee Rehabilitation Hospital	96
Nazareth Hospital	200
Temple East, Northeastern	170
North Philadelphia Health System	315
Northeast Hospital	166
Pennsylvania Hospital	380
Presbyterian Medical Center of the University of Pennsylvania Health System ⁽¹⁾	238
Roxborough Memorial Hospital	115
Saint Agnes Medical Center	151
Shriners Hospital for Crippled Children	59
St. Christopher's Hospital	120
St. Joseph's Hospital	146
Temple University Hospital	534
Thomas Jefferson University Hospital	812
University of Pennsylvania Medical Center	590
Veterans Affairs Medical Center	136
Wills Eye Hospital	40

Source: Delaware Valley Healthcare Council, Hospitals & Healthsystems Association of Philadelphia

(1) Formerly Known as Presbyterian Medical Center of Philadelphia

Children's Hospital Expansion. Children's Hospital of Philadelphia announced a five-year \$650 million expansion program that began construction in February 2001 and will add more than one million square feet of treatment and research space at the Hospital's campus in West Philadelphia.

University of Pennsylvania/Civic Center. The University of Pennsylvania and Children's Hospital of Philadelphia are constructing a cancer research and treatment center on the former Civic Center site in West Philadelphia.

Additional Projects under Construction

The following table lists additional projects currently under construction in the City.

**Table IV-26
Projects under Construction**

<u>Project</u>	<u>Estimated Cost</u>
Belmont Mansion Renovations	\$3,500,000
City Hall Exterior Renovation Project	\$85,000,000

Source: City of Philadelphia, Five-Year Financial Plan Fiscal Year 2006-Fiscal Year 2010/Office of Budget and Program Evaluation.

APPENDIX V

FORM OF OPINION OF CO-BOND COUNSEL

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FORM OF OPINION OF CO-BOND COUNSEL

Re: \$191,440,000 City of Philadelphia, Pennsylvania Water and Wastewater Revenue Refunding Bonds, Series 2007A and \$153,595,000 City of Philadelphia, Pennsylvania Water and Wastewater Revenue Refunding Bonds, Series 2007B

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 \$345,035,000 aggregate principal amount of its Water and Wastewater Revenue Refunding Bonds, consisting of its \$191,440,000 Water and Wastewater Revenue Refunding Bonds, Series 2007A (the “Series 2007A Bonds”) and its \$153,595,000 Water and Wastewater Revenue Refunding Bonds, Series 2007B (the “Series 2007B Bonds” and together with the Series 2007A Bonds, the “Series 2007 Bonds”). The Series 2007 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 (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 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 “1999 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”), and (x) the Tenth Supplemental Ordinance approved November 16, 2006 (the “Tenth Supplemental Ordinance”) authorizing the issuance of the Series 2007 Bonds, and (c) the Bond Committee Determination dated March 15, 2007 (the “Bond Committee Determination”). Capitalized terms used but not defined herein have the meanings assigned to such terms in the General Ordinance.

The Series 2007 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) currently refund all or a portion of the Series 1997A Bonds, (b) advance refund all or a portion of the Series 2001A Bonds and (c) to pay costs of issuance relating to the Series 2007 Bonds.

Pursuant to the City's General Water and Sewer Revenue Bond Ordinance of 1974, approved May 16, 1974 (Bill No. 1263), as amended and supplemented (the "Prior Ordinance"), the City has previously issued and there are outstanding Water and Sewer Revenue Bonds, Fourteenth Series (the "Water and Sewer Revenue Bonds"). In addition to the Water and Sewer Revenue Bonds authorized and issued pursuant to the Prior Ordinance, 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 1997A Bonds, the Series 1997B Bonds, the Series 1998 Bonds, the 1999A Pennvest Loan, the Series 2001A Bonds, the Series 2001B Bonds, the Series 2003 Bonds, the Series 2005A Bonds and the Series 2005B Bonds. Upon the issuance of the Water and Wastewater Revenue Bonds, Series 1993, the General Ordinance superseded the Prior Ordinance; and the outstanding Water and Sewer Revenue Bonds became subject to the General Ordinance and no longer subject to the Prior Ordinance. The Water and Sewer Revenue Bonds, the Series 1993 Bonds, the Series 1995 Bonds, the Series 1997A Bonds, the Series 1997B Bonds, the Series 1998 Bonds, the 1999A Pennvest Loan, the Series 2001A Bonds, the Series 2001B Bonds, the Series 2003 Bonds, the Series 2005A Bonds, the Series 2005B Bonds and the Series 2007 Bonds are herein referred to as the "Bonds."

The Bonds, the Series 2007 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 Tenth Supplemental Ordinance and the Bond Committee Determination that it will make or permit no investment or other use of the proceeds of the Series 2007 Bonds which would cause the Series 2007 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 2007 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 2007 Bonds in order that interest on the Series 2007 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 2007 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 2007 Bonds are not arbitrage bonds. The City is filing with the Internal Revenue Service a report of the issuance of the Series 2007 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 2007 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 2007 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 Tenth Supplemental Ordinance, the Bond Committee Determination, and an executed and authenticated Series 2007A Bond and Series 2007B Bond. We assume that all other Series 2007 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 to perform its obligations under the General Ordinance, the Tenth Supplemental Ordinance, the Bond Committee Determination and the Series 2007 Bonds.

2. Under the Constitution and the laws of the Commonwealth of Pennsylvania, including the Act, the City, is authorized to issue the Series 2007 Bonds, and the terms of the Series 2007 Bonds comply with the requirements of the Act, the General Ordinance, the Tenth Supplemental Ordinance and the Bond Committee Determination.

3. The purposes for which the Series 2007 Bonds have been issued are lawful purposes under the Act and the General Ordinance.

4. The General Ordinance and the Tenth 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 2007 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 2007 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 2007 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 2007 Bonds (including original issue discount) 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 2007 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 2007 Bonds is not an item of tax preference for purposes of either individual or corporate federal alternative minimum tax, but interest on the Series 2007 Bonds held by a corporation (other than an S corporation, regulated investment company, real estate investment trust, or real estate mortgage investment conduit) may be indirectly subject to federal alternative minimum tax because of its inclusion in the adjusted current earnings of a corporate holder. Interest on Series 2007 Bonds held by foreign corporations may be subject to the branch office profits tax imposed by the Code.

Original issue premium on a Series 2007 Bond issued at an issue price that exceeds its principal amount is amortizable periodically over the term of a Series 2007 Bond through reductions in the holder's tax basis for the Series 2007 Bond for determining taxable gain or loss from sale or from

redemption prior to maturity. Amortizable premium is accounted for as reducing the tax-exempt interest on the Series 2007 Bonds rather than creating a deductible expense or loss.

Ownership of the Series 2007 Bonds may result in other federal income tax consequences to certain taxpayers, including, without limitation, financial institutions, property and casualty insurance companies, individual recipients of social security or railroad retirement benefits, certain S corporations and taxpayers who may be deemed to have incurred or continued debt to purchase or carry the Series 2007 Bonds. Bond Counsel expresses no opinion as to these matters.

In rendering this opinion, we have assumed compliance by the City with the covenants contained in the General Ordinance, the Tenth 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 2007 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 2007 Bonds. Failure to comply with such covenants could cause the interest of the Series 2007 Bonds to be includable in gross income retroactively to the date of issuance of the Series 2007 Bonds.

8. Under the laws of the Commonwealth of Pennsylvania, as enacted and construed on the date of the issuance of the Series 2007 Bonds, the Series 2007 Bonds are exempt from personal property taxes in Pennsylvania and interest on the Series 2007 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 2007 Bonds, and make no representation that we have independently verified the contents thereof.

Very truly yours,

APPENDIX VI

SPECIMEN BOND INSURANCE POLICY

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Financial Guaranty Insurance Policy

Obligor:

Policy Number:

Obligations:

Premium:

Ambac Assurance Corporation (Ambac), a Wisconsin stock insurance corporation, in consideration of the payment of the premium and subject to the terms of this Policy, hereby agrees to pay to The Bank of New York, as trustee, or its successor (the "Insurance Trustee"), for the benefit of the Holders, that portion of the principal of and interest on the above-described obligations (the "Obligations") which shall become Due for Payment but shall be unpaid by reason of Nonpayment by the Obligor.

Ambac will make such payments to the Insurance Trustee within one (1) business day following written notification to Ambac of Nonpayment. Upon a Holder's presentation and surrender to the Insurance Trustee of such unpaid Obligations or related coupons, uncanceled and in bearer form and free of any adverse claim, the Insurance Trustee will disburse to the Holder the amount of principal and interest which is then Due for Payment but is unpaid. Upon such disbursement, Ambac shall become the owner of the surrendered Obligations and/or coupons and shall be fully subrogated to all of the Holder's rights to payment thereon.

In cases where the Obligations are issued in registered form, the Insurance Trustee shall disburse principal to a Holder only upon presentation and surrender to the Insurance Trustee of the unpaid Obligation, uncanceled and free of any adverse claim, together with an instrument of assignment, in form satisfactory to Ambac and the Insurance Trustee duly executed by the Holder or such Holder's duly authorized representative, so as to permit ownership of such Obligation to be registered in the name of Ambac or its nominee. The Insurance Trustee shall disburse interest to a Holder of a registered Obligation only upon presentation to the Insurance Trustee of proof that the claimant is the person entitled to the payment of interest on the Obligation and delivery to the Insurance Trustee of an instrument of assignment, in form satisfactory to Ambac and the Insurance Trustee, duly executed by the Holder or such Holder's duly authorized representative, transferring to Ambac all rights under such Obligation to receive the interest in respect of which the insurance disbursement was made. Ambac shall be subrogated to all of the Holders' rights to payment on registered Obligations to the extent of any insurance disbursements so made.

In the event that a trustee or paying agent for the Obligations has notice that any payment of principal of or interest on an Obligation which has become Due for Payment and which is made to a Holder by or on behalf of the Obligor has been deemed a preferential transfer and theretofore recovered from the Holder pursuant to the United States Bankruptcy Code in accordance with a final, nonappealable order of a court of competent jurisdiction, such Holder will be entitled to payment from Ambac to the extent of such recovery if sufficient funds are not otherwise available.

As used herein, the term "Holder" means any person other than (i) the Obligor or (ii) any person whose obligations constitute the underlying security or source of payment for the Obligations who, at the time of Nonpayment, is the owner of an Obligation or of a coupon relating to an Obligation. As used herein, "Due for Payment", when referring to the principal of Obligations, is when the scheduled maturity date or mandatory redemption date for the application of a required sinking fund installment has been reached and does not refer to any earlier date on which payment is due by reason of call for redemption (other than by application of required sinking fund installments), acceleration or other advancement of maturity; and, when referring to interest on the Obligations, is when the scheduled date for payment of interest has been reached. As used herein, "Nonpayment" means the failure of the Obligor to have provided sufficient funds to the trustee or paying agent for payment in full of all principal of and interest on the Obligations which are Due for Payment.

This Policy is noncancelable. The premium on this Policy is not refundable for any reason, including payment of the Obligations prior to maturity. This Policy does not insure against loss of any prepayment or other acceleration payment which at any time may become due in respect of any Obligation, other than at the sole option of Ambac, nor against any risk other than Nonpayment.

In witness whereof, Ambac has caused this Policy to be affixed with a facsimile of its corporate seal and to be signed by its duly authorized officers in facsimile to become effective as its original seal and signatures and binding upon Ambac by virtue of the countersignature of its duly authorized representative.



President



Secretary

Effective Date:

Authorized Representative

THE BANK OF NEW YORK acknowledges that it has agreed to perform the duties of Insurance Trustee under this Policy.



Authorized Officer of Insurance Trustee

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APPENDIX VII

FORM OF CONTINUING DISCLOSURE AGREEMENT

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CONTINUING DISCLOSURE AGREEMENT

THE CITY OF PHILADELPHIA, PENNSYLVANIA WATER AND WASTEWATER REVENUE REFUNDING BONDS, SERIES 2007A AND 2007B

This Continuing Disclosure Agreement (this “Disclosure Agreement”) is executed and delivered as of this ___ day of May, 2007 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 by the City of \$_____ aggregate principal amount of Water and Wastewater Revenue Refunding Bonds, Series 2007A (the “Series A Bonds”) and \$_____ aggregate principal amount of Water and Wastewater Revenue Refunding Bonds, Series 2007B (the “Series B Bonds,” and together with the Series A Bonds, 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 Bonds and (xi) the Eleventh Supplemental Ordinance approved November 16, 2006 (the “Eleventh Supplemental Ordinance”) authorizing the issuance of an additional \$325,000,000 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.

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” means 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” means the Bond Committee Determination dated _____, 2007 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” means 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” means the Director of Finance of the City or such other official or employee of the City as the Director of Finance shall designate in writing to the Dissemination Agent.

“Fiscal Agent” means U.S. Bank National Association, as fiscal agent under the Fiscal Agent Agreement.

“Material Event” means any of the events listed in Section 4(a) of this Disclosure Agreement, if material within the meaning of the Rule.

“MSRB” means the Municipal Securities Rulemaking Board.

“National Repository” means 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.

“Official Statement” means the City’s Official Statement dated _____, 2007 relating to the Bonds.

“Participating Underwriters” means 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” means 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” means 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” means 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” means 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” means 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 Restated General Ordinance and the Tenth Supplemental 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, 2007, 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, 2007, 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

(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

(iv) to the MSRB at:

Municipal Securities Rulemaking Board
1900 Duke Street, Suite 600
Alexandria, VA 22314
Attention: CDI
Fax No.: (703) 797-6700

(v) to Ambac Assurance Corporation at:

Ambac Assurance Corporation
One State Street Plaza
New York, NY 10004
Attention: Surveillance Department
Fax No.: (212) 509-9190

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.

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 Acting 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, 2007, 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, 2007, 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, 2006 and June 30, 2005 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 or to all 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.

City'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 of 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 security 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 spaces:
 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 or its agent 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 the cover sheet in 10-point type or larger.

The cover sheet and notice may be faxed to the MSRB at (703) 683-1930. Contact the MSRB at (202) 223-9503 with questions regarding this form or the dissemination of this notice.