

NEW ISSUE – Book-Entry Only

RATINGS: Fitch: “AAA”

Moody’s: “Aaa”

S & P: “AAA”

See “Ratings of the Bonds” herein

In the opinion of Bond Counsel, interest on the Bonds is excludable from gross income for federal income tax purposes under existing laws as presently enacted and construed, upon the conditions and subject to the limitations set forth herein under “Tax Matters”. Interest on the Bonds will not be a preference item for purposes of determining either individual or corporate federal alternative minimum tax; however, interest paid to certain corporate holders of the Bonds may be subject to alternative minimum tax and foreign branch profits tax under certain circumstances. Under the laws of the Commonwealth of Pennsylvania, as presently enacted and construed, interest on the Bonds is exempt from Pennsylvania personal income tax and corporate net income tax, and the Bonds are exempt from personal property tax in Pennsylvania. For further discussion and other tax aspects, see “Tax Matters” herein.

THE PITTSBURGH WATER AND SEWER AUTHORITY

\$107,500,000

Water and Sewer System First Lien Revenue Bonds Series of 2002

Dated: March 1, 2002

Interest Payment Dates: June 1 and December 1

Due: December 1, of the years shown on inside front cover.

Denomination: Integral multiples of \$5,000

The Water and Sewer System First Lien Revenue Bonds, Series of 2002 (the “Bonds”), will be special limited obligations of The Pittsburgh Water and Sewer Authority (the “Authority” or “PWSA”). The Bonds will be issued under a Trust Indenture dated as of October 15, 1993, as amended and supplemented by a First Supplemental Indenture dated as of July 15, 1995, by a Second Supplemental Indenture dated as of March 1, 1998 and by a Third Supplemental Indenture dated as of March 1, 2002 (collectively, the “Indenture” or “First Lien Indenture”) between the Authority and J.P. Morgan Trust Company, National Association, as Trustee (the “Trustee”). Interest on the Bonds will be paid on December 1, 2002 and thereafter on June 1 and December 1 of each year. **The Indenture provides that the Bonds shall be secured by a parity first lien pledge of the Receipts and Revenues of the Authority, after deduction of the proper expenses of the operation, maintenance and repair of the water supply and distribution and wastewater collection systems of the Authority (the “Water and Sewer System”), and reserves therefor as provided in the Indenture.**

Payment of the principal of and interest on the Bonds when due will be insured by a financial guaranty insurance policy to be issued by Ambac Assurance Corporation simultaneously with the delivery of the Bonds.

Ambac

The Bonds are issuable only as fully registered bonds initially registered in the name of Cede & Co., as nominee for The Depository Trust Company (“DTC”), New York, New York, which will act as securities depository for the Bonds. Purchasers will not receive certificates representing their ownership interest in the Bonds purchased. So long as Cede & Co. is the registered owner, or nominee of DTC, references herein to “Owners” or “registered owners” shall mean Cede & Co., as aforesaid and shall not mean the Beneficial Owners (as defined herein) of the Bonds. Beneficial ownership of the Bonds may be acquired in denominations of \$5,000, principal amount, and any integral multiple thereof.

Principal and interest on the Bonds will be paid by the Trustee.

The Bonds will be subject to redemption prior to maturity as set forth herein.

So long as DTC or its nominee, Cede & Co., is the registered owner, such payments will be made directly to Cede & Co. Disbursement of such payments to the DTC Participants is the responsibility of DTC and disbursement of such payments to the Beneficial Owners is the responsibility of the DTC Participants and the Indirect Participants, as more fully described herein. Interest will be payable on the Bonds on June 1 and December 1, commencing December 1, 2002 to the registered owners of the Bonds as of the close of business on the fifteenth day of the month preceding the relevant Interest Payment Date (the “Record Date”). The Bonds are subject to optional and mandatory redemption as described under heading “Redemption of the Bonds” herein.

THE BONDS ARE OBLIGATIONS OF THE AUTHORITY PAYABLE FROM THE RECEIPTS AND REVENUES PLEDGED THERETO. NEITHER THE CITY OF PITTSBURGH NOR THE COMMONWEALTH OF PENNSYLVANIA NOR ANY POLITICAL SUBDIVISION THEREOF IS OBLIGATED TO PAY THE PRINCIPAL, REDEMPTION PRICE OF, OR INTEREST ON, THE BONDS, AND NEITHER THE FAITH, CREDIT NOR TAXING POWER OF THE CITY OF PITTSBURGH OR THE COMMONWEALTH OF PENNSYLVANIA OR ANY OTHER POLITICAL SUBDIVISION THEREOF IS PLEDGED TO SUCH PAYMENT. THE AUTHORITY HAS NO TAXING POWER.

The Bonds are offered when, as and if issued by the Authority and received by the Underwriter subject to the approval of the legality of Buchanan Ingersoll Professional Corporation, Bond Counsel. Certain legal matters will be passed upon for the Authority by the Authority’s Counsel, Thorp, Reed & Armstrong, LLP, and by Disclosure Counsel, Kirkpatrick & Lockhart LLP. The Authority expects that delivery of the Bonds in definitive form will be made on or about March 26, 2002.

Financial Advisor: PNC Capital Markets

Merrill Lynch & Co.

Dated: March 20, 2002

MATURITY SCHEDULE

The Pittsburgh Water and Sewer Authority
\$107,500,000
Water and Sewer System First Lien Revenue Bonds
Series of 2002

<u>Maturity December 1</u>	<u>Principal Amount</u>	<u>Coupon</u>	<u>Yield</u>
2004	\$1,910,000	4.000%	2.600%
2005	1,990,000	4.000	3.120
2006	2,070,000	4.000	3.410
2007	2,150,000	4.000	3.730
2008	2,235,000	4.500	3.940
2009	2,335,000	4.500	4.150
2010	2,440,000	4.000	4.250
2011	2,540,000	5.000	4.350
2012	2,665,000	5.500	4.450
2013	2,815,000	5.000	4.590
2014	2,955,000	5.000	4.700
2015	3,100,000	5.500	4.800
2016	3,270,000	5.500	4.900
2017	3,450,000	4.750	4.990
2018	3,615,000	5.000	5.050
2019	3,795,000	5.000	5.100
2020	3,985,000	5.250	5.230
2021	4,195,000	5.250	5.260
2022	4,415,000	5.250	5.280
2023	4,650,000	5.250	5.300
2027	21,125,000	5.125	5.310
2031	\$25,795,000	5.125	5.320

THE PITTSBURGH WATER AND SEWER AUTHORITY

Joseph Preston, Jr., Chairman
Richard Fees, Vice Chairman
James Motznik, Secretary
Ellen M. McLean, Treasurer
Robert Provolt, Sr., Assistant Secretary/
Assistant Treasurer
Ann J. Davis, Member
Jan Hedquist, Member

Gregory F. Tutsock, Executive Director

AUTHORITY COUNSEL

Thorp, Reed & Armstrong, LLP
Pittsburgh, Pennsylvania

AUTHORITY CONSULTING ENGINEER

Chester Engineers, Inc.
Pittsburgh, Pennsylvania

AUTHORITY MANAGEMENT CONSULTANT

U.S. Water, L.L.C.
Somerville, New Jersey

FINANCIAL ADVISOR

PNC Capital Markets, Inc.
Pittsburgh, Pennsylvania

UNDERWRITER

Merrill Lynch & Co.
New York, New York

BOND COUNSEL

Buchanan Ingersoll Professional Corporation
Pittsburgh, Pennsylvania

DISCLOSURE COUNSEL

Kirkpatrick & Lockhart LLP
Pittsburgh, Pennsylvania

TRUSTEE AND PAYING AGENT

J.P. Morgan Trust Company, National Association
Pittsburgh, Pennsylvania

No dealer, broker, salesperson or other person has been authorized by the Authority to give any information or to make any representation in connection with the Bonds or the matters described herein, other than those contained in this Official Statement, and, if given or made, such other information or representation must not be relied upon as having been authorized by any of the foregoing. 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.

All quotations from and summaries and explanations of provisions of laws herein do not purport to be complete and reference is made to said laws for full and complete statements of their provisions.

This Official Statement is not to be construed as a contract or agreement between the Authority and the purchasers or holders of any of the Bonds. Any statements made in this Official Statement involving matters of opinion, whether or not expressly so stated, are intended merely as opinion and not as representations of fact. The information contained herein is 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 Authority since the date hereof.

The order and placement of materials in this Official Statement, including the Appendices, 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.

The Authority has deemed this Official Statement to be final for the purposes of Rule 15c2-12(b)(3) of the Securities and Exchange Commission.

THE BONDS HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, NOR HAS THE INDENTURE BEEN QUALIFIED UNDER THE TRUST INDENTURE ACT OF 1939, IN RELIANCE UPON EXEMPTIONS CONTAINED IN SUCH ACTS. THE REGISTRATION OR QUALIFICATION OF THE BONDS IN ACCORDANCE WITH APPLICABLE PROVISIONS OF THE SECURITIES LAWS OF THE STATES, IF ANY, IN WHICH THE BONDS HAVE BEEN REGISTERED OR QUALIFIED AND THE EXEMPTION FROM REGISTRATION OR QUALIFICATION IN CERTAIN OTHER STATES CANNOT BE REGARDED AS A RECOMMENDATION THEREOF. NEITHER THESE STATES NOR ANY OF THEIR AGENCIES HAVE PASSED UPON THE MERITS OF THE BONDS OR THE ACCURACY OR COMPLETENESS OF THIS OFFICIAL STATEMENT. ANY REPRESENTATION TO THE CONTRARY MAY BE A CRIMINAL OFFENSE.

TABLE OF CONTENTS

INTRODUCTION	1
THE AUTHORITY	1
DEBT OF THE AUTHORITY	2
THE BONDS	2
Description of the Bonds	2
Book-Entry-Only System.....	2
No Assurance Regarding DTC Practices	4
REDEMPTION OF THE BONDS.....	5
Optional Redemption	5
Mandatory Sinking Fund Redemption.....	5
Extraordinary Optional Redemption.....	5
MUNICIPAL BOND INSURANCE	5
Payment Pursuant to Financial Guaranty Insurance Policy.....	5
Ambac Assurance Corporation	6
Available Information.....	7
Incorporation of Certain Documents by Reference.....	7
ESTIMATED SOURCES AND USES OF FUNDS	8
USE OF PROCEEDS; THE CAPITAL IMPROVEMENT PROGRAM.....	8
INVESTMENT AGREEMENTS AND OTHER INSTRUMENTS	9
DEBT SERVICE REQUIREMENTS.....	9
SECURITY FOR THE BONDS	10
Limited Obligations	10
Pledge of Receipts and Revenues	10
Debt Service Reserve Fund and Insurance.....	10
Additional Debt	11
Covenants of the Authority.....	11
FLOW OF FUNDS.....	11
RATE COVENANT	13
FUTURE INDEBTEDNESS	13
LITIGATION	14
U.S. Environmental Protection Agency Matter.....	14
FINANCIAL STATEMENTS	14
TAX MATTERS.....	14
TAX TREATMENT OF ORIGINAL ISSUE DISCOUNT AND PREMIUM	15
Original Issue Discount.....	15
Original Issue Premium	15
CERTAIN BONDHOLDERS' RISKS	15
IRS Investigation of the Authority's 1998 Bonds.....	16
Certain Environmental Matters.....	16
Water Supply	18
Geographic Concentration	18
Insurance and Legal Proceedings.....	18
Governmental Regulation	18
Uncertainty of Investment Income.....	19
THE TRUSTEE	19
LEGAL OPINIONS.....	19
RATINGS OF THE BONDS.....	19
CONTINUING DISCLOSURE	20
COMPETITIVE SALE OF BONDS	22
FINANCIAL ADVISOR	22
MISCELLANEOUS	22
APPENDIX A – Description of the Authority	
APPENDIX B – Summary of Indenture	
APPENDIX C – Authority Financial Statements	
APPENDIX D – Description of Service Area	
APPENDIX E – Consulting Engineer's Report	
APPENDIX F – Form of Bond Counsel Opinion	
APPENDIX G – Form of Insurance Policy	

SUMMARY INFORMATION

THIS SUMMARY STATEMENT IS SUBJECT IN ALL RESPECTS TO THE MORE COMPLETE INFORMATION CONTAINED IN THIS OFFICIAL STATEMENT, AND OFFERING OF THE BONDS TO THE POTENTIAL PURCHASERS IS MADE ONLY BY MEANS OF THIS OFFICIAL STATEMENT. NO PERSON IS AUTHORIZED TO DETACH THIS SUMMARY FROM THE OFFICIAL STATEMENT OR OTHERWISE TO USE THE SAME WITHOUT THE ENTIRE OFFICIAL STATEMENT.

Issuer	The Pittsburgh Water and Sewer Authority (the "Authority")
Series of 2002 Bonds.....	The Pittsburgh Water and Sewer Authority, \$107,500,000 Water and Sewer System First Lien Revenue Bonds are issued pursuant to a resolution adopted by the Authority dated January 17, 2002.
Dated Date of Bonds	March 1, 2002
Denomination	\$5,000 or integral multiples thereof.
Maturity.....	December 1 on the dates specified on the inside front cover hereof.
Interest.....	Payable on June 1 and December 1 of each year commencing December 1, 2002.
Security.....	The Bonds are secured (along with all other bonds issued pursuant to the Indenture) by a first lien pledge of the Receipts and Revenues of the Authority after payment of the Current Expenses, together with funds held by the Trustee under the Indenture as provided therein. The timely payment of principal of and interest on the Bonds is insured under a bond insurance policy issued by Ambac Assurance Corporation (the "Bond Insurer"). (See "SECURITY FOR THE BONDS" and "MUNICIPAL BOND INSURANCE" herein.)
Use of Proceeds.....	The Bonds will be used (a) to pay for capital improvements to the Authority's Water and Sewer System; and (b) to pay all costs of issuance with respect to the Bonds.
Redemption	The Bonds are subject to optional, mandatory sinking fund and extraordinary optional redemption prior to maturity. (See "REDEMPTION OF THE BONDS" herein.)
Rate Covenant	The Authority must employ rates and charges as set forth in the Indenture, which together with other receipts and revenues, including any unrestricted cash and investments to a) pay annually, all expenses of the Authority, and b) equal no less than 120% of the debt service requirements with respect to all First Lien Bonds and Subordinate Bonds and other subordinate debt of the Authority, OR, the Authority must employ rates and charges as set forth in the Indenture, which together with other receipts and revenues (but <u>not</u> including unrestricted investments) to a) pay annually, all expenses of the Authority, and (b) equal no less than 100% of the debt service requirements with respect to the First Lien Bonds and Subordinate Bonds and other subordinate debt of the Authority.
Expected Bond Ratings	The following ratings are based solely upon the creditworthiness of the Bond Insurer. There is no underlying rating associated with the creditworthiness of the Authority. Fitch, Inc.: "AAA" Moody's Investors Service, Inc.: "Aaa" Standard & Poor's Ratings Group: "AAA"
Trustee & Paying Agent.....	J.P. Morgan Trust Company, National Association

THE PITTSBURGH WATER AND SEWER AUTHORITY
\$107,500,000
Water and Sewer System First Lien Revenue Bonds
Series of 2002

INTRODUCTION

The purpose of this Official Statement, which includes this introductory statement, the cover page and the Appendices hereto, is to set forth certain information pertaining to The Pittsburgh Water and Sewer Authority (the “Authority” or “PWSA”), a body corporate and politic duly created and existing under the Pennsylvania Municipality Authorities Act, 53 Pa. C.S.A. §5601 et seq. (the “Act”), and to the issuance by the Authority of \$107,500,000 aggregate principal amount, Water and Sewer System First Lien Revenue Bonds, Series of 2002 (the “Bonds”). The Bonds are being issued pursuant to a Trust Indenture dated as of October 15, 1993 as supplemented by the First Supplemental Indenture dated as of July 15, 1995, the Second Supplemental Indenture dated as of March 1, 1998, and the Third Supplemental Indenture dated as of March 1, 2002 (collectively, the “Indenture” or “First Lien Indenture”) by and between the Authority and J.P. Morgan Trust Company, National Association, successor to Chase Manhattan Trust Company, National Association, successor to PNC Bank, National Association, as Trustee (the “Trustee”).

The Authority was established in February 1984 by the City of Pittsburgh (the “City”) for the purpose of assuming responsibility for the operation of the City’s water supply and distribution and wastewater collection systems (the “Water and Sewer System”). Pursuant to a lease and management agreement dated March 29, 1984 between the Authority and the City (the “Lease and Management Agreement”), the Water and Sewer System was leased to the Authority. In 1995, the Lease and Management Agreement was terminated and the Authority is acquiring the portion of the Water and Sewer System owned by the City pursuant to a Capital Lease Agreement dated as of July 15, 1995 between the Authority and the City (the “Capital Lease Agreement”). (See “OWNERSHIP AND OPERATIONS” in Appendix A – Description of the Authority.)

The Water and Sewer System provides water to approximately 83,000 customers and wastewater collection and transmission service to a population of approximately 130,000 customers. The Water and Sewer System does not include wastewater treatment facilities; such facilities are the responsibility of Allegheny County Sanitary Authority, a separate and distinct legal entity. Rates and charges established by the Authority are not subject to the approval of any department, board or agency of the Commonwealth of Pennsylvania or the City.

THE AUTHORITY

The Authority is a body corporate and politic organized and existing under the Act pursuant to Resolution No. 36 of the Council of the City of Pittsburgh, duly enacted on February 6, 1984, approved by the Mayor on February 8, 1984, and effective February 14, 1984. The Secretary of the Commonwealth of Pennsylvania approved the Authority’s Articles of Incorporation and issued a Certificate of Incorporation on February 17, 1984. Articles of Amendment were approved and a Certificate of Amendment was issued by the Pennsylvania Department of State on December 11, 1989 to include, among authorized projects, low head dams and facilities for generating surplus electric power.

Under its Articles of Incorporation, the Authority is specifically authorized to acquire, hold, construct, finance, improve, maintain, operate, own and lease, either as lessor or lessee, projects of the following kinds and character: sewers, sewer systems or parts thereof, waterworks, water supply works, and water distribution systems, low head dams and facilities for generating surplus power.

See Appendix A for a description of the Authority.

DEBT OF THE AUTHORITY

Upon issuance of the 2002 Bonds, the Authority will have outstanding under the 1993 Indenture the 2002 Bonds in the principal amount of \$107,500,000, the 1993 Series A & B Bonds in the aggregate principal amount of \$227,780,000, the 1998 Series A Bonds in the principal amount of \$93,355,000, and the 1998 Series B Capital Appreciation Bonds with an original issuance amount of \$36,440,000. The Authority also has outstanding under the 1995 Subordinate Trust Indenture the 1998 Series C Bonds in the principal amount of \$101,970,000 and under three loans from the Pennsylvania Infrastructure Investment Authority ("PENNVEST") the outstanding principal amount of approximately \$1,056,892.82. See "CERTAIN BONDHOLDERS' RISKS – IRS Investigation of the 1998 Bonds."

THE BONDS

Description of the Bonds

The Bonds will be issued as fully registered bonds in book-entry form. The Bonds will be issued in denominations of \$5,000 principal amount, or any integral multiple thereof, and will bear interest at the rates and will mature on the dates and in the amounts set forth on the inside cover of this Official Statement. Principal and interest shall be paid in such coin or currency of the United States of America as at the time of payment is legal tender for the payment of public and private debts. Interest on the Bonds will be computed on the basis of a 360-day year of twelve 30-day months.

Interest shall be payable on the Bonds on June 1 and December 1 of each year commencing December 1, 2002 (each an "Interest Payment Date"). Each Bond will be initially dated March 1, 2002, and thereafter will be dated as of its date of authentication.

The Bonds are payable as to principal at the designated office of the Trustee or any successor trustee or paying agent. Payment of interest on the Bonds shall be made to the Bondholders of record on the registration books of the Trustee as of the close of business on the fifteenth day of the month (whether or not such day is a business day) next preceding the Interest Payment Date (the "Record Date") by check mailed to such owner at the address shown on the registration books, by wire transfer under certain circumstances, as described below, or in any other manner as may be mutually acceptable to the owner and the Trustee. Defaulted interest with respect to any Bond shall cease to be payable to the holder thereof on the relevant Record Date and shall be payable instead to the registered Bondholder as of the close of business on a Special Record Date for the payment of such defaulted interest established by the Trustee in accordance with the Indenture.

Payment of interest on any Bond shall be made to any owner of \$1,000,000 or more in aggregate principal amount of such Bonds by wire transfer to such owner on any Interest Payment Date upon written notice from such owner received by the Trustee not later than the Business Day preceding the Record Date for the applicable Interest Payment Date, such notice to contain the wire transfer address within the continental United States to which such owner wishes to have such wire directed.

The Bonds are subject to mandatory and optional redemption as described herein under the captions "Optional Redemption," "Mandatory Sinking Fund Redemption," and "Extraordinary Optional Redemption."

Book-Entry-Only System

The Bonds, when issued, will be registered in the name of Cede & Co., the partnership nominee of The Depository Trust Company ("DTC"). When the Bonds are issued, ownership interests will be available to purchasers only through a book-entry system maintained by DTC (the "Book-Entry-Only System"). One fully-registered bond certificate will be issued for the Bonds in the aggregate principal amount of such issue or series and will be deposited with DTC.

DTC and its Participants. DTC 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, as amended. DTC holds bonds that its participants (“Direct Participants”) deposit with DTC. DTC also facilitates the settlement among Direct Participants of bond transactions, such as transfers and pledges, in deposited bonds through electronic computerized book-entry changes in Direct Participants’ accounts, thereby eliminating the need for physical movement of securities certificates. Direct Participants include securities brokers and dealers, banks, trust companies, clearing corporations and certain other organizations. DTC is owned by a number of its Direct Participants and 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 securities brokers and dealers, banks, and trust companies that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly (“Indirect Participants”). The Rules applicable to DTC and its Direct and Indirect Participants are on file with the Securities and Exchange Commission (“SEC”).

Purchase of Ownership Interests. 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, but beneficial Owners are 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.

Payments of Principal, Tender Price, Premium, if Any, and Interest. Redemption proceeds, principal, tender price and interest payments on the Bonds will be made to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC. DTC’s practice is to credit Direct Participants’ accounts, upon DTC’s receipt of funds and corresponding detail information from the Trustee on the payable date in accordance with their respective holdings shown on DTC’s records. Payments by Direct and Indirect Participants to beneficial owners will be governed by standing instructions and customary practices, as is the case with municipal 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 Trustee, or the Authority, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of redemption proceeds, principal, tender price and interest payments to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of the Trustee, disbursement of such payments to Direct Participants shall be the responsibility of DTC, and disbursement of such payments to the beneficial owners shall be the responsibility of Direct and Indirect Participants.

Notices. 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. Beneficial owners of the Bonds may wish to take certain steps to augment transmission to them of notices of significant events with respect to the Bonds, such as redemptions, tenders, defaults, and proposed amendments to the bond documents. Beneficial owners of the Bonds may wish to ascertain that the nominee holding the Bonds for their benefit has agreed to obtain and transmit notices to beneficial owners, or in the alternative, beneficial owners may wish to provide their names and addresses to the Trustee and request that copies of the notices be provided directly to them. 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. Under its usual procedures, DTC mails an Omnibus Proxy to the Authority 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).

NEITHER THE AUTHORITY NOR THE TRUSTEE WILL HAVE ANY RESPONSIBILITY OR OBLIGATION TO SUCH PARTICIPANTS OR THE PERSONS FOR WHOM THEY ACT AS NOMINEES WITH RESPECT TO THE PAYMENT TO, OR THE PROVIDING OF NOTICE FOR, SUCH PARTICIPANTS OR THE PERSONS FOR WHOM THEY ACT AS NOMINEES.

Transfers of Bonds. 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 the Bonds with DTC and their registration in the name of Cede & Co. or such other 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.

None of the Authority, the Underwriter or the Trustee will have any responsibility or obligation, legal or otherwise, to any party other than to the registered owners of any Bond on the registration books of the Trustee.

Discontinuance of Book-Entry-Only System. In the event (i) DTC determines not to continue to act as securities depository for the Bonds or (ii) the Authority, with the consent of the Trustee, determines in accordance with the terms of the Indenture that (a) DTC is incapable of discharging its duties, or (b) it is in the best interests of the holders of the Bonds not to continue the Book-Entry-Only System or that interests of the beneficial owners of the Bonds might be adversely affected if the Book-Entry-Only System is continued, then the Authority will discontinue the Book-Entry-Only System with DTC. Upon the occurrence of the event described in (i) or (ii)(a) above, the Authority will attempt to locate another qualified securities depository. If the Authority fails to identify another qualified securities depository to replace DTC or makes the determination noted in (ii)(b) above, the Trustee will authenticate and deliver the Bonds in accordance with the Indenture.

No Assurance Regarding DTC Practices

The foregoing information in this section concerning DTC and DTC's book-entry system has been obtained from sources that the Authority believes to be reliable, but the Authority, the Underwriter and the Trustee do not take any responsibility for the accuracy thereof.

So long as Cede & Co. is the registered owner of the Bonds as nominee of DTC, references herein to the holders or registered owners of the Bonds will mean Cede & Co. and will not mean the beneficial owners of the Bonds.

None of the Authority, the Trustee, or the Underwriter will have any responsibility or obligation to the Participants, DTC or the persons for whom they act with respect to (i) the accuracy of any records maintained by DTC or by any Direct or Indirect Participant of DTC, (ii) payments or the providing of notice to Direct Participants, the Indirect Participants or the beneficial owners, (iii) the selection by DTC or by any Direct or Indirect Participant of any beneficial owner to receive payment in the event of a partial redemption of the Bonds or (iv) any other action taken by DTC or its partnership nominee as owner of the Bonds.

REDEMPTION OF THE BONDS

Optional Redemption

The Bonds are subject to redemption, at the option of the Authority, in whole or in part, in the order of maturity selected by the Authority and by lot within a maturity, at any time on or after June 1, 2012. Any such redemption will be made at a redemption price equal to 100% of the principal amount thereof plus accrued interest to the redemption date.

Mandatory Sinking Fund Redemption

The 2002 Bonds which mature on December 1, 2027 and December 1, 2031 are subject to mandatory sinking fund redemption in part, in order of maturity and by lot within the maturity, on December 1 in the years and the principal amounts listed below, at a redemption price equal to 100% of the principal amount to be redeemed, plus accrued interest to the redemption date:

2002 Bonds Maturing December 1, 2027		2002 Bonds Maturing December 1, 2031	
<u>December 1</u>	<u>Principal Amount</u>	<u>December 1</u>	<u>Principal Amount</u>
2024	\$4,890,000	2028	\$5,975,000
2025	5,145,000	2029	6,280,000
2026	5,405,000	2030	6,600,000
2027	5,685,000*	2031	6,940,000*

*Maturity

Extraordinary Optional Redemption

The Bonds are subject to extraordinary redemption prior to maturity at the option of the Authority in whole or in part at any time, in the event of condemnation, damage or destruction of the Water and Sewer System, from moneys deposited with or held by the Trustee for such purpose, upon payment of 100% of the principal amount thereof being redeemed, together with interest accrued to the date fixed for redemption for the Bonds, as of the date of redemption.

The redemption of the Bonds shall be made in the manner and upon the terms and conditions set forth in the Indenture.

MUNICIPAL BOND INSURANCE

Payment Pursuant to Financial Guaranty Insurance Policy

Ambac Assurance Corporation (“Ambac Assurance”) has made a commitment to issue a financial guaranty insurance policy (the “Financial Guaranty Insurance Policy”) relating to the Bonds 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 which 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 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 Trustee/Paying 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 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.

In the event the Trustee 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 its registered owner pursuant to the United States Bankruptcy Code in accordance with a final, nonappealable 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 defined in the 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.
3. nonpayment of principal or interest caused by the insolvency or negligence of any Trustee or Paying Agent, if any.

If it becomes necessary to call upon the Financial Guaranty Insurance Policy, payment of principal requires surrender of 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 Obligation, appurtenant coupon, if any, or right to payment of principal or interest on such Obligation 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 licensed to do business in 50 states, the District of Columbia, the Territory of Guam and the Commonwealth of Puerto Rico, with admitted assets of approximately \$4,988,000,000 (unaudited) and statutory capital of approximately \$2,963,000,000 (unaudited) as of September 30, 2001. Statutory capital consists of Ambac Assurance's policyholders' surplus and statutory contingency reserve. Standard & Poor's Credit Markets Services, a Division of The McGraw-Hill Companies, Moody's Investors Service and Fitch, Inc. 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 its 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 of the Bonds.

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, the Official

Statement other than the information supplied by Ambac Assurance and presented under the heading "Municipal Bond 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 "Commission"). Such reports, proxy statements and other information may be inspected and copied at the public reference facilities maintained by the Commission at 450 Fifth Street, N.W., Washington, D.C. 20549 and at the Commission's regional offices at Northwestern Atrium Center, 500 West Madison Street, Suite 1400, Chicago, Illinois 60661. Copies of such material can be obtained from the public reference section of the Commission at 450 Fifth Street, N.W., Washington, D.C. 20549 at prescribed rates. In addition, the aforementioned material may also be inspected at the offices of the New York Stock Exchange, Inc. (the "NYSE") at 20 Broad Street, New York, New York 10005. The Company's Common Stock is listed on the NYSE.

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 and its telephone number are One State Street Plaza, 17th Floor, New York, New York, 10004 and (212) 668-0340.

Incorporation of Certain Documents by Reference

The following documents filed by the Company with the Commission (File No. 1-10777) are incorporated by reference in this Official Statement:

- 1) The Company's Current Report on Form 8-K dated January 24, 2001 and filed on January 24, 2001;
- 2) The Company's Current Report on Form 8-K dated March 19, 2001 and filed on March 19, 2001;
- 3) The Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2000 and filed on March 28, 2001;
- 4) The Company's Quarterly Report on Form 10-Q for the fiscal quarterly period ended March 31, 2001 and filed on May 15, 2001;
- 5) The Company's Current Report on Form 8-K dated July 18, 2001 and filed on July 23, 2001;
- 6) The Company's Quarterly Report on Form 10-Q for the fiscal quarterly period ended June 30, 2001 and filed on August 10, 2001;
- 7) The Company's Current Report on Form 8-K dated and filed on September 17, 2001;
- 8) The Company's Current Report on Form 8-K dated and filed on September 19, 2001;
- 9) The Company's Current Report on Form 8-K dated and filed on October 22, 2001; and
- 10) The Company's Quarterly Report on Form 10-Q for the fiscal quarterly period ended September 30, 2001 and filed on November 14, 2001

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**”.

ESTIMATED SOURCES AND USES OF FUNDS

SOURCES OF FUNDS	
Principal	\$107,500,000
Accrued Interest	<u>373,949</u>
TOTAL	<u>\$107,873,949</u>
USE OF FUNDS	
Original Issue Discount	\$ 354,648
Deposit to Construction Fund	98,737,892
Deposit to Debt Service Fund	373,949
Deposit to Debt Service Reserve Fund	7,299,038
Cost of Issuance*	<u>1,108,422</u>
TOTAL	<u>\$107,873,949</u>

*Includes the bond insurance premium, underwriter’s discount, and fees for the financial advisor, bond counsel, disclosure counsel, IRS examination counsel, rating agencies, clearing agent, verification agent, and trustee, printing costs and other miscellaneous fees and expenses.

USE OF PROCEEDS; THE CAPITAL IMPROVEMENT PROGRAM

The primary objectives of the Authority’s capital improvement program (the “Capital Improvement Program”) are to assure uninterrupted service to the Authority’s customers and to enhance the system’s capabilities. The Capital Improvement Program was designed to maintain a satisfactory level of service to the Water and Sewer System users, to improve operating efficiency, to address future requirements and to assure a safety supply of water to its users. The current Program was implemented in 1984 and has resulted in major improvements, additions and rehabilitation to all components of the Water and Sewer System.

In order to assure a continued supply of safe drinking water and proper sewer service to the Authority’s current and future users and to address future demands on both the Water and Sewer System, additional funding is required. The following is a summary of the portion of the Capital Improvement Program to be funded with proceeds of the sale of the Bonds.

Description

- Water Distribution System
- Pumping and Storage Facilities
- Water Treatment Plant
- Miscellaneous Tools & Equipment
- Miscellaneous Projects
- Sewer System
- City, URA* and SEA** Projects
- Engineering

* Urban Redevelopment Authority of Pittsburgh

** Sports & Exhibition Authority of the City of Pittsburgh and Allegheny County

For a more detailed description of the Capital Improvement Program, see Appendix E,

“Consulting Engineer’s Report”, Section II.

INVESTMENT AGREEMENTS AND OTHER INSTRUMENTS

The Authority may enter into one or more eligible investment agreements or other instruments with respect to moneys on deposit in the Capital Project Fund, Debt Service Funds and/or Debt Service Reserve Funds.

DEBT SERVICE REQUIREMENTS

	<u>Series 1993</u>	<u>Series 1998</u>	<u>Series 2002</u>	<u>Total</u>
12/31/2002	\$ 21,853,920.00	\$ 9,910,443.76	\$ 4,038,646.88	\$ 35,803,010.64
12/31/2003	21,840,995.00	9,910,443.76	5,384,862.52	37,136,301.28
12/31/2004	21,852,765.00	9,910,443.76	7,294,862.52	39,058,071.28
12/31/2005	21,850,765.00	9,910,443.76	7,298,462.52	39,059,671.28
12/31/2006	21,848,802.50	9,910,443.76	7,298,862.52	39,058,108.78
12/31/2007	21,849,922.50	9,910,443.76	7,296,062.52	39,056,428.78
12/31/2008	21,850,562.50	9,910,443.76	7,295,062.52	39,056,068.78
12/31/2009	21,847,562.50	9,910,443.76	7,294,487.52	39,052,493.78
12/31/2010	21,851,562.50	9,910,443.76	7,294,412.52	39,056,418.78
12/31/2011	21,850,562.50	9,910,443.76	7,296,812.52	39,057,818.78
12/31/2012	21,847,812.50	9,910,443.76	7,294,812.52	39,053,068.78
12/31/2013	21,850,387.50	9,910,443.76	7,298,237.52	39,059,068.78
12/31/2014	21,848,737.50	9,910,443.76	7,297,487.52	39,056,668.78
12/31/2015	21,853,087.50	9,910,443.76	7,294,737.52	39,058,268.78
12/31/2016	21,845,400.00	9,910,443.76	7,294,237.52	39,050,081.28
12/31/2017	1,864,250.00	29,890,443.76	7,294,387.52	39,049,081.28
12/31/2018	1,863,000.00	29,891,443.76	7,295,512.52	39,049,956.28
12/31/2019	1,863,500.00	29,893,193.76	7,294,762.52	39,051,456.28
12/31/2020	1,865,500.00	29,893,443.76	7,295,012.52	39,053,956.28
12/31/2021	1,863,750.00	29,894,263.76	7,295,800.02	39,053,813.78
12/31/2022	1,863,250.00	29,892,788.76	7,295,562.52	39,051,601.28
12/31/2023	1,863,750.00	29,893,261.26	7,298,775.02	39,055,786.28
12/31/2024	0	31,756,380.00	7,294,650.02	39,051,030.02
12/31/2025	0	31,756,635.00	7,299,037.52	39,055,672.52
12/31/2026	0	31,755,000.00	7,295,356.28	39,050,356.28
12/31/2027	0	31,755,000.00	7,298,350.02	39,053,350.02
12/31/2028	0	31,755,000.00	7,296,993.76	39,051,993.76
12/31/2029	0	31,755,000.00	7,295,775.04	39,050,775.04
12/31/2030	0	14,660,000.00	7,293,925.02	21,953,925.02
12/31/2031	0	0.00	7,295,675.04	7,295,675.04
Total	\$340,789,845.00	\$563,098,510.22	\$213,711,622.50	\$1,117,599,977.72

SECURITY FOR THE BONDS

Limited Obligations

The Bonds are obligations of the Authority. The Bonds do not pledge the general credit or taxing power of the City of Pittsburgh, the Commonwealth of Pennsylvania (the "Commonwealth") or any political subdivision thereof; nor shall the Bonds be deemed a general obligation of the City, the Commonwealth or any political subdivision thereof; nor shall the City, the Commonwealth or any political subdivision thereof (other than the Authority) be liable for payment of the principal of, premium, if any, or interest on the Bonds. The Authority has no taxing power.

Pledge of Receipts and Revenues

The Bonds together with the 1993 Series A Bonds, the 1993 Series B Bonds, the 1998 Series A Bonds, and the 1998 Series B Bonds, and any additional bonds which are hereafter issued pursuant to the First Lien Indenture (collectively, the "First Lien Bonds"), are secured, on a parity, by a first lien pledge of the Receipts and Revenues of the Water and Sewer System after payment of Current Expenses, each as defined in the First Lien Indenture, together with cash and investments from time to time held in certain funds pursuant to the First Lien Indenture. (See Appendix B – "*Summary of Indenture*".)

Debt Service Reserve Fund and Insurance

The Indenture requires that a Debt Service Reserve Fund be funded in an amount equal to the maximum annual debt service requirements on the First Lien Bonds. Upon issuance of the Bonds, \$7,299,038 will be deposited to the Debt Service Reserve Fund of the Indenture. The Authority expects on the date of the closing to purchase an option to purchase a surety bond on or before March 26, 2003 to replace the amounts deposited in the Debt Service Reserve Fund upon the issuance of the Bonds.

Financial Guaranty Insurance Company has issued a Municipal Bond Debt Service Reserve Fund Policy (the "1993 Reserve Policy") in the amount of the maximum annual debt service requirements on the 1993 Series A Bonds and the 1993 Series B Bonds (collectively, the "Series 1993 Bonds"). The 1993 Reserve Policy is non-cancelable and the premium was fully paid at the time of delivery of the Series 1993 Bonds. The 1993 Reserve Policy covers failure to pay principal of the Series 1993 Bonds on their respective stated maturity dates, or dates on which the same shall have been called for mandatory sinking fund redemption, and not on any other date on which the payment of the Series 1993 Bonds is accelerated, and covers the failure to pay interest on the stated due dates. The 1993 Reserve Policy shall terminate on the earlier of the final maturity date of the Series 1993 Bonds and the date on which the Series 1993 Bonds are no longer outstanding under the First Lien Indenture.

On February 6, 2002 Financial Security Assurance Inc. issued a Municipal Bond Debt Service Reserve Fund Policy (the "1998 Reserve Fund Policy") in the amount of the maximum annual debt service requirements on the 1998 Series A Bonds, the 1998 Series B Bonds and the 1998 Series C Bonds (collectively, the "Series 1998 Bonds"). The 1998 Reserve Policy is non-cancelable and the premium was fully paid at the time of the issuance of the Series 1998 Bonds. The 1998 Reserve Policy covers failure to pay principal of the Series 1998 Bonds on their respective stated maturity dates, or dates on which the same shall have been called for mandatory sinking fund redemption, and not on any other date on which the payment of the Series 1998 Bonds is accelerated, and covers the failure to pay interest on the stated due dates. The 1998 Reserve Policy shall terminate on the earlier of the final maturity date of the Series 1998 Bonds and the date on which Series 1998 Bonds are no longer outstanding under the First Lien Indenture. Upon delivery of the 1998 Reserve Fund Policy, the amount deposited in the Debt Service Reserve Fund upon the issuance of the Series 1998 Bonds was deposited in the Construction Fund.

Payments of principal and interest on the Bonds when due are insured by a municipal bond insurance policy issued by Ambac Assurance Corporation simultaneously with the issuance of the Bonds. See "MUNICIPAL BOND INSURANCE" herein.

Additional Debt

The Authority may issue additional bonds on a parity with the Bonds for the purposes of financing the cost of acquiring, constructing or completing capital additions or refunding outstanding Bonds, upon satisfaction of the conditions set forth in the First Lien Indenture.

Covenants of the Authority

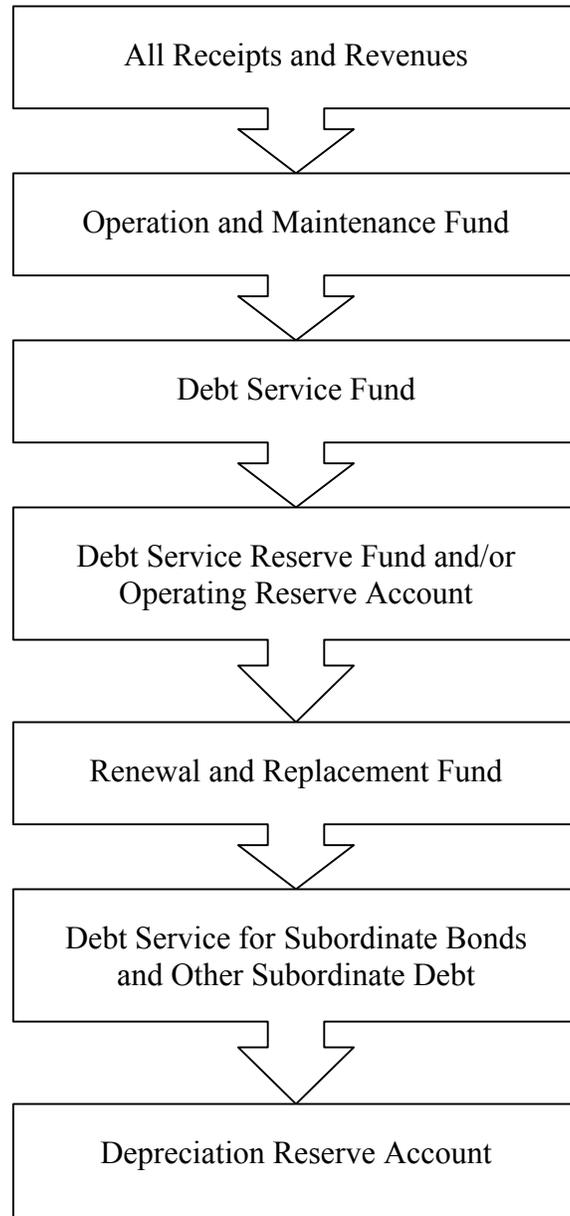
Under the Indenture, the Authority covenants, among other things: (1) to insure the property of the Water and Sewer System in accordance with customary practice, (2) to employ a consulting engineer to make recommendations annually concerning, among other things, the proper maintenance, repair and operation of the Water and Sewer System and (3) to maintain the Water and Sewer System in good repair, working order and condition. (See “*Summary of Indenture*” – Appendix B herein.) (Also, see “RATE COVENANT” herein.)

FLOW OF FUNDS

The Authority has heretofore established a special fund (the “Revenue Fund”) into which it deposits its Receipts and Revenues with Authorized Depositories. The Authority will withdraw from the Revenue Fund for deposit to the credit of the following funds in the order, on the dates and for the following purposes:

1. *Operation and Maintenance Fund*
On the first day of each month moneys are to be transferred to the Operation and Maintenance Fund in an amount equal to the amount budgeted by the Authority for that month for the payment of the Current Expenses as the same become due.
2. *Debt Service Fund*
On or before each Interest Payment Date, moneys in the amount of the interest to come due on the First Lien Bonds on such Interest Payment Date and on or before the first day of each month moneys in the amount of 1/12 of the principal to come due on the First Lien Bonds on the next principal payment date are to be transferred to the Debt Service Fund of the First Lien Indenture.
3. *Debt Service Reserve Fund/Operating Reserve Account*
On the first day of each month in which there is a deficiency in the Debt Service Reserve Fund or the Operating Reserve Account of the Indenture or if there has been a draw on the surety bond held in the Debt Service Reserve Fund of the Indenture, amounts sufficient to repay any deficiency or repay any such draw, together with expenses due, in not more than 12 equal monthly payments shall be transferred, as applicable, to the Debt Service Reserve Fund or the Operating Reserve Account held pursuant to the Indenture or paid to the surety provider.
4. *Renewal and Replacement Fund*
On the dates and in the amounts set forth in the annual consulting engineer’s report moneys are to be transferred to the Renewal and Replacement Fund held pursuant to the Indenture.
5. *Debt Service for Subordinated Debt*
After making the foregoing transfers, on the first day of each month moneys shall be transferred:
 - (a) all payments due on Subordinate Bonds, and
 - (b) all payments due on any other subordinated debt.
6. *Depreciation Reserve Account – First Lien Indenture*
On December 1 of each year moneys shall be transferred to the Depreciation Reserve Account held pursuant to the First Lien Indenture.

The flow of funds is illustrated as follows:



RATE COVENANT

Under the Indenture, the Authority has covenanted with the owners of the Bonds to adopt rates complying with either of the following in each fiscal year:

(1) The Authority will maintain, charge and collect, so long as any of the First Lien Bonds shall remain outstanding, reasonable rates, rentals and other charges for the use of the facilities of the Water and Sewer System which (after making due and reasonable allowances for contingencies and a margin of error in the estimates) together with other Receipts and Revenues, including any unrestricted cash and investments accumulated in the Revenue Fund at the beginning of each fiscal year, shall be at all times at least sufficient to provide annually:

- (a) Funds to pay all of the Current Expenses;
- (b) An amount equal to 120% of the debt service requirements with respect to the First Lien Bonds, Subordinate Bonds and other subordinate long-term indebtedness of the Authority ("Subordinate Debt") for the current fiscal year; or,

(2) The Authority will maintain, charge and collect, so long as any of the First Lien Bonds shall remain outstanding, reasonable rates, rentals and other charges for the use of the facilities of the Water and Sewer System which (after making due and reasonable allowances for contingencies and a margin of error in the estimates), together with other Receipts and Revenues, for the then current fiscal year (exclusive of interest income earned by the Authority on funds other than the Debt Service Reserve Fund; provided, however, that earnings on the construction fund may also be included during any construction period, but only to the extent such earnings are expressly required to be either retained in the construction fund and may be used to pay debt service on First Lien Bonds and Subordinate Bonds, and Subordinate Debt or are applied directly to payment of debt service on First Lien Bonds, Subordinate Bonds, and Subordinate Debt), shall be at all times at least sufficient to provide annually:

- (a) Funds to pay all of the Current Expenses;
- (b) An amount equal to 100% of the debt service requirements with respect to the First Lien Bonds, Subordinate Bonds, and Subordinate Debt for the current fiscal year.

Calculation of compliance with the covenant shall be made on the following basis (a) operating revenue, construction fund income, earnings on the Debt Service Reserve Fund, expenses, required deposits to replenish any withdrawals from the Debt Service Reserve Fund and the Renewal and Replacement Fund which have not been capitalized shall be accounted for on the accrual basis; (b) costs of issuance of the First Lien Bonds, Subordinate Bonds, and Subordinate Debt may be treated as if such amounts are amortized over the life of the First Lien Bonds, Subordinate Bonds, and Subordinate Debt irrespective of any shorter period over which such costs are actually amortized; and (c) depreciation is specifically excluded from the calculation. Gross revenues shall be reduced by the amount of any payment then due and owing with respect to any surety bond held in the Debt Service Reserve Fund of the First Lien Indenture.

The Authority also covenants with the holders of the First Lien Bonds that if at any time the revenues collected shall not be sufficient to enable the Authority to comply with the rate covenant, it will promptly revise its water or sewer rates, rents and other charges so that the Authority will be in compliance and so that any deficiencies in transfers of funds required to be made pursuant to the Indenture will be remedied before the end of the next ensuing fiscal year.

FUTURE INDEBTEDNESS

The Authority has established a six (6) year Capital Improvement Program (1998-2003), the details of which are found in the Consulting Engineer's Report, Appendix E. The Bonds will fund a portion of this Program. The balance of the Capital Improvement Program may require the issuance of additional bonds at various times in the future.

LITIGATION

In the opinion of Authority counsel, there is no litigation pending or threatened seeking to enjoin the issuance, sale or delivery of the Bonds or affecting the security pledged therefor.

There are no pending claims or actions against the Authority arising from the operation and maintenance of the Water and Sewer System, which, if determinations or settlements were made adverse to the Authority, and upon consideration of available insurance coverage, would have, in the opinion of the Authority's Counsel, a material adverse effect on the Authority's financial position.

U.S. Environmental Protection Agency Matter

Although it has not commenced litigation, the U.S. Environmental Protection Agency issued a letter in February 2002 directed to each of the entities owning or operating sewer systems with combined sewer overflows that convey wastewater to the Allegheny County Sanitary Authority ("ALCOSAN") for treatment. In this letter, EPA expressed a specific intent to commence enforcement actions unless the entities addressed (including the Authority) enter into a consent order; the consent order attached to said letter contains assertions that the Authority and others are in violation of outstanding permit conditions and regulatory requirements. (See "CERTAIN BONDHOLDERS' RISKS" hereinafter.)

FINANCIAL STATEMENTS

The audited financial statements of the Authority for the year ended December 31, 2000 are included in Appendix B attached hereto.

TAX MATTERS

In the opinion of Bond Counsel, assuming the accuracy of the certifications of the Authority and continuing compliance by the Authority with the requirements of the Internal Revenue Code of 1986, as amended, and the regulations thereunder (the "Code"), 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 the original issuance of the Bonds. Interest on the Bonds will not be an item of tax preference for purposes of either individual or corporate federal alternative minimum tax; however, interest on a Bond 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 the 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 collateral federal income tax consequences to certain taxpayers, including, without limitation, financial institutions, property and casualty insurance companies, individual recipients of Social Security and Railroad Retirement benefits, certain S corporations and taxpayers who may be deemed to have incurred or continued indebtedness to purchase or carry the Bonds. Bond Counsel expresses no opinion regarding such collateral consequences. Prospective purchasers of the Bonds should consult with their tax advisors as to applicability of any such collateral consequences.

The Authority is certifying to its expectations as to the investment and use of Bond proceeds. The exclusion from gross income for federal income tax purposes of the interest on such Bonds depends on and is subject to the accuracy of the certifications by the Authority and to present and continuing compliance with the applicable requirements of the Code. A failure to comply with these requirements could cause interest on the Bonds not to be excluded from gross income for federal income tax purposes as to the date of issuance of such Bonds or as of some later date.

Bond Counsel is also of the opinion that under the laws of the Commonwealth of Pennsylvania, as enacted and construed on the date hereof, the Bonds are exempt from Pennsylvania personal property taxes and interest on the bonds is exempt from Pennsylvania personal income tax and Pennsylvania corporate income tax.

From time to time, there are legislative proposals in Congress that, if enacted, could alter or amend the federal tax matters referred to above or adversely affect the market value of the Bonds. It cannot be predicted whether or in what form any such proposal might be enacted or whether if enacted, it would apply to bonds issued prior to enactment. Each purchaser of the Bonds should consult his or her own tax advisor regarding any pending or proposed federal tax legislation.

TAX TREATMENT OF ORIGINAL ISSUE DISCOUNT AND PREMIUM

Original Issue Discount

Bond Counsel is further of the opinion that the difference between the principal amount of the Bonds with the Maturity Dates December 1, 2010, 2017-2019, 2021-2023, 2027, and 2031 (the “Discount Bonds”) and the initial offering price to the public (excluding bond houses, brokers or similar persons or organizations acting in the capacity of underwriters or wholesalers) at which price a substantial amount of such Discount Bonds of the same maturity was sold constitutes original issue discount which is excluded from gross income for federal income tax purposes to the same extent as interest on the Bonds. Further, such original issue discount accrues actuarially on a constant interest rate basis over the terms of each Discount Bond and the basis of each Discount Bond acquired at such initial offering price by an initial purchaser thereof will be increased by the amount of tax-exempt income for purposes of determining various other tax consequences of owning the Discount Bonds, even though there will not be a corresponding cash payment. Owners of the Discount Bonds are advised that they should consult with their own advisors with respect to state and local tax consequences of owning such Discount Bonds.

Original Issue Premium

The Bonds with the Maturity Dates December 1, 2004-2009, 2011-2016 and 2020 (the “Premium Bonds”) are being offered at prices in excess of their principal amounts. Bond Counsel is of the opinion that an initial purchaser with an initial adjusted basis in a Premium Bond in excess of its principal amount will have amortizable bond premium which is not deductible from gross income for federal income tax purposes. The amount of amortizable bond premium for a taxable year is determined actuarially on a constant interest rate basis over the terms of each Premium Bond. For purposes of determining gain or loss on the sale or other disposition of a Premium Bond, an initial purchaser who acquires such obligation with an amortizable bond premium is required to decrease such purchaser’s adjusted basis in such Premium Bond annually by the amount of amortizable bond premium for the taxable year. The amortization of bond premium may be taken into account as a reduction in the amount of tax-exempt income for purposes of determining various other tax consequences of owning such Bonds. Owners of the Premium Bonds are advised that they should consult with their own advisors with respect to state and local tax consequences of owning such Premium Bonds.

CERTAIN BONDHOLDERS’ RISKS

Investment in the Bonds may involve certain risks and each investor should consider the risks involved to determine the suitability of investing in the Bonds. Each prospective investor should carefully examine this Official Statement and his or her own financial condition (including the diversification of his or her investment portfolio) in order to make a judgment as to whether the Bonds are an appropriate investment.

The Authority has identified and summarized below certain “Bondholders’ Risks” that could adversely affect the finances of the Authority, the operation of the Water and Sewer System and/or the funds available for payment of the Bonds, which should be considered by prospective investors. The following discussion is not intended to be exhaustive, but includes certain major factors, which should be considered along with other factors set forth elsewhere in this Official Statement, including the Appendices hereto. See Appendix A – “DESCRIPTION OF THE AUTHORITY” – “*Government Regulation.*”

IRS Investigation of the Authority's 1998 Bonds

The Internal Revenue Service (the "IRS") has commenced an investigation of the Authority's Series 1998 Bonds. The examination is being conducted by the field office of the IRS in Independence, Ohio, which advised the Authority in April 2000 that the IRS had selected the Series 1998 Bonds for examination as part of a program to examine whether municipal bonds complied with the requirements of the Internal Revenue Code for tax exemption of interest paid thereon. The field office stated that the Service opened the examination in order to determine the effect of put options on the yield of the defeasance escrows funded with the Series 1998 Bonds.

The letter requested certain documents relating to the issuance of the Series 1998 Bonds. After review of these documents, the IRS agent in charge of the examination requested "Field Service Advice" from the National Office of the IRS on May 11, 2001. The National Office provided a memorandum in response and sent a copy to the Authority on November 19, 2001. Field Service Advice is a form of advice provided by the National Office to field offices to assist in resolving matters. Field Service Advice is only used to provide guidance on the interpretation and application of tax laws and does not represent a final determination of the IRS's position.

The National Office memorandum included discussions related to: (a) whether payments to a provider institution by the Authority for "Sale Rights" (the options referred to in the original letter) may be taken into account in calculating the yield on the defeasance escrows; and (b) whether the Authority paid more than fair market value for the investments it purchased for the escrows. The memorandum does not reach a specific conclusion on either issue pending further development of the case by the Agent, who has indicated an intention to confer further with the National Office.

In connection with the issuance of the Series 1998 Bonds, the Authority received a bond counsel opinion of Kutak Rock LLP that the interest on the Series 1998 Bonds was exempt from Federal income tax. The Authority relied on the opinion in issuing the Series 1998 Bonds. The bond counsel opinion has not been revoked.

The Authority's IRS examination counsel, Ballard Spahr Andrews & Ingersoll, LLP, believes that the Authority's reliance was reasonable and that the bond counsel's conclusion would ultimately be accepted by a court. The Authority and its IRS examination counsel can make no predictions and can give no assurances as to what findings the Service may make, whether it will continue or will close the examination, whether or not it might make assessments against holders of the Series 1998 Bonds (which could be reviewed in court) or what terms of a settlement might be proposed by the IRS or how long the examination might continue.

Certain Environmental Matters

The Authority is subject to a variety of federal, state and local environmental laws and regulations governing discharges to air and water, treatment of sanitary wastewaters and the storage and disposal of solid waste materials. (See Appendix A – "Government Regulation".) The Sewer System conveys wastewater generated within the City boundaries to ALCOSAN interceptors located along the rivers of the City for conveyance to ALCOSAN's wastewater treatment facility for processing prior to discharge into the Ohio River. (See Appendix A – "The Sewer System".) The Sewer System is designed so that during wet weather, a portion of the collected storm water and diluted wastewater is discharged to natural watercourses by diversion chambers located throughout the Sewer System and at connections to the ALCOSAN interceptors. The Sewer System operates satisfactorily and has adequate capacity for the dry weather wastewater flows; during wet weather, however, the Sewer System is often taxed beyond its capacity, resulting in overflows, bypassing and flooding.

The U.S. Environmental Protection Agency ("USEPA") has adopted regulations governing discharges to surface bodies of water, coupled with a Combined Sewer Overflow Policy (the "CSO Policy") regarding overflows from combined sewers during events that result in the discharge to receiving water of untreated sanitary sewage. These combined sewer overflows ("CSOs") contain pollutants that are present in domestic and industrial wastewater, as well as those in the urban storm water runoff that enter the combined sewer system. Essentially all of the Authority's sewers are combined sewers and there are well over 200 CSOs within the Authority's Sewer System. The USEPA CSO Policy requires owners of any sewer system having CSOs to acquire NPDES discharge permits for each overflow site. The USEPA CSO Policy establishes a multi-step program toward controlling CSOs. In the first step, the owners of such systems were required to implement the USEPA's "Nine Minimum Control Measures" by January 1, 1997. In subsequent steps, permittees with CSOs must prepare and submit long-term CSO control plans that will ultimately result in compliance with requirements of the Clean Water Act. These long-term CSO control plans must include: (1) characterization, monitoring, and modeling of the combined sewer system; (2) public participation; (3) consideration of sensitive areas (with an adopted approach that shows compliance with a presumptive criteria of no more than 4 overflow events per year, or demonstration of adequacy to meeting water quality-based requirements of the Act) ; (4) evaluation of alternatives; (5) cost/performance considerations; (6) an operating plan; (7) maximizing treatment at existing treatment plant facilities; and (8) an implementation schedule.

The Authority has not yet identified the most efficient and cost effective method of eliminating or controlling the CSOs; however, the Authority will be required over the next several years to expend significant funds to inventory and monitor combined sewer overflows and to evaluate the impact on receiving streams.

The USEPA, the Pennsylvania Department of Environmental Protection ("PADEP"), and the Allegheny County Health Department ("ACHD") are currently negotiating a consent decree with ALCOSAN for the purpose of providing a basis for the development of a Long Term Control Plan addressing CSOs and the elimination of sanitary sewer overflows. Although it is too early to predict the outcome of the negotiations, an adverse ruling in any enforcement action brought by the USEPA could have a material financial impact on the ALCOSAN and the municipalities within the service area and require both the ALCOSAN and the municipalities to undertake capital projects that would significantly increase existing sewer rates. As a result, all systems that are tributary to the ALCOSAN system will be directly and significantly impacted by this situation.

In addition, in early February 2002, USEPA has directed correspondence to each of the entities owning or operating sewer systems that convey wastewater to the ALCOSAN system, including the Authority, inviting those entities to execute consent orders with PADEP and/or ACHD, containing a multi-step plan to the evaluation and implementation of CSO corrective measures. In its model consent order form, USEPA presented proposed milestones for the characterizations of the Sewer System, which is described as Phase I. This is to include a physical survey of the entire system, cleaning and internal inspection, mapping using a Geographic Information System ("GIS") as prescribed by the ACHD, and dyed water testing of the sanitary sewers, and a hydraulic capacity evaluation. This work is to be completed by March 1, 2005. USEPA's proposed schedule also calls for submission of documentation demonstrating system-wide implementation of and compliance with the nine minimum controls by no later than March 1, 2003. At this stage in the preliminary discussions, the EPA has presented milestones for the characterizations of the sewer system, which is described as Phase I. This is to include a physical survey of the entire system, cleaning and internal inspection, mapping using a GIS as prescribed by the ACHD, and dyed water testing of the sanitary sewers.

Phase II of the schedule includes implementation of a flow monitoring plan. Such flow monitoring is to commence by March 1, 2005, with monitoring to continue for at least one year. It is expected that this work, which will result in a report on flows to be accepted by ALCOSAN, will be completed in five years.

Ultimately a long-term control plan must be developed for the elimination of sanitary sewer overflows and the reduction of combined sewer overflows to acceptable levels. The cost of the studies and construction activities to reach target goals is estimated to cost at least \$300,000,000. The time required for

full implementation of the plan has not yet been determined. As of this date the regulatory agencies, the Authority and ALCOSAN have not reached concurrence with regard to the schedule for such implementation.

The Authority lists of total of about 225 CSOs in the sewerage system that it operates. Of these, approximately forty-five (twenty percent) will be addressed and eliminated through the Capital Improvement Program and the funds provided by the Bonds. While the elimination of CSOs in the future will become more difficult and costly, the initial elimination of twenty percent of the CSOs in the system over the next two to three years represents a significant step toward compliance with EPA regulations.

The Authority has developed a plan to address the combined sewer overflow issue and achieve compliance with the Clean Water Act which it believes to be financially responsible. This plan is reflected in the 2002–2003 Capital Improvement Program. Included within the program are \$4.8 million for a CSO study, Engineering and flow monitoring; \$8 million for elimination of small CSO's; and \$2.5 million for various sewer separation projects. A proposed Capital Improvement Program has been developed that identifies the anticipated needs of the Authority for an additional three-year period. Included in this program are additional expenditures for sewer compliance issues and infrastructure improvements. It is anticipated that funding for these expenditures would be provided by the proceeds of the issuance of additional debt.

Water Supply

Although the quantity of water available from the Authority's sole source of water, the Allegheny River, is believed to be adequate, it is possible that circumstances could change this condition. The total flow of the river could, for example be limited by drought conditions, and any constraints that may be imposed on withdrawals in drought conditions, such as pass-by flow conditions designed to leave sufficient water in the stream for navigation and fisheries.

Geographic Concentration

The number of customers using the Water and Sewer System may be adversely affected by regional and local economic conditions, competitive conditions, changes in population and general market conditions. There can be no assurance that the Water and Sewer System will be able to maintain the current number of existing users if there are changes in the resident and/or commercial population of the service area.

Insurance and Legal Proceedings

The Authority carries property and general liability insurance in amounts deemed adequate by the Board and consistent with industry practices. While there are no current claims in excess of liability limits, there can be no assurance that future claims will be covered by applicable insurance coverage. A claim against the Authority not covered by, or in excess of, the Authority's insurance could have a material adverse effect upon the financial affairs of the Authority.

Governmental Regulation

The federal and local government significantly regulates the industry. Regulations and conditions affecting the acquisition, development ownership and operation of the Water and Sewer System could increase the operating expenses of the Water and Sewer System or could otherwise have a material adverse effect on the financial condition of the Authority. (See Appendix A – “Government Regulation”.)

Uncertainty of Investment Income

The investment earnings of, and accumulations in, certain funds and accounts established by the Indenture have been estimated and are based on assumed earnings' rates. While these assumptions are believed to be reasonable in view of the rates of return presently available, there is no assurance that similar interest rates will be available on such investments in the future, nor is there any assurance that the potential accumulations assumed will be realized

THE TRUSTEE

The obligations and duties of the Trustee are described in the Indenture, and the Trustee has undertaken only those obligations and duties which are expressly set out in the Indenture. The Trustee has not independently passed upon the validity of the Bonds, the security therefor, the adequacy of the provisions for payment thereof or the tax-exempt status of the interest on the Bonds. The Trustee has relied upon the opinion of Bond Counsel for the validity and tax-exempt status of the interest on the Bonds. The Indenture expressly provides that the Trustee shall not be responsible for any loss or damage resulting from any action or inaction taken in good faith in reliance upon an opinion of counsel.

Under the terms of the Indenture, the Trustee is liable only for those damages caused by its gross negligence or willful misconduct. Under the Indenture, the Trustee is not required to take notice and is not deemed to have notice, of any default under the Indenture, except failure by the Authority to cause to be made any of the payments required to be made for payment of principal of the Bonds, when due at maturity or earlier redemption, or interest on the Bonds, or unless the Trustee has been specifically notified in writing of such default by the Authority or the owners of at least 25% in aggregate principal amount of the Outstanding Bonds affected by such default. All notices or other instruments required by the Indenture to be delivered to the Trustee must be delivered at the principal corporate trust office of the Trustee. In the absence of any such notice, the Trustee may conclusively assume no Event of Default (as defined in the Indenture) exists, except as expressly stated above and in the Indenture.

LEGAL OPINIONS

Purchase of the Bonds by the Underwriter is subject to the receipt of the approving legal opinion of Buchanan Ingersoll Professional Corporation, Pittsburgh, Pennsylvania, Bond Counsel, Pittsburgh, Pennsylvania. The unqualified approving opinion of Bond Counsel will be printed on the Bonds in substantially the form attached to this Official Statement as Appendix F. Certain legal matters for the Authority will be passed upon by its Counsel, Thorp Reed & Armstrong, LLP, Pittsburgh, Pennsylvania, and by Disclosure Counsel, Kirkpatrick & Lockhart LLP, Pittsburgh, Pennsylvania.

RATINGS OF THE BONDS

The Bonds will be assigned a rating of "AAA" by Fitch, Inc. ("Fitch"), "Aaa" by Moody's Investors Service, Inc. ("Moody's") and "AAA" by Standard & Poor's Ratings Group, a Division of The McGraw-Hill Companies ("S&P"), all of which are based solely upon the creditworthiness of the Bond Insurer, with the understanding that upon delivery of the Bonds, the municipal bond insurance policy insuring payment when due of principal of and interest and premium, if any, on the Bonds will be issued by the Insurer.

Any explanation of the significance of such ratings may only be obtained from the rating agency furnishing the same. There is no assurance that such rating will be maintained for any given period of time or that it may not be revised downward or withdrawn entirely by the rating agency if, in its judgment, circumstances so warrant. Any downward change in or the withdrawal of such rating may have an adverse effect on the price at which the Bonds may be resold by the holder of such Bonds.

The Authority has not applied for an underlying rating based upon its own creditworthiness.

CONTINUING DISCLOSURE

Pursuant to Securities and Exchange Commission Rule 15c2-12 under the Securities Exchange Act of 1934, as amended (the “Rule”), the Authority has entered into a Continuing Disclosure Agreement (the “Disclosure Agreement”) which includes an undertaking (the “Undertaking”) for the benefit of the holders and/or beneficial owners of its outstanding Bonds to provide certain financial information and operating data on an annual basis (the “Annual Report”) and to provide notice of certain enumerated events if such events are determined to be material under the federal securities laws.

The Annual Report will be filed by the Trustee not later than 300 days after the end of the Authority’s fiscal year with each Nationally Recognized Municipal Securities Information Repository as defined in the Rule (“NRMSIR”). Notices of material events will be filed with each NRMSIR or with the Municipal Securities Rulemaking Board (“MSRB”) and any State Information Depository established by the Commonwealth under the Rule, if any (“SID”). The Authority has complied with its continuing disclosure obligations under the Rule since 1995.

Annual Information. The Annual Information concerning the Authority shall consist of (1) audited financial statements or the disclosure of the absence of such an audit, prepared in accordance with generally accepted accounting principles (“GAAP”), or accompanied by a quantified explanation of material deviations from GAAP or a full explanation of the accounting principles used, and a certificate regarding annual debt service coverage; (2) operating data regarding the Authority substantially of the type included in the tables appearing under the following headings and subheadings of this Official Statement or in Appendix A hereto entitled “Water and Sewer Rates,” “Water Consumption and Classification,” and “Survey of 10 Largest Users”; and (3) a narrative discussion that analyzes the Authority’s financial condition and results of operations, as well as facts likely to have a material impact on the Authority. In addition, the Authority will provide updated information as it become available regarding the IRS investigation described in “CERTAIN BONDHOLDERS’ RISKS.”

Notice of Material Events. The notices to be provided under the Rule, which the Authority will undertake to provide as described above, include written or notice of the occurrence of any of the following events, if material, with respect to the Bonds:

- (i) Principal and interest payment delinquencies;
- (ii) Non-payment related defaults;
- (iii) Unscheduled draws on debt service reserves reflecting financial difficulties;
- (iv) Unscheduled draws on credit enhancements reflecting financial difficulties;
- (v) Substitution of credit or liquidity providers, or their failure to perform;
- (vi) Adverse tax opinions or events affecting the tax-exempt status of the Bonds;
- (vii) Modifications to rights of holders of the Bonds;
- (viii) Bond calls (other than mandatory sinking fund redemptions);
- (ix) Defeasances;
- (x) Release, substitution or sale of property securing repayment of the Bonds; and
- (xi) Rating changes.

The Securities and Exchange Commission requires the listing of (i) through (xi) although some of such events may not be applicable to the Bonds.

Required Information. In the event of the failure of the Authority to provide the information required by the Disclosure Agreement, the Trustee will provide timely notice to the SID, if any, and to either each NMSIR or the MSRB of such failure.

Amendments. The Undertaking may be amended, without the consent of the holders of the Bonds and/or beneficial owners, but only upon the Authority obtaining an opinion of nationally recognized bond counsel to the effect that such amendment, and giving effect thereto, will not adversely affect the compliance of the Undertaking with the Rule; provided that the Authority shall have provided notice of such delivery and of the amendment to each then existing NRMSIR or the MSRB and the SID, if any. Any such amendment shall satisfy, unless otherwise permitted by the Rule, the following conditions:

- (i) the amendment may only be made in connection with a change in circumstances that arises from a change in legal requirements, change in law or change in the identity, nature or status of the Obligated Person (as defined hereinafter) or type of business conducted;
- (ii) the Undertaking, as amended, would have complied with the requirements of the Rule at the time of the primary offering, after taking into account any amendments or interpretations of the Rule, as well as any change in circumstances; and
- (iii) the amendment does not materially impair the interests of Bondholders and/or beneficial owners, as determined either by parties unaffiliated with the Authority (such as nationally recognized bond counsel), or by approving vote of Bondholders pursuant to the terms of the Indenture at the time of the amendment.

Termination. The continuing obligation of the Authority and each other Obligated Person to provide Annual Information and Material Event Notices shall terminate immediately once the Bonds no longer are Outstanding. In addition, the Undertaking, or any provision thereof, shall be null and void in the event that the Authority obtains an opinion of nationally recognized bond counsel to the effect that those portions of the Rule which require the Undertaking, or any such provision, are invalid, have been repealed retroactively or otherwise do not apply to the Bonds, provided that the Authority shall have provided notice of such delivery and the cancellation of the Undertaking to the Trustee and to each then existing NRMSIR or the MSRB and the SID, if any.

Obligated Persons. At this time, only the Authority is an “Obligated Person” for annual reporting purposes under the criteria described in the Disclosure Agreement.

Any failure by the Authority to comply with the provisions of the Undertaking shall not be an event of default with respect to the Bonds (although any available remedy in equity may be pursued to compel the Authority’s compliance). Nevertheless such failure must be reported in accordance with the Rule and must be considered by any broker, dealer or municipal securities dealer before recommending the purchase or sale of the Bonds in the secondary market. Consequently, any such failure may adversely affect the transferability and liquidity of the Bonds and their market price.

The Authority has not failed to comply with any prior such undertaking under the Rule. A failure by the Authority to comply with the Undertaking will not constitute an Event of Default under the Indentures (although Bondholders will have any available remedy at law or in equity). Nevertheless, such a failure must be reported in accordance with the Rule and must be considered by any broker, dealer or municipal securities dealer before recommending the purchase or sale of the Bonds in the secondary market. Consequently, such a failure may adversely affect the transferability and liquidity of the Bonds and their market price.

Bondholders are advised that the Disclosure Agreement, copies of which are available at the office of the Authority, should be read in its entirety for more complete information regarding its contents.

COMPETITIVE SALE OF BONDS

After competitive bidding on March 12, 2002, the Bonds were awarded to Merrill Lynch & Co. (the "Underwriter") upon the terms and conditions set forth in the Notice of Sale dated March 4, 2002. The Bonds are being purchased by the Underwriter at an aggregate purchase price equal to \$107,205,963.18 which represents the principal amount of the Bonds, plus an original issue premium of \$1,190,749.70, less an original issue discount of \$1,545,397.55 and less an underwriter's discount of \$313,337.77 plus accrued interest.

FINANCIAL ADVISOR

PNC Capital Markets, Inc. (the "Financial Advisor") has served as the financial advisor to the Authority since May of 2000. The Financial Advisor is not obligated to undertake, and has not undertaken to make, an independent verification or to assume responsibility for the accuracy, completeness or fairness of the information contained in this Official Statement. The Financial Advisor will receive a fee, payable from Bond proceeds, for its services with regard to the issuance of the Bonds.

MISCELLANEOUS

The references, excerpts and summaries of all documents referred to herein do not purport to be complete statements of the provisions of such documents, and reference is made to all such documents for full and complete statements of all matters of fact relating to the Bonds, the security for the payment of the Bonds and the rights of the owners thereof. All capitalized terms used herein are used with the meaning set forth in the Indentures unless otherwise so specified.

The information contained in this Official Statement has been compiled from official and other sources deemed to be reliable and, while not guaranteed as to completeness or accuracy, is believed to be correct as of its date.

Any statement made in this Official Statement involving matters of opinion or of estimates, whether or not expressly so stated, are set forth as such and not as representations of fact, and no representation is made that any of the estimates will be realized. 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 Authority since the date hereof.

This Official Statement has been duly executed and delivered on behalf of the Authority by an Authorized Representative.

THE PITTSBURGH WATER AND SEWER AUTHORITY

By: /s/ GREGORY F. TUTSOCK
Executive Director

APPENDIX A

Description of the Authority

Governance

The Board of the Authority consists of seven (7) members with no fewer than six (6) members appointed by the Mayor of the City and approved by City Council. The terms of Office of the members commence on the date of appointment, and the members serve staggered five (5) year terms from the first Monday in January next succeeding the date of appointment or until appointment of a successor, whichever is later. The present members of the Board and officers of the Authority and their principal private affiliations are as follows:

<u>Member</u>	<u>Occupation</u>
Joseph Preston Jr. Chairman	Member, Pennsylvania General Assembly
Richard Fees Vice Chairman	Treasurer, City of Pittsburgh
James Motznik Secretary	Member, City Council City of Pittsburgh
Ellen M. McLean Treasurer	Director, Finance and Budget, City of Pittsburgh
Robert Provolt, Sr. Assistant Secretary/Treasurer	Union Representative
Ann J. Davis	Community Representative
Jan Hedquist	Advisor, formerly Managing Partner, Young & Rubicam Europe London, England

Organization Summary

The Authority is organized into three operating divisions: Administration, Water and Sewer Operations, and Engineering and Construction.

The Administration Division is responsible for the various administrative and support functions within the Authority. These include: billing and collections, customer service, personnel and finance, procurement and stores management, and management and data information systems.

The Water and Sewer Operations Division is responsible for the production and transmission of potable water and the collection and transmission of wastewater. Operating sections within this Division are: "Water Quality Operations" which insures that the water produced meets all health and safety requirements; "Distribution and Collection" which is responsible for maintaining and repairing the water distribution system and repairing and maintaining the sewer collection system; "Treatment Process" which includes the water treatment plant and storage facilities; and "Facilities Support" which is responsible for overseeing capital and scheduled facility repairs.

The Engineering and Construction Division is responsible for developing, designing, initiating and monitoring all of the Authority's Capital Improvement Projects (see Appendix E – Consulting Engineer's Report) In addition, this Division is responsible for reviewing plans prior to issuing permits for any connection into, or modification of, the water and sewer system; and for the maintenance and updating of the Authority's geographical information system.

Key Management Personnel

Executive Director -- Gregory F. Tutsock was appointed by the Board to the position of Executive Director in December 2000. Mr. Tutsock began his employment by the Authority and its predecessor, the City of Pittsburgh, Department of Water, in 1979 and has since held various management positions. Prior to his appointment to Executive Director Mr. Tutsock served as the Authority's Deputy Executive Director (1997-2000) and Acting Executive Director (1996-1997). Mr. Tutsock has an Associate Degree in Engineering Technology and a Bachelor of Science Degree in Public Administration, both from Point Park College, Pittsburgh, Pennsylvania. He is a member of the American Water Works Association and the Pennsylvania Water Works Operator Association.

Finance Director -- Kelly Sikorski, CFA, joined the Authority's Administrative Division in January 2002. Ms. Sikorski is responsible for the financial affairs of the Authority including Accounting, Financial Reporting, Budgeting, Financial Planning, Banking, and Investor Relations. Ms. Sikorski was most recently employed by Northeast Utilities where she gained over 11 years of experience in various finance related positions. Ms. Sikorski graduated from Bryant College, Smithfield, Rhode Island, with a Bachelor of Science Degree in Accounting, and earned a Master's Degree in Finance from the University of Hartford. Ms. Sikorski is a Chartered Financial Analyst and a State of Connecticut Certified Public Accountant. She is a member of the Pittsburgh Society of Financial Analysts, and the Association for Investment Management and Research.

Water Quality Manager -- Stanley States, Ph.D., has been the Water Quality Manager for the Authority and its predecessor the City of Pittsburgh, Department of Water, since 1977. In that position he is responsible for the laboratory; compliance with federal, state, and county water quality regulations; and the actual treatment process. He holds an MS in Forensic Chemistry and a Ph.D. in Environmental Biology from the University of Pittsburgh. Dr. States has conducted research and published extensively in the areas of water quality and treatment. He has served as an adjunct professor and has taught in the Graduate School of Public Health and the School of Engineering at the University of Pittsburgh. Dr. States is a member of the American Water Works Association, the Water Works Operators Association of Pennsylvania, the American Society for Microbiology, and the American Chemical Society.

Distribution Director -- David J. Walker has been employed by the Authority and its predecessor, the City of Pittsburgh, Department of Water, since 1978. Mr. Walker began his employment as a laborer and advanced to his present position in 1989. He is responsible for the distribution of the Authority's potable water supply and the collection and conveyance of sewage within the water and sewer system. Mr. Walker earned his Bachelor of Arts Degree in 1972 from Belmont Abbey College, Belmont, North Carolina, in Economic and Business. He received his Masters Degree in 2001 from Carnegie Mellon University, Pittsburgh, Pennsylvania, in Public Management. He is a member of the American Water Works Association, The Water Works Operators' Association of Pennsylvania and he holds a Class D Type 1 waterworks license from The Commonwealth of Pennsylvania Department of Environmental Protection.

Senior Project Management Engineer (Acting) -- Since 1992, John E. Kasper has worked in various positions of steadily increasing responsibility in the Engineering Division of the Authority and its predecessor. Mr. Kasper is responsible for overall coordination of the Engineering Division's involvement in the Capital Improvement Program. Mr. Kasper graduated with a Bachelor of Science Degree in Materials Engineering and Archeology from the Massachusetts Institute of Technology in 1981, and received a Master of Science Degree in Civil Engineering from the University of New Hampshire in 1991. He is a Registered Professional Engineer in the Commonwealth of Pennsylvania and is a member of the American Water Works Association and the American Society of Civil Engineers.

U.S. Water, L.L.C. Management Contract With the Authority

Following an extensive Request for Qualifications and Proposal process, the Authority entered into a short-term executive management agreement in May 2001 with U.S. Water, L.L.C. ("US Water") to December 31, 2001 (the "Management Contract"). Pursuant to the Management Contract, US Water conducted a series of system audits and reviews of the Authority's current functions and activities. At the conclusion of the first six months, US Water submitted a five year business plan based on the best practice recommendations set out in the audits. The Authority Board has extended US Water's contract to June 30, 2002 to facilitate the implementation of key elements of their recommendations.

US Water, L.L.C. is a limited liability company organized under the laws of the State of Delaware, as a partnership between United Utilities, Inc and Bechtel Enterprises, Inc. Each own 50% of US Water. US Water operates 67 water and wastewater treatment facilities in the United States, serving customers in New Jersey, Pennsylvania, North Carolina, and Massachusetts and Connecticut, including the City of Easton, Pennsylvania.*

In addition to US Water's domestic experience, U.S. Water and its affiliates serve over 30 million people globally and operate more than 800 water and wastewater facilities internationally. United Utilities, Inc. and Bechtel Enterprises, Inc. are industry leaders in their respective fields, water and wastewater systems operation, and water and wastewater facilities design and construction, respectively.*

US Water provides an on-site management team of three people and off-site management support to the Authority. The on-site US Water management representatives assist in directing the daily operations, maintenance and management of the Water and Sewer System. The Executive Director of the Authority is the liaison and advisory resource between US Water, the Authority, and its Board of Directors.

The three on-site management personnel are the following:

Business Director -- David Breeze, a member of the Authority's Administrative Division, is responsible for the Customer Service function, including billing and collections and information technology Systems. Mr. Breeze has over 25 years experience working for one of the United Kingdom's largest water and wastewater utilities (United Utilities), Inc., a parent corporation of US Water. For the last ten years Mr. Breeze has been assigned to various international contracts, including World Bank projects in Pakistan, Turkey and Indonesia. Mr. Breeze has also worked on various public/private partnership transactions in Mexico, Malaysia, Canada, Estonia and the U.S. Prior to working for United Utilities, Mr. Breeze worked for various local authorities in the United Kingdom, where he studied and gained qualifications in accountancy and computing.

Director of Operations -- Gregory A. Ciaccio, has been the Director of Operations for the Authority since May 7, 2001. He is responsible for the overall management of water treatment, distribution and sewer operations, including laboratory services. Mr. Ciaccio has a 22 year career in the water / wastewater industry with varied experience in water and wastewater processes including the management of a 20 million gallon a day water treatment facility and the operations of the distribution and collection system for the City of Camden, New Jersey. Mr. Ciaccio's professional memberships include the American Water Works Association, Water Environmental Federation and South Jersey Association of Water Superintendents.

Acting Engineering Director -- Steven Greenhalgh, maintains overall responsibility for the US Water executive management contract and, until an Engineering Director is appointed, the overall management of the Engineering Division of the Authority. Mr. Greenhalgh has over 21 years experience working for one of the United Kingdom's largest water and wastewater utilities (United Utilities). During his time with United Utilities Mr. Greenhalgh has managed portfolios of multi-million pound capital improvement projects and also led or been part of management teams engaged in organizational change projects, international privatization projects and client information technology projects for utility capital investment

* Source: U.S. Water, L.L.C.

control. Mr. Greenhalgh graduated with a Bachelor of Science Degree in Engineering in 1975 from Warwick University Coventry, England, and is a Chartered Civil Engineer. He is a Member of the United Kingdom Institution of Civil Engineers and a Member of the Association for Project Management. Prior to working for United Utilities, Mr. Greenhalgh worked for a Local Authority in the United Kingdom where he was engaged on municipal works.

Over the period January – June 2002, U.S. Water is expected to continue its executive management services and to assist the Authority further in:

- defining information technology systems specifications for the Authority;
- developing training modules for Customer Services and Operations;
- the introduction of Career Development Plans for all staff; and
- the review of technical consultant candidates required under the Authority's Indentures.

At the conclusion of the current Management Contract, the Authority expects to enter into another longer term management contract with a qualified provider of such services.

Capital Lease Agreement With the City of Pittsburgh

In 1984, pursuant to the Lease and Management Agreement, the Authority leased the Water and Sewer System from the City and assumed responsibility for establishing and collecting user fees and charges and for maintaining and improving the Water and Sewer System. The Lease and Management Agreement further provided that the Water and Sewer System was to be operated and maintained for the Authority by the City, subject to the general supervision of the Authority. In 1995, the Authority and the City terminated the Lease and Management Agreement, and the Authority is acquiring the Water and Sewer System pursuant to the terms of the Capital Lease Agreement. The Capital Lease Agreement, which has a term of thirty (30) years, provided for payments totalling Ninety-Six Million Seventeen Thousand Two Hundred Forty-Nine Dollars and Sixty Cents (\$96,017,249.60) that were made to the City during the initial three (3) years of said contract and further provides that on September 1, 2025, upon payment of One Dollar (\$1.00) the Authority will acquire title to the Water and Sewer System.

Concurrently with entering into the Capital Lease Agreement, the City and the Authority entered into a Cooperation Agreement, dated as of June 15, 1995 (the "Cooperation Agreement"). Pursuant to the Cooperation Agreement, the City provides certain specified engineering, communications, vehicle maintenance, legal, information and financial services to the Authority on a fee for services basis and the Authority makes certain other payments to the City to reimburse it for costs and capital expenses incurred by the City in regard to the operation and maintenance of the Sewer System. The Cooperation Agreement may be terminated by either party, upon ninety (90) days written notice.

The Water Supply and Distribution System

The water supply and distribution system (the "Water System") consists of a 117 million gallon per day rapid sand type treatment plant which was placed in service in 1969, 1,200 miles of mains and service lines, 30,000 valves, 8,000 fire hydrants, nine pumping stations, five reservoirs, and eleven storage tanks. The total storage capacity of the reservoirs and tanks is approximately 455 million gallons. Based on the average usage over the past several years, this capacity is sufficient to provide storage equivalent to approximately five to seven days of normal water usage. In the opinion of the Authority's Consulting Engineer, US Filter Chester Engineers, the Water System's treated water quality exceeds all the current standards and levels of the federal Safe Drinking Water Act and the Pennsylvania Department of Environmental Protection ("PADEP").

The sole source of water for the Water System is the Allegheny River for which the Authority and its predecessors have held withdrawal permits since 1943. In March 1989, the then Pennsylvania Department of Environmental Resources (now the "PADEP") issued the Authority a Water Allocation Permit under the 1939 Water Rights Act. This permit authorizes the withdrawal of up to 100 million gallons per day and the PADEP determined that this would cause no major impact on navigation. The current average withdrawal of water from the Allegheny River is approximately 65 million gallons per day, and the maximum withdrawal made on any one day was approximately 90 million gallons during the past year. The Authority's Consulting Engineer is of the opinion that the Allegheny River's water is of good quality, and that there is ample quantity to meet foreseeable demands given current allocation permit conditions and foreseeable river flow conditions.

The Water System currently provides approximately 83,000 residential, commercial, industrial and public customers with potable water and water for fire protection within the geographic boundaries of the City. This represents approximately 84 percent of the total customers within the City with the balance served by three independent water purveyors.

In 2000, the total amount of water supplied by the Authority was approximately 25 billion gallons, an average of 65 million gallons per day. Approximately 1 billion gallons were sold to adjacent municipalities for resale to customers within their service areas.

No material decreases in customers or water usage are anticipated in the foreseeable future. The Authority's water treatment plant is capable of providing more water than is currently being used by its existing customers. The Authority has undertaken a marketing effort to sell potable water to municipalities and municipal authorities within the region. It is also investigating the opportunity to purchase existing water systems located in municipalities adjacent to its current service area. Sale of this available water to additional regional communities would be a source of new revenue to the Authority. To realize this potential revenue the Authority would be required to construct water lines or improve pumping facilities to serve some regional communities; and those communities would need to obtain subsidiary water allocation permits from PADEP.

The Authority's Consulting Engineer is of the opinion that the Water System is in adequate operating condition and has adequate capacity to meet demands in the foreseeable future, provided the Authority continues the rehabilitation and replacement program provided for in its ongoing Capital Improvement Program. (See Appendix E – *Consulting Engineer's Report* – "The CAPITAL IMPROVEMENT PROGRAM").

Drinking Water Quality Regulatory Requirements

The Authority monitors water drinking quality on a continuous basis, 365 days a year. Tests are conducted for contaminants that may be present in source water prior to treatment, during treatment and on finished water. The Authority meets or exceeds all current Federal and State water quality requirements and anticipates compliance with future proposed regulations, including the pending Stage 2 Disinfection Byproducts Rule and the Long-term Enhanced Surface Water Treatment Rule. Results of water quality

measurements and regulatory compliance are reported annually in the Authority's Consumer Confidence Report.

The Authority operates an on site water quality laboratory capable of conducting analysis and detection on numerous contaminants. The PADEP has certified the laboratory to conduct and certify results for a number of these contaminants. The Authority routinely provides analysis for other water providers and the Allegheny County Health Department. The Federal Safe Drinking Act requires each state to prepare a comprehensive Source Water Protection Plan to identify potential sources of contaminants. The Authority is working with the PADEP in preparing the plan for the Allegheny River.

The Pilot Plant

The pilot plant, located at the Pittsburgh Water Treatment Facility, was designed to simulate treatment and hydraulic conditions in the Authority's main plant. Constructed in 2000, the pilot plant enables the Authority to determine process control parameters and chemical applications and to conduct stress testing the plant to achieve the best effective and efficient plant operations to meet current and future regulatory compliance issues. The Authority has addressed the new regulations for Stage 1, the disinfection byproduct rule and the interim enhanced surface water treatment rule. The Authority has met the requirements for both rules. This was accomplished through studies by utilizing the pilot plant. The authority is confident it will meet requirements for the pending long-term enhanced surface water treatment rule and State 2 disinfection byproducts rule, again through studies utilizing the pilot plant, once the requirements are finalized.

The Microfiltration Facility

Pennsylvania's Department of Environmental Protection Regulations based on the Federal Safe Drinking Water Act of 1984 required all finished drinking water reservoirs to be covered by December 31, 1995. In order that Highland #1 reservoir could remain uncovered for environmental and limited recreational considerations a 20 million gallon a day Microfiltration Facility was designed to provide further treatment before water is put into distribution. Microfiltration is a pressure-driven membrane process and consists of (0.1 micron pore size) membrane series for removal of suspended matter, turbidity, algae, fungi, protozoa, some microorganisms and cysts (including Cryptosporidium and Giardia). Construction of the Microfiltration Facility is expected to be complete by Spring 2002.

The Sewer System

The wastewater collection and transmission system (the "Sewer System") is part of a regional system which provides service to about 550,000 people, of whom nearly 335,000 live within the City. The total drainage area served by the regional system is approximately 80 square miles, of which the City comprises about 55 square miles, or nearly 70 percent of the total. The Sewer System is primarily a combined system designed to carry both storm and sanitary flows. The Sewer System is comprised of an extensive network of approximately 1,100 miles of sewer lines and four wastewater pumping stations. The average age of the sewer lines is between 60 and 70 years old, with some portions reaching nearly 150 years in age.

The Sewer System conveys wastewater generated within the City boundaries to Allegheny County Sanitary Authority ("ALCOSAN") interceptors along the rivers of the City for conveyance to ALCOSAN's wastewater treatment facility for processing prior to discharge into the Ohio River. The ALCOSAN treatment facility, which is not part of the Water and Sewer System, is operated by ALCOSAN pursuant to the National Pollutant Discharge Elimination System ("NPDES") under Permit No.0025984.

The Sewer System also is utilized by 24 suburban municipalities pursuant to agreements with the City to convey their wastewater to the ALCOSAN treatment facility. Many of the agreements with the suburban municipalities provide for the sharing of maintenance or reconstruction costs of the Sewer System.

The Sewer System is designed so that during wet weather, a portion of the collected storm water and diluted wastewater is discharged to natural water courses by diversion chambers located throughout the Sewer System and at connections to the ALCOSAN interceptors. The Sewer System is in satisfactory operating condition and has adequate capacity for the dry weather wastewater flows; however, in the past during wet weather, the Sewer System has often been taxed beyond its capacity and has resulted in overflow, bypassing and flooding. Some of these conditions have been or will be eliminated through the implementation of the Authority's ongoing Capital Improvement Program. Federal and State Combined Sewer Overflow requirements are expected to have some future impact and, so far as possible at this stage, this has been taken into account in the Authority's 5 year Business Plan.

The Authority's Consulting Engineer is of the opinion that the Sewer System is in adequate operating condition but is in need of the ongoing Capital Improvement Program in order to correct existing deficiencies and maintain and upgrade the system to meet regulatory requirements (see discussion below under the heading "Government Regulation"). With the continuation of the Capital Improvement Program, it is anticipated that the Sewer System will be sufficient to meet foreseeable future demands and provide uninterrupted service to its users.

Description of Service Area

A description of the area served by the Water and Sewer System and selected demographics of the service area are set forth in Appendix D.

Water and Sewer Rates

The following tables present the Authority's Water and Sewer Rates and certain data with respect thereto and have been prepared by the Authority.

Ten Year Historical Rates (1992–2001) and Two Year Approved Rate Schedules (2002 –2003)

Year	Residential (1)		Commercial (1)		Industrial (1)		Wholesale (2)		Health & Education	
	Rate	Inc(3)	Rate	Inc(3)	Rate	Inc(3)	Rate	Inc(3)	Rate	Inc(4)
	\$	%	\$	%	\$	%	\$	%	\$	%
1992	2.90	8.5	2.86	8.5	2.67	8.5	1.95	8.5	0	0
1993	3.00	3.5	2.96	3.5	2.76	3.5	2.02	3.5	0	0
1994*	3.12	4	3.08	4	2.87	4	2.10	4	0	0
1994**	3.42	9.5	3.37	9.5	3.14	9.5	2.30	9.5	0	0
1995	3.76	9.9	3.70	9.9	3.45	9.9	2.53	9.9	0	0
1996	3.76	0	3.70	0	3.45	0	2.53	0	0	0
1997	3.76	0	3.70	0	3.45	0	2.53	0	0	0
1998	3.85	2.5	3.79	2.5	3.54	2.5	2.59	2.5	0	0
1999	3.95	2.5	3.88	2.5	3.63	2.5	2.65	2.5	5.31	(4)
2000	3.95	0	3.88	0	3.63	0	2.65	0	5.31	0
2001	3.95	0	3.88	0	3.63	0	2.65	0	5.31	0
2002	4.34	9.8	4.26	9.8	3.99	9.8	2.91	9.8	5.83	9.8
2003	4.64	7.0	4.56	7.0	4.26	7.0	3.11	7.0	6.24	7.0

*Jan. 94

**Sept. 94

- (1) Rate per 1,000 gallons over minimum use per month.
- (2) Up to 500,000 gallons
- (3) Represents percentage increase over prior year
- (4) New Rate Classification, rate per 1,000 gallons over minimum use per month.

2001 Water Consumption by Customer Classification(1)

<u>Classification</u>	<u>Customers</u>	<u>Percentage of Usage</u>
Residential(2)	74,940	50.5%
Commercial(3)	8,053	30.9
Industrial	162	8.7
Wholesale	19	9.9
TOTAL(4)	<u>83,174</u>	<u>100.0%</u>

- (1) Excludes customers of other water purveyors.
- (2) Residential customers are the Water System's primary customers.
- (3) The "Commercial" category includes water usage by the health and education sector, as well as various units of government.
- (4) A detailed analysis of historical water consumption prepared by the Authority indicates that consumption in any one quarter differed by no more than 3% from the mean consumption level. Therefore, seasonal variability is not a significant factor in water consumption nor in the Water and Sewer System's revenue stream.

2001 Survey of 10 Largest Users

<u>User</u>	<u>% of Total Usage for 2001</u>
1. Fox Chapel Municipal Authority	2.5
2. University of Pittsburgh	0.9
3. Housing Authority of Pittsburgh	0.5
4. University of Pittsburgh Medical Center	0.4
5. Duquesne University	0.2
6. Carnegie Mellon University	0.2
7. Veterans Affairs Medical Center	0.2
8. Spectacor Management Inc.	0.1
9. ALCOSAN	0.1
10. Port Authority of Allegheny County	0.1

2002 Water Rate Survey of Major Area Suppliers

	Rate 1,000 Gal.	Minimum Monthly Charge	Minimum Gallons Per Month	Average Charge 5,000 Gal. Per Month
Pittsburgh Water and Sewer Authority (1)	\$4.34	\$9.32	1,000	\$26.68
1. Monroeville Authority	3.41	6.82	2,000	17.05
2. Shaler Township	3.52	3.70	1,000	17.78
3. Wilksburg - Penn Joint Water Authority	3.76	10.00	2,743	18.48
4. Richland Township Municipal Authority	3.34	12.48	2,000	22.50
5. Plum Borough Municipal Authority	2.94	14.46	1,870	23.66
6. Westmoreland Auth - Forward Township	3.42	13.68	2,000	23.94
7. Westmoreland Authority - White Oak	4.70	10.10	1,000	28.90
8. Westmoreland Authority – McKeesport	6.12	12.24	2,000	30.60
9. Aspinwall Borough	5.12	15.38	1,000	35.86
10. Southwestern - Penn Water Authority	4.61	12.82	0	35.87
11. Fox Chapel Authority	5.25	10.00	0	36.25

(1) Includes \$0.59 for Sewage Use Rate Charge.

Relations with Other Municipalities

In addition to the Authority's sales to residential, commercial and industrial customers, the Authority has entered into contracts with eight adjacent municipalities and one wholesale customer for the sale of water. The Authority is the primary source of water for three municipalities, pursuant to long-term contracts expiring in 2012 through 2015, which establish pricing structures with each municipality. Four municipalities and one wholesale customer each have entered into contracts with the Authority for peak capacity needs. Four of these contracts require monthly minimum charges to be received by the Authority and one is on an emergency basis only.

Prospective Water Sales and Sewer Services

The Authority is capable of producing up to 100 million gallons of potable water each day. With current demand (including the requirements (and reserves) of other municipalities) at 65 million gallons per day the Authority has available surplus capacity. Also, in order to comply with current regulatory requirements the Authority will be making enhancements to the Sewer System through the Capital Improvement Program. These Sewer System enhancements will involve interaction with other municipalities (See "The Sewer System" for additional detail) and in connection therewith the Authority is continuing an initiative to market its surplus water capacity and extend its sewer services to other municipalities and water authorities in the region.

Expenses of Operation

Salaries and related expenses account for approximately thirty-one percent (31%) of the 2002 Budget for current expenses. In 2002, the Authority's budget provides for two hundred seventy-one (271) positions as follows: forty-three (43) in billing and collections; twenty-six (26) in administrative and accounting positions; one hundred eighty-three (183) in water and sewer operations and nineteen (19) in engineering. Payments to the City of Pittsburgh for services to be provided to the Authority under the Cooperation Agreement are approximately twenty percent (20%) of the 2002 budgeted current expenses. In addition, utility fees and the cost of chemicals account for approximately thirteen (13%) of the 2002 current expense budget.

Financial Operations

The Authority's income statement and annual debt service requirements are set forth in the following Financial History table. The table was prepared by the Authority using information contained in the audited financial statements for the years ended December 31, 1997 through December 31, 2000. The information presented for the year ended December 31, 2001 is preliminary and unaudited. The audited financial statements for the year ended December 31, 2000 are included as Appendix C.

Financial History (Dollars expressed in thousands)

	<u>2001</u> (unaudited)	<u>2000</u>	<u>1999</u>	<u>1998</u>	<u>1997</u>
Operating revenues:					
Residential, commercial and industrial water sales	\$ 58,892	\$ 56,915	\$ 58,209	\$ 54,438	\$ 53,014
Utility water sales	--	--	--	--	--
Other	2,103	2,726	1,110	398	230
Total operating revenues	<u>60,995</u>	<u>59,641</u>	<u>59,319</u>	<u>54,836</u>	<u>53,244</u>
Operating Expenses:					
Direct operating expenses	27,958	21,494	16,615	15,859	15,550
Cooperation agreement operating expenses:					
Wastewater direct expenses	2,300	--	1,491	1,491	2,162
Indirect cost allocation - wastewater	3,000	3,000	1,509	1,509	1,841
Indirect cost allocation - water	1,850	4,150	4,150	1,850	2,195
Transfer costs, net			1,893	2,138	1,782
Expense of water provided by other entities:					
Subsidy of customers located in the City	3,864	3,694	3,070	3,050	2,260
Depreciation	8,202	7,788	6,912	6,595	5,951
Amortization of capitalized lease assets	2,554	2,554	2,554	2,554	2,516
Total operating expenses	<u>49,728</u>	<u>42,680</u>	<u>38,194</u>	<u>35,046</u>	<u>34,257</u>
Operating income	<u>11,267</u>	<u>16,961</u>	<u>21,125</u>	<u>19,790</u>	<u>18,987</u>
Other revenues (expenses):					
Interest revenue	1,864	3,614	3,130	2,801	2,651
Interest expense	(23,459)	(22,116)	(21,324)	(20,700)	(20,429)
Unrealized loss on trust investments	(94)				
Amortization of bond issue costs	(267)	(273)	(291)	(319)	(341)
Total other revenue (expense)	<u>(21,956)</u>	<u>(18,775)</u>	<u>(18,485)</u>	<u>(18,218)</u>	<u>(18,119)</u>
Net income (loss)	<u>(10,689)</u>	<u>(1,814)</u>	<u>2,640</u>	<u>1,572</u>	<u>868</u>
Retained earnings (accumulated deficit):					
Beginning of year	(801)	1,013	(1,627)	(3,199)	(4,067)
End of year	<u>\$ (11,490)</u>	<u>\$ (801)</u>	<u>\$ 1,013</u>	<u>\$ (1,627)</u>	<u>\$ (3,199)</u>
Annual debt service requirement					
Principal	\$ 9,635	\$ 9,245	\$ 8,885	\$ 8,550	\$ 9,440
Interest	22,123	22,516	22,953	18,250	23,657
Total annual debt service requirement	<u>\$ 31,758</u>	<u>\$ 31,761</u>	<u>\$ 31,838</u>	<u>\$ 26,800</u>	<u>\$ 33,097</u>

The Financial History table reflects the results of past operations and is not necessarily indicative of results of future operations. Future operations will be affected by various factors, including, but not limited to, regulatory mandates, rate changes, weather, labor contracts, population changes, business environment and other matters, the nature and effect which cannot now be determined. See "CERTAIN BONDHOLDERS' RISKS".

Management Discussion of Results of Operations

Operating revenues in 2001 increased 2.2% to \$60,995 million from \$59,641 million in 2000. As rates remained unchanged in 2001 the increase was due to an increase in billed water consumption.

Total operating expenses in 2001 increased 16.5% to \$49,728 from \$42,680 in 2000. The increase is due to increased costs associated with consulting fees, utilities, chemicals and an increase in the water accounts receivables reserve.

Total other expense in 2001 increased 16.9% to \$21,956 from \$18,775 in 2000. The increase is due to a decrease in interest revenue as a result of lower interest rates coupled with a decrease in trustee and non-trustee cash. During 2001 the Authority spent down its cash balances in prior bond construction funds (trustee cash) and made refundable advances to the construction program out of non-trustee cash. Interest expense increased in 2001 as a result of completed projects being transferred from construction-in-progress to fixed assets and a corresponding reduction in capitalized interest.

The Authority had \$29,889 million in non-trustee cash and cash equivalents on hand at December 31, 2001. Cash on hand and recent rate increases, the first of which was effective February 1, 2002 (see Appendix A -- "Water and Sewer Rates"), are projected to allow the Authority to meet its debt service requirements. See the following Debt Service Coverage Forecast for further detail.

DEBT SERVICE COVERAGE FORECAST*

(Dollars expressed in thousands)

	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>
Cash Beginning of Year	\$37,097	\$40,259	\$46,132	\$42,990	\$39,110
Operating Revenue	66,842	71,879	72,238	72,600	72,963
Delinquent Sewer Collections	2,500	2,500	2,500	2,500	2,500
Interest Earnings	3,871	2,791	2,236	2,151	2,047
Transfer from Construction Fund	750	810	1,000	1,000	1,000
Tap Fee Collections	150	150	150	150	150
Other Income	<u>800</u>	<u>800</u>	<u>800</u>	<u>800</u>	<u>800</u>
Total Available funds	\$112,010	\$119,189	\$125,056	\$122,191	\$118,570
Operating Expenses	<u>39,937</u>	<u>40,891</u>	<u>41,878</u>	<u>42,898</u>	<u>43,953</u>
Net Available for Debt Service	\$72,073	\$78,298	\$83,174	\$79,293	\$74,617
Debt Service Requirements	\$31,814	\$32,166	\$40,189	\$40,183	\$40,180
Coverage Factor	2.27	2.43	2.07	1.97	1.86
Required Coverage	1.20	1.20	1.20	1.20	1.20
Cash at End of Year	\$40,259	\$46,132	\$42,990	\$39,110	\$34,437

Source: Chester Engineers

As illustrated by this table, the Debt Service Coverage Factor of 1.20 (minimum) required by the Indenture as described in the paragraph marked "(1)" under "Rate Covenant" in the Official Statement is satisfied in each year of the study period (2002 through 2006).

*Preliminary, subject to change.

Billings, Collections and Enforcement

All bills are due 20 days after the billing date and a penalty is applied 10 days past that date. The penalty and a delinquent reminder note is added to the next regularly scheduled billing statement. Termination is dependent on customer class and time of year. The Authority estimates that on average less than 5% of all customers experience discontinued service as a result of nonpayment.

As part of the Management Contract with US Water, a review of collection procedures is presently taking place. One of the first recommendations has seen the Authority contract with a collection agency. Delinquent accounts are now to be issued to the agency, as a matter of routine, as part of the overall collections process.

In 1999 the Authority upgraded its billing and customer information system supplied by Systems and Software (MUPS). The system enabled the Authority to better manage metering, billing and collection of customer accounts, as well as, improving management of revenue forecasting and service work processing. As part of the Management Contract, US Water is performing a full review of the Authority's information technology infrastructure with a full system specification scheduled for June 2002. This review will cover all departments within the Authority and take into account user requirements for Billing and Collection, Assets, Finance, Geographical Information Systems, Water Quality and Management Information Systems.

Employee Relations and Retirement System

The majority of employees of the Authority are represented by a labor organization under Act 195 of 1970 of the Commonwealth of Pennsylvania. The Pittsburgh Joint Collective Bargaining Committee represents blue-collar employees, the American Federation of State, County and Municipal Employees, Local 2719 represents white-collar employees and Local 2037 represents the foreman. Act 195 requires that bargaining start at least six months prior to the date on which the Authority's budget is adopted and that mediation be used if an impasse is reached. Since the time they were certified, the City (which employed the employees now employed by the Authority) had concluded numerous negotiations with these bargaining units without any labor stoppages. Four-year agreements were recently reached with each of the American Federation of State, County and Municipal Employees Locals. Effective January 1, 2002, Local 2719 received a salary increase to be followed by additional increases on January 1, 2003, January 1, 2004, and January 1, 2005; and Local 2037 received a salary increase effective January 1, 2002, to be followed by increases in January 1, 2003, 2004, and 2005. A four-year agreement, effective January 1, 1999, was reached in 1998 with the Pittsburgh Joint Collective Bargaining Committee which provides for salary increases of on January 1, 1999, 2000, 2001, and 2002.

Government Regulation

The Authority is subject to Federal, State and County regulations in connection with water treatment, water distribution, wastewater collection, construction activities, storage tank use and air emissions. At the Federal level, regulatory oversight is provided by the United States Environmental Protection Agency ("USEPA"); at the State level, oversight is provided by the PADEP; and at the local level, oversight is provided by the Allegheny County Health Department ("ACHD"). The system meets or is in the process of planning and implementing improvements to meet all applicable regulations, permits and licenses. The major regulatory programs governing the Authority's operations are discussed below, grouped by subject matter.

Drinking Water.

Large municipal water suppliers, such as the Authority, provide drinking water in accordance with the Safe Drinking Water Act which was passed in 1974 and was amended in 1986 and 1996, regulating all systems which provide water for human consumption through at least 15 service connections, or regularly serve at least 25 individuals.. The Federal Act gave USEPA the authority to establish drinking water standards to control the level of contaminants in drinking water, rules prescribing minimum methods of drinking water treatment, and requirements for monitoring and reporting of drinking water quality. Pennsylvania has adopted a corresponding Pennsylvania Safe Drinking Water Act in 1984, and the state regulatory program has received USEPA primary approval, meaning that PADEP primarily administers the permitting and regulatory program in Pennsylvania.

The Authority holds permits issued by PADEP for the operation of a public water supply system, and is required to comply with federal and state requirements for treatment, monitoring of water quality, reporting of monitoring results and notification of exceedances, and issuance of consumer confident reports to our customers.

Water Quality

Federal regulations adopted under the Federal Clean Water Act, and State rules enacted under the Pennsylvania Clean Streams Law, govern discharges of wastewater and stormwater. Any facility which discharges sewage, process wastewater, non-contact cooling water or stormwater associated with an industrial activity must obtain a National Pollutant Discharge Elimination System ("NPDES") Permit. Under program approval from USEPA, PADEP administers the NPDES Permit program in Pennsylvania.

The PWSA Water Treatment Plant recently applied for an NPDES Permit to allow treated process water discharges to the Allegheny River. The PWSA has been asked by the PADEP to provide additional information for their review of the permit application. Discharges have occurred prior and subsequent to submission of the application. The PWSA will determine what action if any is required once the permit has been issued.

An NPDES permit is also required for discharges from sewage treatment facilities and combined sewer overflows ("CSO"). Such a permit establishes discharge limitations, monitoring, and reporting requirements and compliance schedules. The PWSA has applied for and is awaiting its Phase I NPDES CSO Permit for its combined sewer overflows.

Large municipal wastewater collection systems are subject to federal regulation under the Clean Water Act (1977) and regulations adopted under that Act. Among the specific requirements applicable to the Authority's system are those imposed by EPA's Combined Sewer Overflow ("CSO") Policy (1994). The USEPA CSO Policy is a national framework for control of CSOs through the NPDES permitting program. The USEPA CSO Policy establishes a multi-step program toward controlling CSOs. In the first step, by January 1, 1997, the owners of such systems were required to implement the EPA's "Nine Minimum Control Measures", i.e., (1) proper operation and regular maintenance programs for the sewer system and CSOs; (2) maximum use of the collection system for storage; (3) review and modification of industrial wastewater pretreatment requirements to assure CSO impacts are minimized; (4) maximization of flow to the publicly owned treatment works for treatment; (5) prohibition of CSOs during dry weather; (6) control of solid and floatable materials in CSOs; (7) pollution prevention; (8) public notification of CSO occurrences and impacts; and (9) monitoring to effectively characterize CSO impacts and the efficacy of CSO controls. In subsequent steps, permittees with CSOs must prepare and submit long-term CSO control plans that will ultimately result in compliance with requirements of the Clean Water Act. These long-term CSO control plans must include: (1) characterization, monitoring, and modeling of the combined sewer system; (2) public participation; (3) consideration of sensitive areas (with an adopted approach that shows compliance with a presumptive criteria of no more than 4 overflow events per year, or demonstration of adequacy to meeting water quality-based requirements of the Act) ; (4) evaluation of alternatives; (5) cost/performance considerations; (6) an operating plan; (7) maximizing treatment at existing treatment plant facilities; and (8) an implementation schedule.

The City of Pittsburgh is the largest of the 83 municipalities that convey raw sewage to the Allegheny County Sanitary Authority ("ALCOSAN") for treatment. Three regulatory agencies, the USEPA, PADEP, and ACHD, have been involved in negotiations with ALCOSAN to address wet weather issues in the ALCOSAN service area. These negotiations will result in development of a regional Long Term Control Plan.

The regulatory agencies have taken the position that operators of sewer systems that convey wastewater to the ALCOSAN system share responsibility for addressing the CSO issues relating to their particular sewer systems. In early February 2002, USEPA directed correspondence to each of the entities owning or operating sewer systems with CSOs that convey wastewater to the ALCOSAN system, including the Authority, inviting those entities to execute a consent order and agreement with PADEP, containing a multi-step plan to the evaluation and implementation of CSO corrective measures. The proposed consent order and agreement does not contain fines or penalties for past non-compliance, but does propose binding obligations for work on a going forward basis. Entities that choose not to negotiate a consent order with PADEP will face enforcement actions by USEPA and PADEP.

In its model consent order form, USEPA presented proposed milestones for the characterizations of the Sewer System, which is described as Phase I. This is to include a physical survey of the entire system, cleaning and internal inspection, mapping using a Geographic Information System as prescribed by the ACHD, and dyed water testing of the sanitary sewers, and a hydraulic capacity evaluation. This work is to be completed by March 1, 2005. USEPA's proposed schedule also calls for submission of documentation demonstrating system-wide implementation of and compliance with the nine minimum controls by no later than March 1, 2003. Phase II of the schedule includes implementation of a flow monitoring plan. Such flow monitoring is to commence by March 1, 2005, with monitoring to continue for at least one year. It is expected that this work, which will result in a report on flows to be accepted by ALCOSAN, will be completed in five years.

The Authority has developed what it believes to be a rational and financially responsible plan to address the combined sewer overflow issue and achieve compliance with the Clean Water Act. This plan, along with the Authority's comments on the draft consent order and agreement, will be provided to the regulatory agencies. The Authority's objective is to arrive at a mutually acceptable agreement that enables the Authority to achieve compliance in a realistic time frame and with minimal financial impact.

The City of Pittsburgh, ACHD and the Authority have rules and regulations prohibiting the introduction of hazardous chemicals or materials, including industrial byproducts, into the sewer collection and conveyance system. Enforcement is through the Allegheny County Health Department, the City of Pittsburgh, Department of Public Safety, and the PADEP. Under USEPA requirements governing pretreatment of industrial wastewaters discharged to publicly owned treatment works, pretreatment regulations and monitoring of those regulations are the responsibility of ALCOSAN and the ACHD.

Section 303(d) of the federal Clean Water Act requires Pennsylvania to identify all impaired waters within the Commonwealth where technology-based treatment requirements for point and non point sources of pollution are not stringent enough to attain and or maintain applicable water quality standards. This is an ongoing evaluation program being conducted by the PADEP. At this time, the PWSA has not been notified of any identified problems.

Storage Tanks

The Pennsylvania Storage Tank and Spill Prevention Act establishes a comprehensive regulatory program for both aboveground and underground storage tanks and facilities. The Act allows the PADEP to develop environmental protection programs to prevent and clean up storage tank product releases and spills. The Act includes both enforcement provisions and PADEP a strong reliance on the private sector to implement the major program elements. PADEP has received approval to administer the state storage tank program in lieu of most corresponding provisions of the Federal Resource Conservation and Recovery Act underground storage tank program.

The Authority currently has 12 tanks requiring frequent inspections under the regulatory provisions.

All Authority storage tanks have been upgraded to meet current regulatory requirements for protection, monitoring and containment.

Air Quality

The Authority is nearing completion of a \$3 million upgrade to the chemical treatment facility at the water treatment plant. This upgrade addresses storage, handling and distribution, containment and monitoring. These improvements will ensure compliance with current and proposed water quality and environmental regulations. A major aspect of the upgrade has been the conversion of the chlorination system from one utilizing gaseous chlorine to one utilizing liquid chlorine. Chlorine in a liquid form is safer to handle and store.

ACHD administers the air quality permitting program under the provisions of the Federal Clean Air Act and the Pennsylvania Air Pollution Control Act. Under Article XXI of the ACHD Air Pollution Control Regulations, pollution prevention is recognized as the preferred strategy (over pollution control) for reducing risk to air resources. Stack emission standards are set for specific air quality parameters and enforced by permit. On January 29, 1996 The Allegheny Health Department, Air Quality Program, issued the Authority an Annual Air Quality Operating Permit, # 96-0117. This permit covers emissions generated at the Water Treatment Plant and is reviewed and renewed annually. PWSA is required to periodically sample and meet stack air emission standards at the treatment plant from its boilers.

[THIS PAGE INTENTIONALLY LEFT BLANK]

APPENDIX B

Summary of Indenture

APPENDIX B

SUMMARY OF INDENTURE

The Water and Sewer System First Lien Revenue Bonds, Series of 2002 (the "Bonds") are being issued and secured under the Trust Indenture dated as of October 15, 1993 (the "Original Indenture"), as amended and supplemented by the First Supplemented Indenture, dated as of July 15, 1995, by the Second Supplemented Indenture, dated as of March 1, 1998, and by the Third Supplemented Indenture, dated as of March 1, 2002 (collectively, the "First Lien Indenture").

This summary of the First Lien Indenture is qualified in all respects by specific reference to the First Lien Indenture. A copy of the First Lien Indenture may be reviewed at the offices of the Authority or the Trustee. Capitalized terms and phrases, not otherwise defined herein, shall have the meanings ascribed to them in the First Lien Indenture.

Defined Terms.

Current Expenses

The term "Current Expenses" shall mean the reasonable, proper and necessary costs of operation, maintenance and repair of the Water and Sewer System and Capital Additions and shall include, but without limiting the generality of the foregoing, administrative, engineering, legal, auditing and insurance expenses, liquidity facility fees and expenses, fees and expenses of the Trustee, any paying agent, and authorized depositaries, an allowance for depreciation, any payments to pension or retirement funds and taxes.

Receipts and Revenues

The term "Receipts and Revenues" shall mean any and all rates, fees, rents and charges established or to be established, levied and collected in connection with, and all other payments, receipts and revenues of whatever kind or character arising from, the operation or ownership of any property of the Authority or any part thereof (except tap or connection fees and charges to the extent such fees or charges are pledged in accordance with the Act as a refund to such person who has paid for the construction of any extension of the Water and Sewer System or assessment revenues which are subject to the lien of assessment bonds then outstanding), any income earned on the moneys or investments on deposit in the Debt Service Fund, Debt Service Reserve Fund, Construction Fund, Revenue Fund, Operation and Maintenance Fund and any sinking, purchase or analogous fund created under the First Lien Indenture.

Pledge and Security.

Pursuant to the First Lien Indenture, the Receipts and Revenues after payment of the Authority's Current Expenses, together with all cash and investments from time to time held in any fund (other than the Rebate Fund) by the Trustee, is pledged by the Authority to the Trustee, its successors and assigns, to secure the payment of principal and interest on all Bonds issued under the First Lien Indenture, the observance and performance of all the terms, provisions and conditions of the First Lien Indenture, and for the equal and ratable benefit and security of all and singular the present and future holders of the Bonds, without preference, priority or distinction as to lien or otherwise, except as otherwise provided in the First Lien Indenture, of any one Bond over any other Bond by reason of priority in the issue, sale or authentication thereof or otherwise. The municipal bond insurance policy with respect to the 1993 Bonds is for the sole benefit and security of the holders of the 1993 Bonds. The municipal bond insurance policy issued with respect to the 1998 Bonds is for the sole benefit and security of the holders of the 1998 Bonds. The municipal bond insurance policy issued with respect to the 2002 Bonds is for the sole benefit and security of the holders of the 2002 Bonds.

Additional Bonds.

The Authority may issue additional Bonds, on a parity with the 2002 Bonds, the 1998 Bonds and the 1993 Bonds, for the purpose of financing the cost of acquiring or constructing capital additions or improvements, or for the purpose of refunding outstanding Bonds upon the conditions and terms set forth in the First Lien Indenture. In addition to the foregoing, the Authority may incur or assume additional debt provided that the security for such debt is subordinate to the lien of and security interests granted by the First Lien Indenture.

2002 Capital Project Fund.

Proceeds deposited in the 2002 Capital Project Fund shall be disbursed by the Trustee in payment of the cost of the 2002 Capital Project. Before each withdrawal and payment of the cost of the 2002 Capital Project from the 2002 Capital Project Fund by the Trustee, the Authority shall deliver to the Trustee a requisition signed by the Authority.

Revenue Fund.

All Receipts and Revenues and all other amounts received by the Authority from any source (except as otherwise provided in the First Lien Indenture) shall be deposited in the Revenue Fund established by the Authority with one or more Authorized Depositaries.

Operation and Maintenance Fund.

On or before the first day of each month, the Authority shall transfer from the Revenue Fund to the Operation and Maintenance Fund an amount equal to the amount budgeted by the Authority for that month for payment of the Current Expenses as the same become due. The Authority shall pay out of the Operation and Maintenance Fund its Current Expenses as the same shall become due. There is a special account within the Operation and Maintenance Fund called the "Operating Reserve Account." There shall be maintained in the Operating Reserve Account one-sixth of the amount equal to Authority's budgeted Current Expenses for the current Fiscal Year. Amounts in the Operating Reserve Account shall be applied to pay the Current Expenses of the Authority to the extent that the amounts on deposit in the Operation and Maintenance Fund are insufficient.

Debt Service Fund.

On or before each interest payment date, the Authority will transfer from the Revenue Fund for deposit in the Debt Service Fund an amount equal to the amount of interest accrued and payable to date, and on or before the first day of each month, the Authority shall transfer from the Revenue Fund to the Trustee for deposit in the Debt Service Fund an amount equal to 1/12th of the principal due on the Bonds on the next following principal payment date.

Debt Service Reserve Fund.

There shall be maintained in the Debt Service Reserve Fund an amount equal to the maximum annual debt service requirements on the Bonds, subject to restrictions of federal tax laws. The amount required to be maintained in the Debt Service Reserve Fund may be in the form of cash, a letter of credit or other credit instrument, a surety bond, or a combination thereof.

Redemption Fund.

The Authority may transfer to the Trustee for deposit to the credit of the Redemption Fund such amounts as it may elect for the purchase or redemption of Bonds at the option of the Authority and the Trustee shall apply such moneys to the purchase or redemption of Bonds in the amounts directed by the Authority. Upon any such purchase or redemption, the Trustee shall transfer from the Debt Service Fund to the Redemption Fund any amount deposited to the Debt Service Fund with respect to interest on the Bonds being redeemed and shall pay the interest due on the redemption date out of such moneys.

Renewal and Replacement Fund.

On the dates and in the amounts set forth in the consulting engineer's report, money is transferred to the Renewal and Replacement Fund. The moneys at any time on deposit to the credit of the Renewal and Replacement Fund may be used by the Authority for extraordinary maintenance and repair of the Water and Sewer System or to pay the cost of capital additions or construction, or, to the extent of any insufficiency therein, to the Debt Service Fund or to any sinking, purchase or analogous fund.

Rebate Fund.

Separate and apart from the pledge of the First Lien Indenture is a Rebate Fund. Within the Rebate Fund there is a 1993 Bonds Rebate Account, a 1998 Bonds Rebate Account and a 2002 Bonds Rebate Account. Deposits, transfers and payments from the Rebate Accounts shall be made in accordance with tax regulatory agreements entered into with respect to the respective series of Bonds.

Authorized Investments.

The funds of the First Lien Indenture may be invested in the following:

- (a) Direct obligations of the United States of America and securities fully and unconditionally guaranteed as to the timely payment of principal and interest by the United States of America, provided, that the full faith and credit of the United States of America must be pledged to any such direct obligation or guarantee ("Direct Obligations").
- (b) Direct obligations and fully guaranteed certificates of beneficial interest of the Export-Import Bank of the United States; consolidated debt obligations and letter of credit-backed issues of the Federal Home Loan Banks; participation certificates and senior debt obligations of the Federal Home Loan Mortgage Corporation ("FHLMCs"); debentures of the Federal Housing Administration; mortgage-backed securities (except stripped mortgage securities which are valued greater than par on the portion of unpaid principal) and senior debt obligations of the Federal National Mortgage Association ("FNMA's"); participation certificates of the General Services Administration; guaranteed mortgage-backed securities and guaranteed participation certificates of the Government National Mortgage Association ("GNMA's"); guaranteed participation certificates and guaranteed pool certificates of the Small Business Administration; debt obligations and letter of credit-backed issues of the Student Loan Marketing Association; local authority bonds of the U.S. Department of Housing and Urban Development; guaranteed Title XI financings of the U.S. Maritime Administration; guaranteed transit bonds of the Washington Metropolitan Area Transit Authority; Resolution Funding Corporation securities.
- (c) Direct obligations of any state of the United States of America or any subdivision or agency thereof whose unsecured, uninsured and unguaranteed general obligation debt is rated, at the time of purchase, "A" or better by Moody's and "A" or better by S&P, or any obligation fully and unconditionally guaranteed by any state, subdivision or agency whose unsecured, uninsured and unguaranteed general obligation debt is rated, at the time of purchase, "A" or better by Moody's and "A" or better by S&P.
- (d) Commercial paper (having original maturities of not more than 270 days) rated, at the time of purchase, "P-1" by Moody's and "A-1" or better by S&P
- (e) Federal funds, unsecured certificates of deposit, time deposits or bankers acceptances (in each case having maturities of not more than 365 days) of any domestic bank including a branch office of a foreign bank which branch office is located in the United States, provided legal opinions are received to the effect that full and timely payment of such deposit or similar obligation is enforceable against the principal office or any branch of such bank, which, at the time of purchase, has a short-term "Bank Deposit" rating of "P-1" by Moody's and a "Short-Term CD" rating of "A-1" or better by S&P.

(f) Deposits of any bank or savings and loan association which has combined capital, surplus and undivided profits of not less than \$3 million, provided such deposits are continuously and fully insured by the Bank Insurance Fund or the Saving Association Insurance Fund of the Federal Deposit Insurance Corporation ("FDIC").

(g) Investments in money-market funds rated "AAAm" or "AAAm-G" by S&P.

(h) Repurchase agreements collateralized by Direct Obligations, GNMMAs, FNMMAs or FHLMMCs with any registered broker/dealer subject to the Securities Investors' Protection Corporation jurisdiction or any commercial bank insured by the FDIC, if such broker/dealer or bank has an uninsured, unsecured and unguaranteed obligation rated "P-1" or "A3" or better by Moody's and "A-1" or "A-" or better by S&P, provided:

(i) a master repurchase agreement or specific written repurchase agreement governs the transactions; and

(ii) the securities are held free and clear of any lien by the Trustee or an independent third party acting solely as agent ("Agent") for the Trustee, and such third party is (i) a Federal Reserve Bank, (ii) a bank which is a member of the Federal Deposit Insurance Corporation and which has combined capital, surplus and undivided profits of not less than \$50 million, or (iii) a bank approved in writing for such purpose by the bond insurer, and the Trustee shall have received written confirmation from such third party that it holds such securities, free and clear of any lien, as agent for the Trustee; and

(iii) a perfected first security interest under the Uniform Commercial Code, or book entry procedures prescribed at 31 C.F.R. 306.1 et seq. or 31 C.F.R. 350.0 et seq. in such securities is created for the benefit of the Trustee; and

(iv) the repurchase agreement has a term of 180 days or less, and the Trustee or the agent will value the collateral securities no less frequently than weekly and will liquidate the collateral securities if any deficiency in the required collateral percentage is not restored within two Business Days of such valuation; and

(v) the fair market value of the securities in relation to the amount of the repurchase obligation, including principal and interest, is equal to at least 103%.

(vi) Investment agreements approved by the bond insurer.

Rate Covenant.

The Authority covenants that it will comply with (1) or (2) below in any fiscal year:

(1) The Authority will maintain, charge and collect, so long as any of the Bonds shall remain outstanding, reasonable rates, rentals and other charges for the use of the facilities of the Water and Sewer System which (after making due and reasonable allowances for contingencies and a margin of error in the estimates) together with other Receipts and Revenues, including any unrestricted cash and investments accumulated in the Revenue Fund at the beginning of each Fiscal Year, shall be at all times at least sufficient to provide annually:

(a) Funds to pay all of the Current Expenses of the Authority; and

(b) An amount equal to 120% of the debt service requirements with respect to the Authority Bonds and other Authority subordinated debt during the then current fiscal year of the Authority.

(2) The Authority will maintain, charge and collect, so long as any of the Bonds shall remain outstanding, reasonable rates, rentals and other charges for the use of the facilities of the Water and Sewer System which (after making due and reasonable allowances for contingencies and a margin of error in the estimates), together with other Receipts and Revenues, for the then current fiscal year (exclusive of interest income earned by

the Authority on funds other than the Debt Service Reserve Fund; provided, however, that earnings on the construction funds may also be included during any construction period, but only to the extent such earnings are expressly required to be either retained in the construction funds and may be used to pay debt service on Authority Bonds or other Authority subordinated debt or are applied directly to payment of debt on Authority Bonds or other Authority subordinated debt), shall be at all times at least sufficient to provide annually:

- (a) Funds to pay all of the Current Expenses of the Authority; and
- (b) An amount equal to 100% of the debt service requirements with respect to Authority Bonds and other Authority subordinated debt during the then current fiscal year of the Authority.

The Authority also covenants with the holders of the Bonds that if at any time the revenues collected shall not be sufficient to enable the Authority to comply with the provisions set forth above, it will promptly revise its water or sewer rates, rents and other charges so that the Authority will be in compliance and so that any deficiencies in transfers of funds required to be made pursuant to the First Lien Indenture will be remedied before the end of the next ensuing fiscal year.

Insurance of Water and Sewer System.

The Authority will at all times cause all the property of the Water and Sewer System which is of a character usually insured by persons operating properties of a similar nature to be properly insured and kept insured by a reputable insurance company or companies against loss or damage by fire or other hazards to the extent that such properties are usually insured by persons operating properties of a similar nature in the same or similar localities. Such policies of insurance shall be for the benefit of the Trustee and the Authority, as their respective interests may appear. All claims in excess of \$500,000 shall be made payable to the Trustee and shall be held by the Trustee as additional security until paid out by it as provided therein. All claims of \$500,000 or less shall be paid to the Authority.

Employment of Independent Accountant; Annual Financial Report.

The Authority covenants to employ an independent auditor to perform such duties as are imposed on the independent auditor by the First Lien Indenture, including preparation of an audit report for the preceding fiscal year.

Events of Default.

Each of the following events is hereby declared an "Event of Default" for any Bond issued under the First Lien Indenture:

- (a) failure by the Authority to pay the principal of, or the premium (if any) payable upon the redemption of, any Bond when due and payable either at maturity, declaration, or by proceedings for redemption, or otherwise (no effect being given to payments made under the Bond insurance policy); or
- (b) failure by the Authority to pay any installment of interest on any Bond when due and payable (no effect being given to payments made under the Bond insurance policy); or
- (c) the entry of an order or decree appointing a receiver or receivers of the Water and Sewer System or of the Receipts and Revenues with the consent or acquiescence of the Authority, or, if such order or decree shall have been entered without the acquiescence or consent of the Authority, the failure of the Authority to cause such order or decree to be vacated or discharged or stayed on appeal within 90 days after entry; or
- (d) the institution of any proceeding with the consent or acquiescence of the Authority for the purpose of effecting a composition between the Authority and its creditors, or for the purpose of adjusting the claims of such creditors pursuant to any Federal or State statute now or hereafter enacted, if the claims of such creditors are under any circumstances payable out of the Receipts and Revenues, or if such proceeding shall have

been instituted without the consent or acquiescence of the Authority, the failure of the Authority to have such proceeding withdrawn, or any order entered therein vacated or discharged, within 90 days after the institution of such proceeding or the entry of such order; or

(e) the entry of a final judgment against the Authority, which judgment constitutes or could result in a lien or charge upon the Water and Sewer System or the Receipts and Revenues, or which materially and adversely affects the ownership, control or operation of the Water and Sewer System, if such judgment shall not be discharged within 90 days from the entry thereof, or if an appeal shall not be taken therefrom, or from the order, decree or process upon which or pursuant to which such judgment was granted or entered, in such manner as to conclusively set aside the execution or levy under such judgment, order, decree or process, or the enforcement thereof; or

(f) the failure of the Authority to repair or replace, with reasonable dispatch, any part of the Water and Sewer System necessary for its efficient operation which shall have been destroyed or damaged (whether such failure promptly to repair or replace the same be due to the impracticability of such repair or replacement or the lack of funds therefor or for any other reason); or

(g) the failure or refusal of the Authority to comply with any provisions of the Municipality Authorities Act, as amended and supplemented, or the rendering of the Authority, for any reason, incapable of fulfilling its obligations hereunder or thereunder; or

(h) the failure of the Authority to observe any other covenant, condition or agreement of the Authority contained in the Bonds or in the First Lien indenture and the continuation of such failure for a period of 60 days after written notice of such failure from the Trustee, which may give such notice in its discretion and shall give such notice at the written request of the holders of not less than 25% in aggregate principal amount of the Bonds then outstanding, provided that, the failure of the Authority to meet the rate covenant shall not constitute an event of default thereunder, and provided further that if such failure is not capable of being remedied within 60 days after such notice, no Event of Default shall exist if the Authority commences the actions necessary for the cure of such failure within such 60 day period and diligently pursues such actions thereafter; or

(i) failure by the Authority to pay principal of, or premium (if any) payable upon the redemption of any Subordinate Bond when due and payable either at maturity or otherwise or to pay any installment of interest on any such Subordinate Bond when due and payable (no effect being given to payments made under a bond insurance policy) or any default under the Subordinate Indenture.

Acceleration of Principal. Upon the occurrence and continuance of any Event of Default, the Trustee may, and at the written request of Bondholders of not less than 25% in principal amount of the Bonds then outstanding shall by written notice to the Authority, declare the Bonds to be immediately due and payable, whereupon they shall, without further action, become and be immediately due and payable. In addition, the Trustee shall be entitled to exercise any or all of the remedies granted to a trustee or under the insurance policy or the Municipality Authorities Act. In no event, so long as the insurance policy is in effect and the bond insurer is not in default thereunder, shall the Trustee accelerate the payment of the Bonds without the written consent of each bond insurer with respect to the series of Bonds it insures.

The above provision, however, is subject to the condition that if, after the principal of said Bonds shall have been so declared to be due and payable, all arrears of interest, if any, upon the Bonds and interest on overdue installments of interest at the rate of interest specified therein, and the principal of all Bonds which have matured other than by reason of such declaration, shall have been paid by the Authority, and the Authority shall also have performed all other things in respect to which it may have been in default hereunder, and shall have paid the reasonable charges of the Trustee and its counsel and of the holders of said Bonds, including reasonable attorneys' fees paid or incurred, then, and in every such case, the holders of not less than a majority in aggregate principal amount of the Bonds then outstanding, by written notice to the Authority and to the Trustee, may waive such default and its consequences and such waiver shall be binding upon the Trustee and upon all holders of Bonds issued hereunder; but no such waiver shall extend to or affect any subsequent default or impair any rights or remedy consequent thereon. In no event, so long as an insurance policy is in effect and the bond insurer is not in

default thereunder, shall the Trustee waive a default without the prior written consent of the bond insurer with respect to the series of Bonds it insures.

Remedies of Trustee and Bondholders; Right of Entry. Subject to the acceleration of principal provision above, upon the happening and during the continuance of any event of default, the Trustee may and, upon written request of the holders of not less than 25% in aggregate principal amount of the Bonds then outstanding, shall enter into and upon and take possession of the Water and Sewer System and each and every part thereof as for a condition broken and may exclude the Authority, its agents and employees and all persons claiming under them wholly therefrom and have, hold, use, operate, manage and control the same and each and every part thereof, and in the name of the Authority or otherwise as the Trustee shall deem best, conduct the business thereof and exercise all the rights and powers of the Authority with respect to the Water and Sewer System and use all its then existing property, assets and franchises for that purpose and out of the Receipts and Revenues, maintain, restore, insure and keep insured, the Water and Sewer System against such hazards as are ordinarily insured against by a person operating a water and sewer system similar to the Water and Sewer System and from time to time may make all such necessary or proper repairs as to it may seem expedient, and establish, levy, maintain and collect such rates, rents and charges in connection with the Water and Sewer System as it may deem necessary, proper, desirable and reasonable, and collect and receive Receipts and Revenues, and after deducting therefrom the expenses of operation, maintenance and repair and all expenses incurred thereunder and all other proper outlays herein authorized and all such payments which may be made for insurance and other proper charges, including just and reasonable compensation for its own services, and for the services of such attorneys, agents and employees as it may, in the exercise of its discretion, employ for any of the purposes aforesaid, the Trustee shall apply the rest and residue of the moneys received by it, as well as all cash and investments held by the Trustee in any fund hereunder, subject to the provisions hereof with respect to claims for principal and interest, to the payment of the principal and interest on the Bonds. Whenever all that is due upon such Bonds and installments of interest and under any of the terms of the First Lien Indenture have been paid or deposited with the Trustee and all defaults made good, the Trustee in possession shall surrender possession to the Authority, its successors or assigns. However, the same right of entry shall exist upon any subsequent default or defaults. For purposes of this section, the bond insurer shall, so long as no default has occurred under its respective insurance policy, be deemed to be the owner of the series of Bonds which it insures.

Judicial Action. In case of the breach of any of the covenants or conditions of the First Lien Indenture, the Trustee shall have the right and power to take appropriate judicial proceedings for the enforcement of its rights and the rights of the Bondholders thereunder. Upon the happening of an Event of Default, the Trustee may either after entry, or without entry, proceed by suit or suits, actions or special proceedings at law or in equity to enforce its rights and the rights of the Bondholders hereunder, and it will be obligatory upon the Trustee to take action to that end, either by such proceedings or by the exercise of its powers with respect to entry or otherwise, as it may determine, upon being requested to do so by the holders of 25% in aggregate principal amount of the Bonds then outstanding and upon being indemnified. For purposes of this provision, the bond insurers shall, so long as no event of default has occurred under its respective insurance policy, be deemed to be the owner of the Bonds.

So long as the insurance policy is in effect and the bond insurer is not in default thereunder, the bond insurer may direct the Trustee with respect to the taking of each remedy and the Trustee may not take any action directed by the respective series of the Bondholders without the prior written consent of the bond insurer.

Limitations on Bondholders.

No holder of any Bonds shall have any right to institute any suit, action, or proceeding in equity or at law for the enforcement of the First Lien Indenture or for the execution of any trust thereof or for the appointment of a receiver or to exercise any other remedy thereunder, unless such holder shall have previously given to the Trustee written notice of an event of default and of the continuance thereof nor unless also the holders of at least 25% in aggregate principal amount of the Bonds then outstanding hereunder shall have made written request of the Trustee and shall have offered it reasonable opportunity either to proceed to exercise the powers hereinbefore granted or to institute such action, suit or proceeding in its own name nor unless also they shall have offered to the Trustee adequate security and indemnity against the costs, expenses and liability to be incurred therein or thereby; and such notification, request and offer of indemnity are, at the option of the Trustee, conditions precedent to the execution of the powers and trusts of the First Lien Indenture or for the appointment of a receiver or for any other remedy

thereunder; no one or more holders or registered owners of the Bonds, however, have any right to affect, disturb or prejudice the lien of the First Lien Indenture by their action or to enforce any right thereunder except in the manner therein provided.

Subject to the following paragraph, nothing shall affect or impair the right of any Bondholder which is absolute and unconditional, to enforce the payment of the principal and interest of his Bonds, or the obligation of the Authority which is also absolute and unconditional, to pay the principal of and interest on each of the Bonds issued hereunder to the respective holders or registered owners thereof at the time and place in said Bonds expressed.

So long as any insurance policy is in effect and the bond insurer is not in default thereunder, the bond insurer may direct the Trustee with respect to the series of Bonds which it insures with respect to the taking of each remedy and the Trustee may not take any action directed by such Bondholders without the prior written consent of the bond insurer.

Waivers and Supplemental Indentures Not Requiring Consent of Bondholders.

In addition to any supplemental indenture otherwise authorized by the First Lien Indenture, the Authority (with the prior written consent of the bond insurer), and the Trustee may, from time to time and at any time, enter into such indentures or agreements supplemental hereto as shall not be inconsistent with the terms and provisions hereof and which shall not adversely affect the rights of the holders of the Bonds outstanding hereunder (which supplemental indentures or agreements shall thereafter form a part thereof) for the following purposes:

(a) to cure any ambiguity, formal defect or omission in the First Lien Indenture or any supplemental indenture;

(b) to grant or confer upon the Trustee for the benefit of the Bondholders any additional rights, remedies, powers, authority or security that may lawfully be granted to or conferred upon the Bondholders, or the Trustee;

(c) to add to the covenants and agreements of the Authority in the First Lien Indenture, other covenants and agreements thereafter to be observed, or to surrender any right or power herein reserved to or conferred upon the Authority;

(d) to modify any of the provisions of the First Lien Indenture or to relieve the Authority of any of the obligations, conditions or restrictions contained in the First Lien Indenture, provided that such modification or relief shall not, by the express terms of the particular supplemental indenture, become effective until all Bonds outstanding on the date of the execution and delivery of such supplemental indenture shall no longer be outstanding;

(e) to make such provision in regard to matters or questions arising under the First Lien Indenture as may be necessary or desirable and not inconsistent with the First Lien Indenture; or

(f) to close the First Lien Indenture against, or to restrict, in addition to the limitations and restrictions therein contained, the issue of additional bonds thereunder, by imposing additional conditions and restrictions to be thereafter observed, whether applicable in respect to all Bonds issued and to be issued thereunder or in respect of one or more series of Bonds, or otherwise.

Supplemental Indentures Requiring Consent of Bondholders.

With the consent of the holders of not less than 66-2/3% in aggregate principal amount of the Bonds then outstanding or, in the case one or more but less than all of the series of the Bonds then outstanding are affected, then, in addition, with the consent of the holders of not less than 66-2/3% of the principal amount of the Bonds of each series so affected then outstanding, and with the consent of any guarantor of principal and interest of any series of Bonds, the Authority and the Trustee may from time to time and at any time enter into an indenture or

indentures supplemental to the First Lien Indenture for the purpose of eliminating any of the provisions of the First Lien Indenture or of any supplemental indenture or of modifying in any manner the rights of the holders of the Bonds so affected; provided, however, that no such supplemental indenture shall (i) extend the fixed maturity date of any Bond, or reduce the principal amount thereof, or reduce the rate or extend the time of payment of interest thereon, or reduce any premium payable upon the redemption thereof, without the consent of the holder of each Bond so affected, or (ii) permit the creation by the Authority of any lien prior to the lien of the First Lien Indenture upon any part of the Receipts and Revenues, or reduce the aforesaid percentage of Bonds, the holders of which are required to consent to any such supplemental indenture, without the consent of the holders of all Bonds then outstanding; provided, however, that in no event shall the provisions on Authorized Investments be amended. No supplemental indenture shall be effective unless it has been consented to in writing by the bond insurer.

Discharge of First Lien Indenture.

If the Authority, its successors or assigns, shall pay or cause to be paid unto the holders of all Bonds outstanding the principal and interest to become due thereon and the premium thereon, if any, then the First Lien Indenture and the estate and rights therein granted shall cease, determine and be void, and the Trustee shall, upon the request of the Authority, deliver to the Authority such instruments as shall be requisite to satisfy the lien thereof, and reconvey to the Authority the estate and title thereby conveyed, and assign and deliver to the Authority any property at the time subject to the lien of the First Lien Indenture which may then be in the possession of the Trustee.

Bonds for the payment or redemption of which there shall have been deposited with the Trustee cash or direct non-callable obligations of the United States of America and securities fully and unconditionally guaranteed as to the timely payment of principal and interest by the United States of America, to which direct obligation or guarantee the full faith and credit of the United States of America has been pledged, Refcorp interest strips, CATS, TIGRS, STRPS, or defeased municipal bonds rated "AAA" by S&P or "Aaa" by Moody's, any combination thereof or any other security approved by the bond insurer), the principal of and interest on which when due, will, without reinvestment of principal or interest, provide sufficient moneys to pay the Bonds in full at maturity or the date fixed for redemption, shall be deemed to be paid. In the event of an advance refunding, the Authority shall cause to be delivered a verification report of an independent nationally recognized certified public accountant.

Removal of Trustee.

The Trustee may be removed at any time by an instrument in writing signed by not less than a majority in aggregate principal amount of Bonds outstanding and filed with the Authority. No such removal shall become effective until a successor trustee is appointed and has accepted the duties of Trustee.

[THIS PAGE INTENTIONALLY LEFT BLANK]

APPENDIX C

Authority Financial Statements

PITTSBURGH WATER AND SEWER AUTHORITY

Financial Statements and Schedules

December 31, 2000

(With Independent Auditors' Report Thereon)

PITTSBURGH WATER AND SEWER AUTHORITY

Table of Contents

	Page
Independent Auditors' Report	1
Balance Sheet	2
Statement of Income and Changes in Retained Earnings (Accumulated Deficit)	4
Statement of Cash Flows	5
Notes to Financial Statements	6
 Schedules	
Schedule of Trusteed Fund Activity	18
Schedule of Trusteed Fund Composition	19

Independent Auditors' Report

Board of Directors
Pittsburgh Water and Sewer Authority:

We have audited the accompanying financial statements of the Pittsburgh Water and Sewer Authority (the Authority), a component unit of the City of Pittsburgh (the City), Pennsylvania, as of and for the year ended December 31, 2000, as listed in the accompanying table of contents. These financial statements are the responsibility of the Authority's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Authority as of December 31, 2000, and the results of its operations and its cash flows for the year then ended in conformity with accounting principles generally accepted in the United States of America.

Our audit was conducted for the purpose of forming an opinion on the basic financial statements taken as a whole. The accompanying additional information on Schedules 1 and 2 is presented for purposes of additional analysis and is not a required part of the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and, in our opinion, is fairly stated in all material respects in relation to the basic financial statements taken as a whole.

KPMG LLP

March 23, 2001

PITTSBURGH WATER AND SEWER AUTHORITY

Balance Sheet

(Dollars expressed in thousands)

December 31, 2000

Assets

Current assets:

Cash and cash equivalents (nontrusted) \$ 43,779

Accounts receivable, net:

Water:

Billed 10,862

Unbilled 2,995

Total water accounts receivable, net 13,857

Wastewater treatment:

Billed 1,176

Unbilled 2,429

Total wastewater treatment accounts receivable, net 3,605

Total accounts receivable, net 17,462

Inventory 1,505

Total current assets 62,746

Trusted funds:

Accrued interest receivable 1,212

Cash and cash equivalents 2,270

Investments 61,400

Total trusted funds 64,882

Property, plant and equipment:

Utility plant, net of accumulated depreciation 217,813

Nonutility plant, net of accumulated depreciation 2,630

Capital lease assets, net of accumulated amortization 88,419

Construction-in-progress, including deferred interest 39,355

Total property, plant and equipment 348,217

Bond issue costs, net of accumulated amortization 3,172

Total assets \$ 479,017

PITTSBURGH WATER AND SEWER AUTHORITY

Balance Sheet

(Dollars expressed in thousands)

December 31, 2000

Liabilities and Fund Equity

Current liabilities:	
Accrued payroll and related obligations	\$ 1,574
Accounts payable wastewater treatment	8,096
Accounts payable and other accrued expenses	<u>2,041</u>
Total current liabilities	11,711
Payable from trustee funds:	
Accounts payable	4,609
Accrued interest	<u>7,375</u>
Total payable from trustee funds	11,984
Deferred revenues:	
Forward float	1,008
Wastewater treatment	<u>172</u>
Total deferred revenues	1,180
Payroll related obligations	1,885
Bonds payable:	
Revenue bonds	474,972
Unamortized net bond discount	(2,959)
Unamortized refunding loss	<u>(24,232)</u>
Total bonds payable	<u>447,781</u>
Total liabilities	474,541
Fund equity:	
Contributed capital	5,277
Accumulated deficit	<u>(801)</u>
Total fund equity	<u>4,476</u>
Total liabilities and fund equity	<u><u>\$ 479,017</u></u>

See accompanying note to financial statements.

PITTSBURGH WATER AND SEWER AUTHORITY

Statement of Income and Changes in Retained Earnings (Accumulated Deficit)

For the Year Ended December 31, 2000

(Dollars expressed in thousands)

Operating revenues:		
Residential, commercial and industrial water sales	\$	56,915
Other		<u>2,726</u>
Total operating revenues		59,641
Operating expenses:		
Direct operating expenses		21,494
Cooperation agreement operating expenses:		
Indirect cost allocation - wastewater		3,000
Indirect cost allocation - water		4,150
Expense of water provided by other entities:		
Subsidy of customers located in the City		3,694
Depreciation		7,788
Amortization of capitalized lease assets		<u>2,554</u>
Total operating expenses		<u>42,680</u>
Operating income		16,961
Other revenues (expenses):		
Interest revenue		3,614
Interest expense		(22,116)
Amortization of bond issue costs		<u>(273)</u>
Total other revenues (expenses)		<u>(18,775)</u>
Net loss		(1,814)
Retained earnings (accumulated deficit):		
Beginning of year		<u>1,013</u>
End of year	\$	<u><u>(801)</u></u>

See accompanying notes to financial statements.

PITTSBURGH WATER AND SEWER AUTHORITY

Statement of Cash Flows

For the Year Ended December 31, 2000

(Dollars expressed in thousands)

Cash flows from operating activities:	
Operating income	\$ 16,961
Adjustments to reconcile operating income to net cash provided by operating activities:	
Depreciation and amortization	10,342
Change in water accounts receivable	(1,508)
Change in wastewater accounts receivable	2,054
Change in wastewater accounts payable	1,206
Change in deferred revenue	(6,135)
Other	(251)
Net adjustments	<u>5,708</u>
Net cash provided by operating activities	<u>22,669</u>
Cash flows from noncapital financing activities:	
Principal paid on revenue bonds related to noncapital funds	(740)
Interest payments related to noncapital funds	(1,801)
Net cash used in noncapital financing activities	<u>(2,541)</u>
Cash flows from capital and related financing activities:	
Principal paid on revenue bonds related to capital funds	(8,505)
Interest payments related to capital funds	(20,715)
Acquisition and construction of capital assets	(31,863)
Net cash used in capital and related financing activities	<u>(61,083)</u>
Cash flows from investing activities:	
Purchase of investment securities	(30,397)
Proceeds from sale and maturities of investment securities	58,714
Interest earnings	6,993
Net cash provided by investing activities	<u>35,310</u>
Decrease in cash and cash equivalents	(5,645)
Cash and cash equivalents:	
Beginning of year	<u>51,694</u>
End of year	<u>\$ 46,049</u>
Consists of:	
Trusteed	\$ 2,270
Nontrusteed	<u>43,779</u>
	<u>\$ 46,049</u>

See accompanying notes to financial statements.

PITTSBURGH WATER AND SEWER AUTHORITY

Notes to Financial Statements

December 31, 2000

(dollars expressed in thousands unless otherwise indicated)

(1) Organization

The Pittsburgh Water and Sewer Authority (the Authority) provides water to approximately 85,000 residential, commercial and industrial customers located in the City of Pittsburgh (the City) and collects wastewater throughout the City.

A Board appointed by the Mayor of the City governs the Authority.

The Authority is a body politic and corporate organized and existing under the Pennsylvania Municipalities Authorities Act. The Authority was established by the City in 1984 to assume responsibility from the City for management, operation, maintenance and improvement of virtually the entire City water supply, distribution, and wastewater collection systems (the "Water and Wastewater System" or "System"). At inception, the City contributed \$5.3 million to the Authority in the form of customer accounts receivable.

The Authority has the right to establish water user fees and charges without being subject to the approval of any department, board, or agency of Pennsylvania or the City. The Authority is also authorized to issue bonds and notes payable solely from the Authority's revenues.

(2) Summary of Significant Accounting Policies

(a) Reporting Entity

These financial statements present the financial position, income, changes in retained earnings (accumulated deficit), and cash flows of the Authority. The Authority is a component unit of the City as defined in Governmental Accounting Standards Board (GASB) Statement No. 14. The Authority's financial statements are not intended to present the financial position or results of operations of the City taken as a whole.

(b) Basis of Accounting

The Authority applies the accrual basis of accounting. Revenues are recognized when earned; expenses are recognized when incurred.

In applying the provisions of GASB Statement No. 20, *Accounting and Financial Reporting for Proprietary Funds*, the Authority applies all GASB pronouncements and all FASB pronouncements, Accounting Principle Board Opinions, and Accounting Research Bulletins issued on or before November 30, 1989, which do not conflict with or contradict GASB pronouncements.

PITTSBURGH WATER AND SEWER AUTHORITY

Notes to Financial Statements

December 31, 2000

(dollars expressed in thousands unless otherwise indicated)

(c) *Deferred Interest*

Earnings on funds restricted for the purpose of capital improvements, net of related interest expense, are deferred and allocated to the cost of capital assets. Accordingly, during 2000, the Authority capitalized interest expense of \$5,264 net of deferred interest earnings of \$3,365.

Earnings on forward float agreements are recorded as deferred revenue and recognized as interest revenue ratably over the life of each agreement.

(d) *Cash and Cash Equivalents*

Cash and cash equivalents include all highly liquid investments, both trustee and nontrustee, with maturity of three months or less at date of purchase.

(e) *Bond Issue Costs, Premiums and Discounts*

Bond issue costs are deferred and amortized over the life of the related bonds using the effective interest method. The unamortized balance is an asset on the balance sheet.

Original issue bond premiums and discounts are amortized over the life of the related bonds using the effective interest method of amortization. The unamortized balance of premiums and discounts is presented net on the balance sheet as a decrease to bonds payable.

(f) *Deferred Refunding Loss*

In accordance with GASB Statement No. 23, *Accounting and Reporting for Refunding of Debt by Proprietary Activities*, the excess of the reacquisition price over the net carrying amount of debt refunded with proceeds from the Series 1993 and 1998 Bonds were recorded as deferred refunding losses. The deferred refunding losses are being amortized using the effective interest method over the originally scheduled life of the defeased issues that extend to 2013 and 2025, respectively. The unamortized balances are reflected as a reduction of bonds payable.

(g) *Property, Plant and Equipment*

Property, plant and equipment owned by the Authority are recorded at cost including that portion of deferred interest that is ultimately capitalized. Depreciation of fixed assets owned by the Authority is provided on the straight-line method based on the estimated useful lives of the various classes of assets. Utility assets have estimated useful lives ranging from 30 to 40 years. Nonutility assets have estimated useful lives ranging from 5 to 10 years.

PITTSBURGH WATER AND SEWER AUTHORITY

Notes to Financial Statements

December 31, 2000

(dollars expressed in thousands unless otherwise indicated)

Amortization of capital lease assets is provided on the straight-line basis applying an estimated average remaining useful life of forty years from the inception of the lease.

Maintenance and repairs are charged to expense as incurred.

(h) *Compensated Absences*

A liability for vacation, personal, and sick days is accrued when related benefits are attributable to services rendered and to the extent it is probable that the Authority will ultimately compensate employees.

(i) *Inventory*

Inventory is stated at cost, on a first-in, first-out basis.

(3) *Transactions With the City of Pittsburgh*

In 1984, pursuant to a Lease and Management Agreement, the Authority leased the System from the City and assumed responsibility for establishing and collecting user fees and charges and for maintaining and improving the System. The Lease and Management Agreement provided for the City to operate and maintain the System for the Authority subject to the general supervision of the Authority.

The City and the Authority agreed to terminate the Lease and Management Agreement in July 1995 and concurrently entered into a Capital Lease Agreement and a Cooperation Agreement (collectively referred to as the Agreements).

(a) *Cooperation Agreement*

Under the terms of the Cooperation Agreement, City water department employees became employees of the Authority. As a result, the Authority assumed various personnel related obligations from the City's water department. Other direct costs of the System's water operations are now generally paid directly by the Authority under the Cooperation Agreement, rather than paid by the City and reimbursed by the Authority. The City provides the Authority with various services in accordance with the Cooperation Agreement and the Authority reimburses the City for direct and indirect costs attributed by the City to the operation and maintenance of the System.

Under the Agreements, the Authority provides up to 600 million gallons of water annually for the City's use without charge. Also, the Authority reimburses the City for the cost of subsidizing water service to residents of the City situated beyond the Authority's service area so that those water users pay charges that mirror the rates of the Authority.

PITTSBURGH WATER AND SEWER AUTHORITY

Notes to Financial Statements

December 31, 2000

(dollars expressed in thousands unless otherwise indicated)

(b) System Leases

The Capital Lease Agreement stipulates minimum lease payments of approximately \$101 million, all of which were satisfied during the initial three years of the capital lease.

The Capital Lease Agreement has a term of thirty years and provides the Authority with the option to purchase the System for one dollar in 2025.

(c) Pension

Employees of the Authority participate in the City's Municipal Pension Fund Plan (the Plan).

Employees who became members of the Plan prior to January 1, 1988, are required to contribute 5% of pre-tax pay. Those joining thereafter are required to contribute 4%. Substantially all of the Authority's 2000 payroll of \$8,687 was covered by the Plan. Employee contributions for the year amounted to approximately \$350.

The City's obligations relative to the Municipal Pension are determined in accordance with various Pennsylvania Statutes. The extent of the Authority's participation in such obligations with respect to those former City employees whose membership continued upon becoming employees of the Authority is determined by the shared interpretation of the City and Authority of the intent of the Cooperation Agreement. The City determined the Authority's associated contribution requirement for 2000 that the Authority recognized as an expense.

The January 1, 2000, Actuarial Valuation Report for the City's Municipal Pension Plan indicated a 2000 normal cost of \$453 associated with those former City employees whose participation continued upon becoming employees of the Authority as provided by the Cooperation Agreement. The Authority estimates that the normal cost for 2000, together with other elements of expense for employee service during 2000 would not exceed the sum of the 2000 contributions made by the Authority and its employees.

Uncertainty exists about the future obligation of the Authority and its employees to make contributions to the Plan. Such contributions are contingent upon the continuing eligibility of the Authority's employees to participate in the City's Plan. Eligibility for ongoing employee participation in the City's Plan could end if the Authority were to introduce another pension plan. At this time, the Authority and City have no definite plans to establish another pension plan for the Authority, other than an agreement in principle that the Authority should have its own plan in the future. Future obligations of the Authority to make contributions to the Plan may also be subject to other amendments of the existing arrangement agreed-upon by the Authority and the City.

PITTSBURGH WATER AND SEWER AUTHORITY

Notes to Financial Statements

December 31, 2000

(dollars expressed in thousands unless otherwise indicated)

Normal retirement benefits are available upon attainment of age sixty and completion of twenty service years. Early retirement benefits are available upon attainment of age fifty and completion of eight service years. Early retirement benefits may be deferred until age sixty or may be obtained upon retirement at a reduced level. A member who terminates employment after attaining age forty and completing eight service years can sustain eligibility for benefits by continuing contributions through age fifty. A member who terminates employment after attaining fifteen service years, but has been a member since before January 1, 1975, can be vested by continuing contributions through age fifty.

Retirement benefits for employees who were members of the Plan are based upon a percentage of either three-year or four-year average pay, depending on date of hire, subject to certain specified minimum monthly benefit amounts. Special membership and benefit rules apply to those experiencing disability.

The "pension benefit obligation," which is an actuarial present value of credited projected benefits, is a standardized measure for financial statement disclosure of the present value of pension benefits, adjusted for the effects of projected salary increases, estimated to be payable in the future by the Plan as a result of members' service to date. The measure is intended to help users assess the Plan's funding status on a going concern basis, assess progress made in accumulating sufficient assets to pay benefits when due and make comparisons among public employee retirement systems. The Plan has not reported or attributed measurements of assets or the pension benefit obligation on the basis of the group of members who are Authority employees.

Additional information about the Plan and ten-year historical trend information showing the Plan's progress in accumulating sufficient assets to pay benefits when due is presented in the City's comprehensive annual financial report.

(4) Revenue and Accounts Receivable

(a) *Water*

Water sales revenue is recognized as earned during the period when water is supplied to customers. Customers are billed using a monthly billing cycle based on actual or estimated meter readings. The Authority recognizes unbilled accounts receivable for water service provided prior to year-end that is billed during the following year.

PITTSBURGH WATER AND SEWER AUTHORITY

Notes to Financial Statements

December 31, 2000

(dollars expressed in thousands unless otherwise indicated)

Water accounts receivable are presented net of a reserve for uncollectible amounts. This reserve, based upon historical experience and aging of the accounts, is recognized coincident with recognition of revenue. At December 31, 2000, the reserve for uncollectible water accounts was approximately \$2.7 million. The Authority has rights to utilize collection agencies, service terminations, liens, and real property sales to protect its interest, limit further losses, and motivate payments from delinquent customers.

The Authority has received a letter of intent from a third party to purchase certain accounts receivable balances outstanding at December 31, 2000. The reserve for uncollectible water accounts receivable was valued under the assumption of that sale.

(b) Wastewater Treatment

Although the Authority does not provide wastewater treatment, it assumed responsibility for certain wastewater treatment receivables beginning in 1996. Pursuant to a 1955 agreement, the City is responsible for paying the Allegheny County Sanitary Authority (Alcosan) the face amounts for delinquent wastewater treatment receivables. Until 1996, the City undertook to bill and collect these delinquent accounts directly. In 1996, the City and the Authority entered into a memorandum of understanding (MOU) whereby the Authority received assets including rights to wastewater treatment receivables assigned by the City and assumed the City's obligation to pay Alcosan for delinquencies. Related assets and liabilities appear on the balance sheet, along with residual deferred revenue. At December 31, 2000, the reserve for uncollectible wastewater accounts was approximately \$8.4 million. Deferred revenue arising from wastewater treatment receivables and related collections are being amortized ratably with respect to the cost of the Alcosan delinquencies.

PITTSBURGH WATER AND SEWER AUTHORITY

Notes to Financial Statements

December 31, 2000

(dollars expressed in thousands unless otherwise indicated)

(5) Property, Plant and Equipment

Cost and accumulated depreciation (or, with respect to capitalized lease assets, accumulated amortization) of property, plant and equipment at year-end:

	<u>Cost</u>	<u>Accumulated depreciation/ amortization</u>	<u>Net</u>
Owned assets:			
Utility plant	\$ 266,088	48,275	217,813
Non-utility plant	9,752	7,122	2,630
Construction-in-progress	<u>39,355</u>	<u>—</u>	<u>39,355</u>
	315,195	55,397	259,798
Capital lease assets	<u>102,166</u>	<u>13,747</u>	<u>88,419</u>
Total property, plant and equipment	\$ <u><u>417,361</u></u>	<u><u>69,144</u></u>	<u><u>348,217</u></u>

(6) Payroll and Related Obligations

Payroll and related obligations presented on the balance sheet comprise:

	<u>Current</u>	<u>Noncurrent</u>
Compensated absences	\$ 684	1,151
Workers' compensation	288	630
Early retirement incentive	42	104
Payroll, withholdings and taxes	<u>560</u>	<u>—</u>
	\$ <u><u>1,574</u></u>	<u><u>1,885</u></u>

PITTSBURGH WATER AND SEWER AUTHORITY

Notes to Financial Statements

December 31, 2000

(dollars expressed in thousands unless otherwise indicated)

(7) Revenue Bonds

To finance its initial capital improvement program, the Authority issued Daily Adjustable Demand Water and Wastewater System Revenue Bonds of \$93,600 in 1984 (1984 Bonds). In 1985, the Authority issued Water and Wastewater System Adjustable Rate Tender Revenue Bonds (1985 Bonds) that accomplished an advance refunding which defeased the 1984 Bonds. In 1986, the Authority issued \$134,700 Water and Wastewater System Adjustable Rate Tender Revenue Bonds (1986 Bonds) to finance the next phase of its capital improvement program. In July 1991, the Authority issued \$248,329 Water and Wastewater System Revenue Refunding Bonds, Series A of 1991 (1991 Bonds) which currently refunded all outstanding 1985 and 1986 Bonds. The principal of defeased 1986 Bonds still outstanding at December 31, 2000, was \$213,475.

In November 1993, the Authority issued \$278,970, Series A Refunding Bonds, (Series A-1993 Bonds) and \$10,785 Series B Revenue Bonds (Series B-1993 Bonds) to finance additional capital improvements. Series A-1993 Bond proceeds of \$276,613 (net of \$3,402 in underwriting fees, FGIC insurance, and other issuance costs) defeased the 1991 Bonds through an advance refunding. The principal value of defeased 1991 Bonds still outstanding at December 31, 2000, was \$231,970.

The Series A-1993 and Series B-1993 Bonds bear interest at fixed rates ranging from 3.4% to 6.5%, payable semiannually at March 1 and September 1. The average effective interest rate on the 1993 Bonds, including amortization of original issue premium and excluding the 1991 refunding loss was approximately 5.1% for 2000.

Fair value of the 1993 Bonds at December 31, 2000, based on quoted market prices, is approximately \$245 million.

In July 1995, the Authority issued \$89,850, Series A Bonds (1995 Series A Bonds), the proceeds of which are dedicated to a capital improvement program for the System and \$103,020, Series B Bonds (1995 Series B Bonds) to fund certain obligations of the Authority to the City under the Capital Lease Agreement for the System.

PITTSBURGH WATER AND SEWER AUTHORITY

Notes to Financial Statements

December 31, 2000

(dollars expressed in thousands unless otherwise indicated)

In March 1998, the Authority issued \$93,355, Series A First Lien Revenue Bonds (1998 Series A Bonds), the proceeds of which were used to defease through an advance refunding the entire balance of 1995 Series A Bonds outstanding (\$89,850), \$36,440 Series B First Lien Revenue Bonds (1998 Series B Bonds), the proceeds of which are dedicated to a capital improvements program, and \$101,970 Series C Subordinate Revenue Bonds (1998 Series C Bonds), the proceeds of which were used to defease through an advance refunding the entire balance of the 1995 Series B Bonds outstanding (\$98,410). In connection with the advance refunding, a portion of the proceeds of the 1998 Bonds was deposited into an irrevocable trust with an escrow agent to provide for the future debt payments. The advance refunding resulted in an economic gain to the Authority of approximately \$7.5 million and an increase to the debt service payments of approximately \$66 million. At December 31, 2000, the remaining unamortized deferred refunding loss was \$5,017 on the transaction and is shown as a reduction of the long-term debt and will be amortized through 2028. At December 31, 2000, the principal of the defeased 1995 Bonds outstanding was \$177,505.

Fair value of the 1998 Bonds at December 31, 2000, based on quoted market prices, is approximately \$230 million.

The 1998 Series A Bonds and 1998 Series C Bonds bear interest at fixed rates ranging from 5.0% to 5.25%, payable semiannually at March 1 and September 1. The average effective interest rate on the 1998 Bonds, including amortization of original issue discount and excluding the amortization of the 1995 refunding loss is approximately 5.1%. The 1998 Series B Bonds are capital appreciation bonds with an original issuance amount of \$36,440. The 1998 Series B Bonds have maturity values of \$2.3 million to \$31.8 million from 2017 to 2030. The bonds were issued to yield rates from 5.18% to 5.3%. The 1998 Series B Bonds accrue and compound interest on a semiannual basis and are carried at cost plus accrued interest. Total maturity value of the 1998 Series B Bonds is \$166.1 million.

A portion of the 1993 Bonds are subject to optional and mandatory redemption in various face amounts beginning September 1, 2003. A portion of the 1998 Bonds are subject to optional redemption in various face amounts beginning March 1, 2008.

Aggregate scheduled maturities of the 1993 and 1998 Bonds (including the effect of refunding of the 1995 Bonds indicated above) are as follows:

2001	\$	9,635
2002		10,065
2003		10,505
2004		11,000
2005		11,515
Thereafter		<u>422,252</u>
	\$	<u>474,972</u>

PITTSBURGH WATER AND SEWER AUTHORITY

Notes to Financial Statements

December 31, 2000

(dollars expressed in thousands unless otherwise indicated)

Interest incurred for the year ended December 31, 2000, on bonds payable, exclusive of the amortization of deferred interest and the refunding loss was approximately \$24.5 million. Amortization of deferred interest and the 1991 and 1995 Bond refunding losses totaling approximately \$2.5 million is included in 2000 interest cost.

In accordance with the provisions of the trust indentures for the 1993 and 1998 Bonds, the Authority has created a number of funds that are restricted for specific purposes. The complement of these restricted funds, collectively referred to on the balance sheet as "Trusteed Funds" at December 31, 2000, was:

Construction funds	\$	37,136
Debt service and reserve funds		20,607
Operating reserve amount		6,794
Other funds		<u>345</u>
	\$	<u><u>64,882</u></u>

Among the Authority's debt covenants is one which requires that rates charged by the Authority will be sufficient to satisfy a formula which is intended to ensure that the Authority will be able to satisfy debt service requirements. The trust indenture also requires that revenue collections be deposited into a Revenue Fund and disbursed therefrom as provided for in the trust indenture. This Revenue Fund constitutes the vast majority of nontrusteed funds cash and cash equivalents.

(8) Investments and Deposits With Financial Institutions

The Authority is authorized to invest in: obligations of the U.S. Government and government-sponsored agencies and instrumentalities; fully insured or collateralized certificates of deposits; commercial paper of the highest rating; repurchase agreements collateralized by government obligations or securities; highly rated bank promissory notes or investment funds or trusts; and, as to trusteed assets, as otherwise permitted by the trust indenture as supplemented and amended in 1998. Throughout the year ended December 31, 2000, the Authority invested its funds in such authorized investments.

The following is a summary of the Authority's cash deposits which were insured by the Federal Depository Insurance Company (Category 1) and cash and deposits which were not insured or collateralized in the Authority's name, but were collateralized in accordance with the requirements of Act 72 of the Commonwealth of Pennsylvania that the depository institution pool collateral for all governmental deposits and have the collateral held by an approved custodian in the institution's name (Category 3).

PITTSBURGH WATER AND SEWER AUTHORITY

Notes to Financial Statements

December 31, 2000

(dollars expressed in thousands unless otherwise indicated)

	<u>Total Category 1</u>	<u>Total Category 3</u>	<u>Bank Balance</u>	<u>Carrying Amount</u>
\$	<u>200</u>	<u>43,924</u>	<u>44,124</u>	<u>44,124</u>

The GASB requires disclosure of investments (including certain amounts qualifying for classification as “cash and cash equivalents” for purposes of the balance sheet and statement of cash flows) delineated in prescribed categories intended to give some indication of the level of risk assumed by the Authority.

At December 31, 2000, all Authority investments (summarized below) met the criteria for “Category 3,” which includes uninsured or unregistered investments for which the securities are held by the broker or dealer, or by its trust department or agent, but not in the Authority’s name. (“Category 1” would include investments that are insured or registered or for which securities are held by the Authority or its agent in the Authority’s name. “Category 2” would include uninsured and unregistered investments for which the securities are held by the broker’s or dealer’s trust department or agent in the Authority’s name).

	<u>Category 3</u>	<u>Fair value</u>
Categorized investments:		
Repurchase agreements	\$ 1,925	1,925
U.S. government securities	5,233	5,253
Local government securities	<u>56,167</u>	<u>56,167</u>
Total investments	\$ <u>63,325</u>	<u>63,345</u>

(9) Commitments and Contingencies

The Authority is proceeding with a capital improvement program which the Authority’s independent engineer has estimated will entail expenditure of the existing construction funds and potential future bond issues.

To achieve complete compliance with current drinking water regulations promulgated by the Pennsylvania Safe Drinking Water Act (Act), the Authority has negotiated a consent decree with the Pennsylvania Department of Environmental Protection, which establishes a timetable for completing agreed-upon steps through the close of the year 2000. Capital improvements which will bring the system into compliance with the Act are currently under construction or design. The Authority expects to complete these improvements as required by the consent decree with existing capital funds.

PITTSBURGH WATER AND SEWER AUTHORITY

Notes to Financial Statements

December 31, 2000

(dollars expressed in thousands unless otherwise indicated)

The authority has also negotiated a consent decree with the Pennsylvania Department of Environmental Protection, which established a timetable for improvements to the sewer system in the Nine Mile Run. These improvements are expected to be funded with the existing capital funds and/or funds from a potential future bond issuance.

In addition to the matters discussed previously, various other claims and lawsuits are pending against the Authority. The ultimate outcome of these claims and lawsuits cannot presently be determined and, accordingly, no provision for amounts arising from settlements has been made in these financial statements. In the opinion of management, the effect on the financial statements of potential losses associated with any such claim and/or lawsuit should not be material.

The Authority is insured for general liability coverage. In previous years, the Authority established a fund to pay for deductibles, small claims and other litigation costs. This fund is grouped with the "Trusteed Funds" on the balance sheet. During 2000, the Authority paid \$158 from this fund for claims.

PITTSBURGH WATER AND SEWER AUTHORITY

Schedule of Trusteed Fund Activity

Year Ended December 31, 2000

(Dollars expressed in thousands)

	Series 1993 Bonds				Series 1995 Bonds			Series 1998 Bonds				Total
	Prior Construction Fund	Construction Fund	Debt Service Fund	Operating Reserve Account	Self-Insured Escrow Account	Capital Projects Fund	Clearing Fund	Capital Projects Fund	Debt Service Fund	Debt Reserve Fund	Debt Service Fund	
Increases:												
Interest	\$ 66	23	102	403	—	1,318	6	1,566	58	578	64	4,184
Total increases	66	23	102	403	—	1,318	6	1,566	58	578	64	4,184
Decreases:												
Capital projects	2,018	559	—	—	—	17,498	—	11,665	—	—	—	31,740
Interest	—	—	12,606	—	—	—	—	—	4,725	—	5,185	22,516
Bond principal	—	—	9,245	—	—	—	—	—	—	—	—	9,245
Other	—	—	—	—	158	—	—	—	—	—	—	158
Total decreases	2,018	559	21,851	—	158	17,498	—	11,665	4,725	—	5,185	63,659
Interfund transfers:												
Nontrusteed accounts	—	—	19,775	—	—	—	—	(1,796)	4,668	(643)	5,123	27,127
Prior Construction Fund	—	—	170	—	—	—	—	—	—	—	—	170
1993 Construction Fund	—	—	61	—	—	—	—	—	—	—	—	61
1993 Debt Service Fund	(170)	(61)	—	—	—	(1,007)	—	—	—	—	—	(1,238)
1995 Capital Projects Fund	—	—	1,007	—	—	—	—	—	—	—	—	1,007
Total interfund transfers	(170)	(61)	21,013	—	—	(1,007)	—	(1,796)	4,668	(643)	5,123	27,127
Net activity	(2,122)	(597)	(736)	403	(158)	(17,187)	6	(11,895)	1	(65)	2	(32,348)
Balance:												
Beginning of year	2,124	599	7,844	6,296	503	32,990	89	33,224	1,609	10,186	1,766	97,230
End of year	\$ 2	2	7,108	6,699	345	15,803	95	21,329	1,610	10,121	1,768	64,882

See accompanying independent auditors' report.

PITTSBURGH WATER AND SEWER AUTHORITY

Schedule of Trusteed Fund Composition

Year Ended December 31, 2000

(Dollars expressed in thousands)

	Total	Cash and Cash Equivalents			Investments			AIG Investments (3)
		Accrued Interest Receivable	Cash	Tri-Party Repurchase Agreement	Commonwealth of PA Revenue Bonds	U.S. Treasury Notes (1)	Chase Manhattan Investment Agreement (2)	
Capital Project and Construction Funds:								
Prior Construction Fund	\$ 2	—	—	2	—	—	—	—
1993 Construction Fund	2	—	—	2	—	—	—	—
1995 Capital Projects Fund	15,803	421	—	—	631	—	14,751	—
1998 Capital Projects Fund	21,329	442	—	1	—	—	—	20,886
	37,136	863	—	5	631	—	14,751	20,886
Debt Service Funds:								
1993 Debt Service Fund	7,108	31	—	1,824	20	5,233	—	—
1998 C Debt Service Fund	1,768	37	—	—	—	—	—	1,731
1998 Debt Service Reserve Fund	10,121	210	—	—	—	—	—	9,911
1998 Debt Service Fund	1,610	33	—	—	—	—	—	1,577
	20,607	311	—	1,824	20	5,233	—	13,219
1993 Operating Reserve Fund	6,699	38	—	1	6,660	—	—	—
Self-Insured Escrow Fund	345	—	345	—	—	—	—	—
1998 Clearing Fund	95	—	—	95	—	—	—	—
	\$ 64,882	1,212	345	1,925	7,311	5,233	14,751	34,105

(1) \$990 at 5.625%, due 2/28/01; \$1,986 at 5%, due 2/28/01; and \$2,283 at 5.5%, due 8/31/01.

(2) 6.5%, due 2/1/03.

(3) \$20,886 at 5.811%, due 3/1/02; \$9,911 at 5.811%, due 3/1/01; and \$3,308 at 5.581%, due 9/1/04.

[THIS PAGE INTENTIONALLY LEFT BLANK]

APPENDIX D

Description of Service Area

ECONOMIC CONDITION AND OUTLOOK

Located at the confluence of the Ohio, Monongahela, and Allegheny Rivers, the City of Pittsburgh serves as the seat for Allegheny County. Pittsburgh is the largest of the County's 130 municipalities. Downtown Pittsburgh is commonly known as the Golden Triangle and serves as the regional center of Southwestern Pennsylvania, Eastern Ohio and Northern West Virginia. According to the 2000 Census, the City's population is approximately 340,000.

Economic Background

Pittsburgh has consistently been a leader in developing and capitalizing on new industries. In the mid-1800s, Pittsburgh gained notoriety for developing its glass, iron, and steel industries and emerged as the world's steel-producing capital by the end of the century. In recent years, the City of Pittsburgh's economy underwent an incredible transformation. Though heavy manufacturing continues to play a role in the City's economic growth, it is no longer the region's sole driving force. Instead, Pittsburgh has reestablished itself as a leader in technological innovation. The same entrepreneurial spirit that forged Pittsburgh's growth in the past has been reborn, producing a diverse economy consisting of high technology, finance, healthcare, retail, law, and education sectors. Pittsburgh's economy is now fueled in great part by information technology and biotechnology firms that grew out of the region's strong universities.

Economic Condition and Outlook

The City of Pittsburgh continues to build and strengthen its economy not only by expanding existing businesses, but also by working to attract new businesses and industries to the region. The primary goal is to assist businesses both small and large in developing and enhancing working relationships among economic development practitioners throughout the state. By supporting the growth of the existing business core and marketing its competitive advantages to attract new businesses, the City of Pittsburgh has modernized its economy.

Initiatives such as *one-stop service providers* allow firms doing business in Pittsburgh to assign a project coordinator who will serve as a single point of contact throughout the development process. Tax credits granted by both the federal government and the Commonwealth of Pennsylvania provide financial incentives for companies to hire new employees. The City of Pittsburgh also contains three State Enterprise Zones, which enable businesses located within those designated areas to enjoy more favorable interest rates and additional tax incentives. The City of Pittsburgh now has several sites included among the Commonwealth's Keystone Opportunity Zones, which exempt a majority of state and local taxes for a number of years.

Over the past couple of years Pittsburgh has focused on the revitalization of its downtown core, making aesthetic improvements to reestablish it as a regional destination point. With the formation of a Business Improvement District in 1996, the Pittsburgh Downtown Partnership spearheaded improvements in maintenance, safety, and marketing. Currently, the downtown retail district is in the midst of a planning effort to enhance downtown retailing.

Pittsburgh is also working to make downtown the region's chief entertainment destination. The expansion of the convention center and the construction of two new sports facilities will attract visitors from the surrounding region and all over the world. The downtown office climate is also getting a boost because long-time Pittsburgh companies, PNC Bank and Mellon Bank, opened newly-constructed operations centers. Their investment in downtown, along with that of many other companies, including FreeMarkets, H.J. Heinz, Highmark Blue Cross/Blue Shield, GNC, ALCOA, and Kvaerner Metals, is a sign of Pittsburgh's bright economic future.

The City of Pittsburgh has also implemented an aggressive strategy to reclaim the City's valuable riverfront property and reuse industrial sites left behind by the dismantling of the steel industry. Through the Urban Redevelopment Authority, the City of Pittsburgh has acquired land and prepared sites to lay the groundwork for economic development. A variety of technology companies and university researchers have located their operations at the Pittsburgh Technology Center. Through the Urban Redevelopment Authority, the City also purchased the 130-acre former LTV South Side Works site in late 1993. The site is currently being developed into a mixed-use development to include housing, office space, warehousing and light-industrial space. The University of Pittsburgh Medical Center (UPMC) has finished building an 80,000-square-foot distribution center, and a 45,000-square foot office and laboratory facility called the Pittsburgh Life Sciences Center is under construction. Over 500,000 square feet of office space is either under construction or in the planning stages. The Mon Con/Hot Metal Bridge that once carried molten steel across the Monongahela River has been renovated to allow cars and pedestrians to travel between the South Side and the Pittsburgh Technology Center on the north shore of the Monongahela. In addition,

residential and commercial developments completed on Washington's Landing in the Allegheny River prove that the strategy of land acquisition and site preparation can be used very effectively as an economic development strategy.

Pittsburgh is also strengthening and revitalizing its neighborhoods, encouraging new housing developments like Crawford Square, Allequippa Terrace and Bedford Dwellings which are mixed-income-housing units in the Hill District. The idea is to provide both new and existing residents of the City with a higher quality of life. The City is also partnering with developers to attract new stores and restaurants back into the neighborhoods, such as a new Shop 'N Save at the Lawrenceville Shopping Center development and a Home Depot and Whole Foods in East Liberty.

The most dramatic development in Pittsburgh may, however, be its rebirth as a hub for the technology industry. The University of Pittsburgh and Carnegie Mellon University lead the way in research of biotechnology, bioengineering, robotics, and information technology. Increases in university research and development (R&D), spending are a significant sign that the City's universities are working to commercialize technology developments. This R&D spending will spin off new companies, new jobs and new wealth. During the past 15 years, Pittsburgh has more than doubled its number of technology-driven firms, creating over 1,200 new enterprises. Today, nearly 2,400 high technology firms employ over 90,00 individuals, accounting for roughly nine percent of the total workforce in Greater Pittsburgh. In fact, the Pittsburgh region now ranks in the top ten in the nation in total employment of computer software professionals. Pittsburgh is also the third-largest environmental technology hub in the country. In the aggregate, technology companies have produced over 30,000 new jobs since 1980, sharply offsetting job losses from other industries in the region.

The overall outlook for Pittsburgh in the 21st century and beyond is very promising. The City's investments and initiatives of the past several years are leading to more business development and increased residential construction.

MAJOR INITIATIVES

The major initiatives of the City from 1994 to the present can be classified into four development objectives: Downtown Development, Industrial Site Re-use Development, Neighborhood Development and Riverfront Development.

<u>Development Objective</u>	<u>Investment</u>
Downtown Development	\$1,428,272,700
Industrial Site Re-use Development	828,361,000
Neighborhood Development	1,031,245,412
Riverfront Development	<u>940,385,000</u>
 TOTAL INVESTMENT	 <u>\$4,228,266,112</u>

The following is a summary of selected projects within each initiative.

Downtown Development

Renaissance Fulton Marriott- The renovation of the former Fulton Building into a new 300 room hotel.
Total cost: \$47 million.

First Avenue Parking Garage - The construction of a 1200 space public parking facility serving the central business district and the new PNC Operations Center, and a stop for the Port Authority Light Rail System.
Total cost: \$18 million.

Lord and Taylor Department Store - The renovation of the former Mellon Bank into Pittsburgh's newest department store at the corner of Fifth Ave. and Smithfield Street.
Total cost: \$36 million.

The Penn Garrison - The renovation of 911-921 Penn Ave into an upscale 117 apartment building located within the City's Cultural District.
Total cost: \$21.5 million.

O'Reilly Theater – The construction of an intimate 650 seat theater for use by the Pittsburgh Public Theater.
Total cost: \$19.5 million.

Industrial Site Re-use Development

South Side Works-FBI Regional Headquarters - The construction of a new Pittsburgh office for the FBI.
Total cost: \$20 million.

Pittsburgh Technology Center-Bridgeside Point - The construction of 160,000 square foot building to become the home of Cellomics, a Pittsburgh based biotech company.
Total cost: \$21 million.

Hot Metal Bridge - The conversion of the former "hot metal" bridge that connects Second Avenue to the South Side into a vehicle and pedestrian bridge.
Total cost: \$7.5 million

Somerset at Frick Park - Redevelopment of a 238-acre former industrial site into a traditional neighborhood.
Total Cost: \$57 million

URA Parking Garage - The construction of a 750 car parking garage located next to the Quantum Building at the South Side Works.
Total cost: \$12 million.

Neighborhood Development

The Rubicon- The renovation of a building located in Shadyside that is home to Sony's Research and Design facility.
Total Cost: \$1.5 million.

Bedford Dwelling - The conversion of the former Bedford Dwelling public housing community into a mixed-income development to contain 880 townhouses and apartments.
Total cost: \$86 million

New Pennley Place - The redevelopment of the Pennley Park public housing community into a mixed-income development to include the construction of 81 townhouses and the renovation of 197 apartments.
Total cost: \$25 million

Williams Square - Construction of a 15,000-sq. ft. multi-tenant office building located in the Hill District.
Total Cost: \$14 million.

Schenley Center - The construction of a 176-room Residence Inn by Marriott, 156-room Brighten Garden assisted living center and a 273-space parking garage on Bigelow Boulevard.
Total cost: \$42 million

Allequippa Terrace - The conversion of the former Terrace Village public housing community into a mixed-income development to contain 1,227 townhouses and apartments.
Total cost: \$109 million

Riverfront Development

Station Square-Bessemer Court - The expansion of mixed use Station Square property including the development of a Hard Rock Café.
Total cost: \$71 million.

South Shore Place - The construction by Signature Homes of 120 townhouses located on the Monongahela River between South 17th and South 19th Streets.

Total cost: \$21.4 million

North Shore Parking Garage - The construction of a 900 car parking garage serving new North Shore development.

Total cost: \$7.8 million.

Heinz Field and PNC Park - The construction completion of a 68,000 seat stadium for the Pittsburgh Steelers and construction completion of a 38,000 seat ballpark for the Pittsburgh Pirates.

Total cost: \$540 million.

Building Activity

The Table D-1 below sets forth the number and dollar value of residential and commercial building permits issued in the City in the years 1990 – 2001.

**TABLE D-1
CITY OF PITTSBURGH
NUMBER AND VALUE OF BUILDING PERMITS, 1990 - 2001**

<u>Year</u>	<u>Number of Permits Issued</u>	<u>Dollar Value (In thousands)</u>
1990	3,099	140,748
1991	3,500	146,969
1992	3,368	213,314
1993	3,363	212,451
1994	3,148	201,982
1995	3,019	158,575
1996	2,793	250,315
1997	2,490	193,471
1998	2,405	388,570
1999	2,271	414,860
2000	2,283	827,765
2001	2,239	531,731

Source: City of Pittsburgh, Bureau of Building Inspection

ECONOMY

Employment

For more than 150 years, the City has been a center for business and industry. While heavy manufacturing continues to be a major factor in the local economy, its importance as a source of employment in absolute and relative terms has been diminishing. As a result, the City's economy is becoming more diversified with increasing reliance on high technology, healthcare, education and financial institutions.

**TABLE D-2
CITY OF PITTSBURGH
25 LARGEST PITTSBURGH AREA EMPLOYERS - 2001**

	<u>No. of Employees</u>
UPMC Health System.....	24,500
United States Government	20,400
Commonwealth of Pennsylvania	15,900
US Airways, Inc.....	12,194
West Penn Allegheny Health System (1).....	9,036
University of Pittsburgh.....	8,732
Mellon Bank Financial Corp.....	8,404
PNC Financial Services Group, Inc.	6,959
Allegheny County	6,695
USX Corporation	6,300
Eat'N Park Restaurants, Inc.....	5,195
Pittsburgh Board of Education.....	5,160
Highmark Blue Cross and Blue Shield	4,826
Giant Eagle, Inc	4,641
Allegheny Technologies, Inc.	4,600
Verizon Communications, Inc.	4,450
City of Pittsburgh.....	4,156
Wal-Mart Stores Inc.....	4,000
PPG Industries Inc.....	3,600
AT&T Corporation	3,500
Carnegie Mellon University.....	3,309
Port Authority of Allegheny County.....	3,204
Sony Technology Center – Pittsburgh	3,200
Pittsburgh Mercy Health System	2,870
Heritage Valley Health Systems.....	2,809

Source: Pittsburgh Business Times

Notes: (1) Figure represents a combined West Penn Health Care System, Allegheny General Hospital and Allegheny University Medical Centers.

As set forth in Table D-3, estimated employment in the City has fluctuated during the past ten years from 307,200 in 1989 to 310,950 in 2001.

**TABLE D-3
CITY OF PITTSBURGH
ESTIMATED NUMBER OF JOBS IN THE CITY
1989 - 2001**

1989.....	307,200
1990.....	319,600
1991.....	327,600
1992.....	318,404
1993.....	314,758
1994.....	314,525
1995.....	311,101
1996.....	310,000
1997.....	305,427
1998.....	319,004
1999.....	323,600
2000.....	325,318
2001.....	310,950

Source: City of Pittsburgh Tax Files. Estimated based on Occupational Privilege Tax Receipts.

**TABLE D-4
RESIDENT CIVILIAN LABOR FORCE DATA
CITY, PITTSBURGH MSA, COMMONWEALTH, U.S.
1996 - 2001**

	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
Labor Force						
City of Pittsburgh	163,700	163,300	161,700	159,400	159,900	160,600
Pittsburgh MSA ⁽¹⁾	1,146,800	1,157,700	1,151,300	1,153,400	1,144,000	1,167,600
Pennsylvania	5,903,000	5,984,000	5,936,300	5,996,000	5,980,000	6,061,000
U.S.	132,450,000	136,297,000	137,673,000	139,368,000	140,893,000	141,912,000
Employment						
City	155,100	155,000	154,200	154,000	153,800	154,600
Pittsburgh MSA ⁽¹⁾	1,089,500	1,100,300	1,098,700	1,103,300	1,100,000	1,118,100
Pennsylvania	5,590,000	5,673,000	5,661,200	5,507,000	5,753,000	5,786,000
U.S.	124,900,000	129,558,000	131,464,000	133,488,000	135,771,000	134,235,000
Unemployed						
City	8,700	8,300	7,500	5,400	6,000	6,000
Pittsburgh MSA ⁽¹⁾	57,300	57,400	52,700	50,100	43,900	49,600
Pennsylvania	313,000	311,000	275,100	262,000	226,000	275,000
U.S.	7,404,000	6,739,000	6,210,000	5,880,000	5,122,000	7,678,000
Unemployment Rate (%)						
City	5.3%	5.1%	4.6%	3.4%	3.8%	3.8%
Pittsburgh MSA ⁽¹⁾	5.0%	5.0%	4.6%	4.3%	3.8%	4.2%
Pennsylvania	5.3%	5.2%	4.6%	4.4%	3.8%	4.5%
U.S.	5.6%	4.9%	4.5%	4.2%	3.6%	5.4%

(1) Includes the counties of Allegheny, Beaver, Butler Fayette, Washington and Westmoreland.
Source: Pennsylvania Department of Labor and Industry, Bureau of Research and Statistics.

**TABLE D-5
CITY OF PITTSBURGH
COMMERCIAL BANKS
RANKED BY TOTAL ASSETS**

	Total Assets as of September 27, 2001
PNC Bank, N.A.	\$64,698,993,000
Mellon Financial Corp.....	\$38,842,896,000
National City Bank of Pennsylvania.....	\$12,702,125,000
Dollar Bank, FSB	\$3,955,183,000
Great American Federal.....	\$860,875,000
Fidelity Savings Bank.....	\$548,648,000
Northside Bank.....	\$462,928,000
Pittsburgh Savings Bank.....	\$427,026,000

Source: Federal Deposit Insurance Corporation.

Education

Colleges and Universities

The major colleges and universities located in the Pittsburgh area are shown in Table D-6. The enrollment figures below are as of August 24, 2001.

**TABLE D-6
TEN LARGEST PITTSBURGH AREA
COLLEGES AND UNIVERSITIES**

	Undergraduate Enrollment	
	full-time	part-time
University of Pittsburgh (main campus).....	14,929	2,495
Community College of Allegheny County (all campuses).....	11,923	30,877
Indiana University of Pennsylvania.....	10,973	762
Slippery Rock University	5,726	568
Clarion University of Pennsylvania.....	5,215	472
Duquesne University	5,021	478
Carnegie Mellon University	5,000	DND
California University of Pennsylvania.....	4,413	591
Penn State Altoona.....	3,349	416
University of Pittsburgh at Johnstown.....	2,730	301

*DND-Did not disclose

Source: Pittsburgh Business Times

Vocational-Technical Schools

In addition, vocational-technical schools in the area provide a broad array of training in a variety of fields. Vocational-technical training is offered by both proprietary schools and by the public school systems. There are approximately 20 proprietary vocational schools and approximately 12 public vocational schools in the City and surrounding areas.

TRANSPORTATION

Air Transportation

Pittsburgh International Airport ("PIA") serves the tri-state region of western Pennsylvania, eastern Ohio and northern West Virginia and is located in the County, approximately 17 miles west of the City of Pittsburgh. The primary airport service region is considered to be Allegheny County, Armstrong County, Beaver County, Butler County, Washington County and Westmoreland County.

The state-of-the-art user friendly terminal complex located between the runways opened October 1, 1992, replacing the 40-year old Main Terminal Building. It has 75 jet gates and 25 commuter gates. Built with the latest technologies and designed for incremental expansion to meet forecasted growth, the entire complex is able to expand with relative ease.

Passenger conveniences include an underground people mover system, moving walkways, easy-to-read signs and direct access to 17,420 parking spaces and rental car facilities. The X-shaped airside terminal allows connecting passengers access to all 75 jet gates without changing levels or terminals.

PIA was one of the first airports in the country to adopt a shopping mall-type approach for its various retail activities. In general, the airport attempts to provide the atmosphere and selection of a shopping mall, including various brand-name outlets, while maintaining "street" pricing.

The trend in passenger volume at PIA from 1989 through 2001 is set forth in Table D-7 below.

TABLE D-7
Pittsburgh International Airport
Airline Traffic Activity
1989-2001

<u>Year</u>	<u>Passenger Enplanements</u>					<u>Percent increase (decrease)</u>	<u>Annual aircraft landings(2)</u>
	<u>Scheduled domestic airlines⁽¹⁾</u>	<u>Foreign flag airlines</u>	<u>Commuter/Regional carriers</u>	<u>Non-Scheduled</u>	<u>Total</u>		
1989	7,949,333	55,137	529,485	45,297	8,579,252	(4.8%)	162,806
1990	7,908,215	52,203	574,039	53,971	8,588,428	0.1%	167,514
1991	7,680,202	38,947	601,799	60,006	8,380,954	(2.4%)	168,422
1992	8,546,535	39,696	738,569	73,419	9,398,219	12.1%	188,751
1993	8,331,309	39,744	783,909	86,514	9,241,476	(1.7%)	179,727
1994	8,800,926	50,987	803,586	92,435	9,747,934	5.5%	189,035
1995	8,929,085	59,890	915,190	99,178	10,003,343	2.6%	188,015
1996	8,974,053	63,060	1,141,442	88,320	10,266,875	2.6%	189,685
1997	8,963,748	57,142	1,276,412	75,974	10,373,276	1.0%	200,075
1998	8,645,661	69,844	1,478,671	75,536	10,269,712	(1.0%)	197,496
1999	7,707,274	65,403	1,519,141	96,731	9,388,549	(8.6%)	192,647
2000	8,312,296	24,697	1,484,849	78,119	9,899,961	5.4%	197,364
2001	8,141,519	16,790	1,739,099	70,622	9,968,030	0.7%	202,067

⁽¹⁾ Major and national air carriers as classified by the U.S. Department of Transportation ("DOT"). The DOT classifies a "major" air carrier as one with annual operating revenues of greater than \$1 billion and a "national" air carrier as one with annual operating revenues between \$100 million and \$1 billion.

⁽²⁾ 1989-1996 figures represent landings reported for Signatory Airlines only.

Source: Allegheny County Airport Authority

Air Service at PIA

PIA is currently served by the scheduled passenger flights of eight scheduled domestic airlines, eleven commuter airlines and one foreign flag airline. According to the December 2001 edition of the Official Airline Guide, such airlines provide over 567 flights per day to over 111 cities. PIA is also served by seven all-cargo carriers and by various charter airlines. The airlines serving PIA, other than the charter airlines, are listed below.

Scheduled Domestic Airlines	Commuter/Regional Airlines	Foreign Flag Airlines
American Airlines ⁽¹⁾	US Airways Express ⁽²⁾	Air Canada
Continental Airlines ⁽¹⁾	Air Midwest ⁽¹⁾	
Delta Air Lines ⁽¹⁾	Allegheny Airlines ⁽¹⁾	
Northwest Airlines ⁽¹⁾	Chautauqua Airlines ⁽¹⁾	
United Airlines ⁽¹⁾	Colgan Air ⁽¹⁾	
US Airways ⁽¹⁾	Mesa Airlines ⁽¹⁾	Cargo Carriers
Vanguard Airlines	Piedmont Airlines ⁽¹⁾	Airborne Express
AirTran ⁽⁴⁾	Potomac Air	Federal Express
	PSA Airlines ⁽¹⁾	Pioneer Air Cargo
	Trans States Airlines ⁽¹⁾	United Parcel Service
	American Eagle	Wiggins Airways
	Comair (Delta Connection)	Air Tahoma
	Continental Express	Ameriflight
	Mesaba Airlines (Northwest-Airlink)	
	Skyway Airlines	
	United Express	
	Atlantic Southeast (Delta Connection) ⁽⁵⁾	
	Express 1 (Northwest Airlink) ⁽³⁾	

⁽¹⁾ Signatory to an Airline Operating Agreement.

⁽²⁾ All of the US Airways Express commuter airlines are affiliated with US Airways. Allegheny Airlines, Piedmont Airlines and PSA Airlines are wholly-owned subsidiaries of US Airways Group, Inc., the parent of US Airways, Inc.

⁽³⁾ Effective October 29, 2000.

⁽⁴⁾ Effective December 12, 2000.

⁽⁵⁾ Effective March 1, 2001.

⁽⁶⁾ Acquired by AMR, parent of American Airlines, in 2001.

Source: Allegheny County Airport Authority.

The Allegheny County Airport, located approximately nine miles southeast of downtown Pittsburgh, serves as the FAA designated reliever airport for PIA. A number of private aircraft, including corporate jets, are based at the Allegheny County Airport. There is no scheduled commercial air service at the Allegheny County Airport.

Water Transportation

The Port of Pittsburgh marks the origin of the 9,000-mile inland waterway system which reaches markets in 24 states as far south as New Orleans and as far west as Sioux City. With its three major waterways, the Allegheny, Monongahela and Ohio Rivers, the Port of Pittsburgh is the largest inland port in the United States, moving more than 50 million tons of waterborne cargo each year.

Providing efficient, reliable service, Pittsburgh is the origin or destination of more tons of raw materials than any other inland port in the world. Over 24 for-hire terminals exist within the Port of Pittsburgh specializing in the handling of bulk, break-bulk and project cargo. The port complex is served by CSX and the Norfolk Southern railroads, and a number of shortline and switching railroads.

Pittsburgh's southwestern Pennsylvania location is key to interstate shipping. Easily accessible, Pittsburgh is an overnight truck delivery away from half the nation's markets.

Rail Service

Ten percent of the total rail freight in the nation travels through southwestern Pennsylvania. Rail connections and services are available to markets throughout the United States, Canada, and Mexico. On-line trunk railroads serving the SMSA include:

Amtrak
CSX
Norfolk and Southern Railroad

Motor Freight Service

The area is served by over 250 interstate and local trucking firms, 26 freight forwarders, and 81 household goods movers. The City is a strategically located transportation center, with overnight access by motor freight to the major markets of the Northeast and Midwest.

Mass Transit

The Port Authority of Allegheny County (PAT) is the regional transit agency serving the metropolitan area of the City of Pittsburgh, Pennsylvania, is one of the largest public transit operators in the United States and provides public transportation services to nearly 245,000 riders daily and more than 72 million riders annually.

The Pittsburgh area has a strong history of transit use, and the ridership and scale of PAT's operations exceed those of transit systems with service areas of comparable size and population. PAT has a large bus and light-rail fleet and maintains a modern system of exclusive bus roadways. PAT also provides ACCESS, a coordinated, shared-ride paratransit system offering door-to-door, advanced reservation transportation for elderly and handicapped persons.

Passenger Bus Service

Greyhound Bus Lines provides regularly scheduled interstate bus service to the City. The Port Authority of Allegheny County provides local bus and rail service. In addition, a variety of local bus companies provide intrastate, commuting, and charter services.

UTILITIES

Electricity

The City relies primarily upon coal as an energy source and is not heavily dependent upon oil and gas for the production of electricity. Some nuclear energy is used. In the region, the currently installed electric power generation capacity is 80% coal, 15% nuclear and 5% oil, the latter used mostly for peak capacity.

The electric power requirements of residential, commercial and industrial users in the City are provided primarily by the Duquesne Light Company which serves more than 584,000 customers in Allegheny and Beaver Counties. The company completed the sale of its seven power generating facilities to Orion Power MidWest, L.P., a subsidiary of Orion Power Holdings, Inc. in April of 2000. The Company is subject to regulation by the Pennsylvania Public Utilities Commission. However, recent legislation provided for the deregulation of some aspects of the electric utility business.

Natural Gas

The City's suppliers of natural gas are the Equitable Gas Company, Dominion People's Gas Company, and Columbia Gas of Pennsylvania. Together they serve 1,020,000 residential, commercial and industrial customers in Southwestern Pennsylvania and neighboring states.

Water and Sewer

The Pittsburgh Water and Sewer Authority provides water service to the majority of water customers within the City and sewage collection service to the entire City. The climate and river valleys within the City region provide abundant water at reasonable cost.

Sewage treatment service is provided by ALCOSAN. Its service area includes the City, 82 neighboring municipalities in the County and parts of communities in Washington and Westmoreland Counties. ALCOSAN serves an area of 225 square miles with a population of about 1,015,000

DEMOGRAPHIC DATA

Population

Table D-8 shows the population trends for the City, the County and the Pittsburgh Metropolitan Statistical Area (PMSA) from 1970 to 2000.

**TABLE D-8
POPULATION
CITY, COUNTY, MSA
1970 - 2000**

	<u>City of Pittsburgh</u>		<u>Allegheny County⁽¹⁾</u>		<u>Pittsburgh PMSA⁽²⁾</u>	
	<u>Population</u>	<u>Percentage Change</u>	<u>Population</u>	<u>Percentage Change</u>	<u>Population</u>	<u>Percentage Change</u>
1970	520,089		1,085,044		796,229	
1980	423,938	(18.5%)	1,026,147	(5.4%)	813,809	2.2%
1990	369,879	(12.8%)	966,570	(5.8%)	720,256	(11.5%)
2000	336,882	(9.1%)	1,281,666	(8.8%)	740,147	2.7%

(1) Population of the County, excluding residents of the City

(2) Population of the PMSA, excluding residents of the County.

Source: U. S. Census Bureau.

Housing

Housing in Pittsburgh is very affordable when compared to the nation. According to the U.S. Census, Pittsburgh has the third most affordable housing in the nation.

Detached single family housing continues to dominate residential construction in the County, although in Pittsburgh, apartment and townhouse construction predominates.

Because Pittsburgh was almost completely built up by 1950, more than 75% of the housing stock in the City is over forty years old and 50% is over sixty years old. The housing stock of the City, County, PMSA and Commonwealth is characterized as follows:

**TABLE D-9
CITY, COUNTY, PMSA, AND COMMONWEALTH
CHARACTERISTICS OF HOUSING UNITS COMPARISON**

	<u>1970</u>	<u>1980</u>	<u>1990</u>	<u>2000</u>
Total Housing Units:				
City of Pittsburgh	189,840	179,191	170,159	163,366
County of Allegheny	533,520	570,970	580,738	537,150
Pittsburgh PMSA.....	789,771	874,050	879,811	1,046,094
Pennsylvania.....	3,924,757	4,597,412	4,938,140	5,249,750
Percent Owner-Occupied:				
City of Pittsburgh	50.3%	51.2%	52.3%	52.1%
County of Allegheny	64.8%	61.9%	66.2%	67%
Pittsburgh PMSA.....	67.8%	69.0%	72.6%	71.3%
Pennsylvania.....	68.0%	64.2%	70.6%	71.3%
Median Value of Owner-Occupied Housing:				
City of Pittsburgh	\$12,500	\$31,500	\$41,200	NA
County of Allegheny	16,000	43,300	57,100	NA
Pittsburgh PMSA.....	15,300	42,800	51,800	NA
Pennsylvania.....	13,600	39,100	69,700	NA
Number of Persons per Housing Unit:				
City of Pittsburgh	2.8	2.4	2.5	NA
Total County Housing Units:				
Percent of City of Pittsburgh	35.5%	31.4%	29.3%	NA

Source: U. S. Census of Housing

From 1960 to 1990 the number of housing units in the County increased by 15.5%, while the number of housing units in the City decreased by 9.7%. Over the same period, the number of persons per housing unit in the City decreased 19% and the population declined by 27.1%

**TABLE D-10
COUNTY OF ALLEGHENY
AVERAGE SALE PRICE OF RESIDENTIAL PROPERTY
1985 TO 2001
(MARKET TRANSACTIONS)**

<u>Year</u>	<u>Average</u>
1985	\$ 65,052
1986	69,002
1987	74,298
1988	78,609
1989	82,247
1990	88,623
1991	99,818
1992	102,742
1993	105,538
1994	105,399
1995	105,515
1996	106,785
1997	111,831
1998	116,064
1999	124,716
2000	125,525
2001	129,525

Source: West Penn Multi-List

The Redevelopment Authority provides low-cost home improvement loans to low- and moderate-income families utilizing Community Development Block Grant ("CDBG"), HOME, Commonwealth and local funds, and has issued its bonds for this purpose. The Redevelopment Authority also uses CDBG funds to subsidize the interest rate on rehabilitation loans made by private lenders to owners of residential properties and on property rehabilitation loans made by private lenders to businesses in designated neighborhood retail districts. The Redevelopment Authority has functioned as a loan originator under U.S. Department of Housing and Urban Development programs in which capacity the Redevelopment Authority contracts with HUD to originate twenty-year housing rehabilitation loans or rehabilitation grants funded by HUD.

The Redevelopment Authority currently has in various stages of execution redevelopment projects funded in part by the federal government, the Commonwealth and the City.

Income

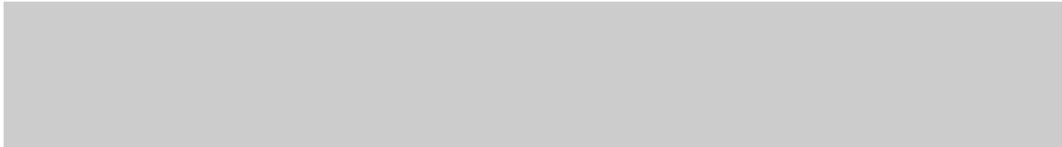
The data in Table D-11 shows the trend in per capita income for the Pittsburgh PMSA, Allegheny County and Commonwealth.

**TABLE D-11
PITTSBURGH PMSA, COUNTY AND COMMONWEALTH
PER CAPITA INCOME**

	<u>1978</u>	<u>1988</u>	<u>1998</u>	<u>% Change 1978 - 1998</u>
Pittsburgh PMSA.....	\$8,601	\$17,201	\$28,149	+63.6%
Allegheny County.....	9,265	19,127	31,665	+65.6%
Pennsylvania.....	8,305	17,323	27,469	+58.6%

APPENDIX E

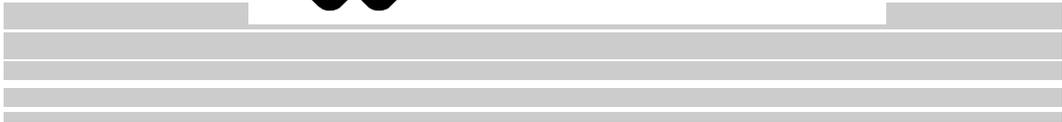
Consulting Engineer's Report



***THE PITTSBURGH WATER AND SEWER
AUTHORITY
PITTSBURGH, PENNSYLVANIA***

***ENGINEERING AND FINANCIAL
FEASIBILITY STUDY
of
PROPOSED CAPITAL IMPROVEMENT PROGRAM
for
2002 SERIES BONDS***

January 2002





January 22, 2002

Mr. Gregory F. Tutsock
Executive Director
The Pittsburgh Water and Sewer Authority
441 Smithfield Street
Pittsburgh, Pennsylvania 15222-2219

Dear Mr. Tutsock:

Re: Engineering and Financial
Feasibility Study
Proposed Capital Improvement Program
2002 Series Bonds

We are pleased to present the attached report which evaluates the ability of The Pittsburgh Water and Sewer Authority to meet its operating expenses and other financial requirements, including the Debt Service Requirements associated with the current 1993 Series A and B Water Revenue Bonds, the 1998 Series A, B and C Water Revenue Bonds, and the proposed 2002 Series A Revenue Bonds.

This study for the five-year period ending December 31, 2006 indicates that the Authority's Rate Covenant of 1.20 will be satisfied in each Fiscal Year of the study period provided that the water rate increases as noted in the report are adopted.

We trust that this report will aid the Authority in arranging financing for the proposed improvements and acquisition of capital assets.

Very truly yours,

A handwritten signature in black ink, appearing to be 'J. F. Tutsock', written over a horizontal line.

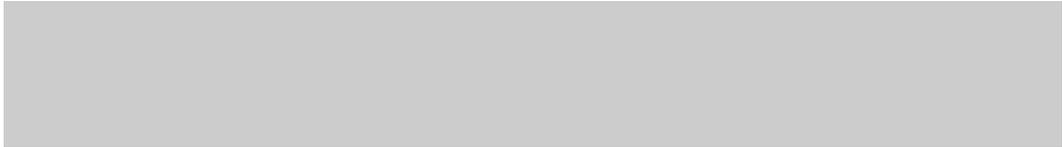
Construction Services Division

TER/hms

Enclosure

441 Smithfield Street
Pittsburgh, Pennsylvania 15222-2219
412-232-4411; Fax 412-232-4420

[THIS PAGE INTENTIONALLY LEFT BLANK]



**THE PITTSBURGH WATER AND SEWER
AUTHORITY
PITTSBURGH, PENNSYLVANIA**

**ENGINEERING AND FINANCIAL
FEASIBILITY STUDY
of
PROPOSED CAPITAL IMPROVEMENT PROGRAM
for
2002 SERIES BONDS**

January 2002



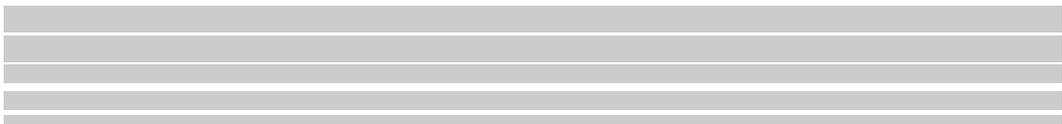
Prepared By: Terry E. Reinhart, P.E.

Project No.: 3548-06



**CHESTER
ENGINEERS**

441 Smithfield Street
Pittsburgh, Pennsylvania 15222-2219
412-232-4411; Fax 412-232-4420



**THE PITTSBURGH WATER AND SEWER AUTHORITY
ENGINEERING AND FINANCIAL
FEASIBILITY STUDY
OF
PROPOSED CAPITAL IMPROVEMENT PROGRAM
FOR
2002 SERIES BONDS**

TABLE OF CONTENTS

<u>Section No.</u>	<u>Description</u>	<u>Page No.</u>
SECTION I	Purpose and Scope of Study	I-1
SECTION II	Proposed Capital Improvement Program	II-1
SECTION III	Proposed Bond Issue	III-1
SECTION IV	Forecast of Operating Expenses	IV-1
SECTION V	Revenue Forecast	V-1
SECTION VI	Rate Covenant Analysis	VI-1
EXHIBIT A	Capital Improvement Program and Projection of Expenditures from Construction Fund	
EXHIBIT B	Earned Interest - Construction Funds	
EXHIBIT C	Earned Interest - Debt Service Funds	
EXHIBIT D	Earned Interest - Debt Service Reserve Funds	

SECTION I PURPOSE AND SCOPE OF STUDY

A. PURPOSE OF STUDY

The annual Debt Service payments of The Pittsburgh Water and Sewer Authority for the current Revenue Bonds are approximately \$31,760,000 and will remain at this level until the year 2029. In 2030 a final payment is reduced to \$14,660,000 following which will be retired. It is the Authority's desire to fund additional capital improvements to the water and sewerage systems owned and operated by the Authority through the year 2003.

A Proposed Capital Improvement Program has been developed that addresses the identified and anticipated needs of the Authority over the next five years (from 2002 to 2006). This total program is included as Exhibit A to this report. This report addresses the proposed Capital Improvements to be funded under the proposed 2002 Bonds. The monies provided from the 2002 Bonds will enable the Authority to continue their Capital Improvement Program through the year 2003. The 2002 Bonds will provide \$90,494,400 for new Capital Improvements to the Authority's Water and Sewer Systems.

The purpose of this study is to evaluate the ability of the Authority to meet its operating expenses and other financial requirements, including Debt Service Requirements associated with the current indebtedness and the proposed 2002 Bonds, during the five-year period ending December 31, 2006.

B. SCOPE OF STUDY

The scope of this study includes a review of the proposed Capital Improvement Program, forecasts of operating expenses and revenue and analysis of the Authority's Rate Covenant based upon these forecasts and proposed bond issue financial requirements. The results of this study are presented in the following sections of this report:

<u>Section</u>	<u>Description</u>
II	Proposed Capital Improvement Program
III	Proposed Bond Issue
IV	Forecast of Operating Expenses
V	Revenue Forecast
VI	Rate Covenant Analysis

Backup data supporting the forecasts are included in Exhibits to the report as entitled in the Table of Contents.

The revenue forecasts as included herein are based upon the following assumed annual water rate increases, across all user segments, for the period ending December 31, 2006:

<u>Year</u>	<u>Percent Increase</u>	<u>Effective Date</u>
2002	9.8%	January 17, 2002
2003	7.0%	January 1, 2003
2004	0.0%	---
2005	0.0%	---
2006	0.0%	---

Based upon the forecasted operating expenses, revenues and annual debt service costs, the rate covenant analysis indicates that the minimum Debt Service Coverage Factor of 1.20 will be satisfied in each Fiscal Year through December 31, 2006.

SECTION II PROPOSED CAPITAL IMPROVEMENT PROGRAM FOR 2002 BOND ISSUE

A. GENERAL

The primary objectives of the Capital Improvement Program are to insure uninterrupted service to the Authority's consumers and to enhance the system's capabilities. The Program was designed to maintain a satisfactory level of service to the Water and Sewer Systems users, to improve operating efficiency, to address future requirements and to assure a safe supply of water to its users. The current program was implemented in 1984 and has resulted in major improvements, additions and rehabilitation to all components of the Water and Sewer Systems.

In order to assure a continued supply of safe drinking water and proper sewer service to the Authority's current and future users and to address future demands on both the Water and Sewer Systems, additional funding is required. In determining the future funding requirements, the following factors and conditions were considered:

- Identified improvements not currently funded.
- Rehabilitation and/or replacement of existing facilities that exceed their useful lives.
- Improvements required for sale of water to communities within the region.
- Water and Sewer System improvements required in association with planned City Capital Improvement Projects, Sports and Exhibition Authority (S&EA) Projects, and Urban Redevelopment Authority (URA) planned redevelopment projects.
- Improvements required under current and anticipated safe drinking water standards.
- Implementation of Combined Sewer Overflow Controls as required by the U.S. Environmental Protection Agency (EPA).

Following is a brief discussion regarding each of these factors:

1. Identified Projects

A number of required improvements to the Water and Sewer Systems have been identified that are not funded under the current Capital Improvement Program. These improvements are critical for the continued safe service to the Authority's users.

2. Rehabilitation / Replacement of Aged Facilities

A significant portion of the Authority's facilities, including the Water System's pump stations, storage facilities and water distribution system and sewage collection system, is over 70 years old, with portions of the Sewer System reaching nearly 150 years in age. Due to the age of these systems, a program to rehabilitate and/or replace a portion of such facilities annually has been established. In order to maintain a high level of continuous service to the Authority's users, such annual programs must be maintained. In addition, changing development conditions within the

service area place higher demands for water service and increased sewage flows in various portions of the system that exceed current system capacities.

3. Regional Sale of Water

The Authority has undertaken a marketing effort to sell potable water to municipalities and municipal authorities within the region. It is also investigating the opportunity to purchase existing water systems located in municipalities adjacent to its current service area. The Authority's water treatment plant is capable of providing significantly more water than currently being used by its existing consumers. Sale of this available water to regional communities can be a source of new revenue to the Authority. To realize this potential revenue, the Authority will be required to construct water lines or improve pumping facilities to serve some of the regional communities.

4. City, S&EA and URA Projects

Under the City of Pittsburgh Capital Improvement Program a number of projects involving major street reconstruction are included. As a part of such reconstruction, water and sewer facilities within the street right-of-way must be replaced. The Pittsburgh Sports and Exhibition Authority is in the process of completing projects on the North Shore of Pittsburgh involving the construction of two new sports stadiums: PNC Park (where the Pittsburgh Pirates play) and Heinz Field (where the Pittsburgh Steelers and University of Pittsburgh play). Work on the sewer and water infrastructure in this development area still needs to be completed. In addition, the S&EA has broken ground on a major convention center project to be located in Pittsburgh. This project will also require upgrading of the sewer and water infrastructure. The Pittsburgh Urban Redevelopment Authority (URA) has a number of industrial and residential redevelopment projects planned in various areas of the City. To serve such redevelopment projects, improvements to the Authority's Water and Sewer Systems are required.

5. Safe Drinking Water Standards

Current and anticipated future drinking water standards promulgated through regulations under the Pennsylvania Safe Drinking Water Act (35 P.S. 721.4) require the production of a higher quality of water through the Authority's water treatment plant. To comply with these standards, improvements and modifications to the facility are necessary.

6. Combined Sewer Overflows

The U.S. Environmental Protection Agency (EPA) has adopted regulations regarding overflows from combined sewers during events, which result in the discharge to receiving water of untreated sanitary sewage. These combined sewer overflows (CSOs) contain pollutants that are present in domestic and industrial wastewaters, as well as those in the urban storm water runoff that enter the combined Sewer System. The EPA regulations require owners of any Sewer System having CSOs to acquire National Pollutant Discharge Elimination System (NPDES) discharge permits for each site. Essentially all of the Authority sewers are combined sewers and there are well over 100 CSOs within the system. The most efficient and cost effective method of eliminating or controlling the CSOs is unknown; however, the Authority will be required over

the next several years to expend significant funds to inventory and monitor combined sewer overflows and to evaluate the impact on receiving streams.

Based upon the previously noted factors and conditions and evaluations of the existing Water and Sewer Systems, a Proposed Capital Improvement Program was developed that addresses the identified and anticipated needs of the Authority over the next five years (from 2002 through 2006). This total program is included in Exhibit A to this report. This feasibility study addresses the proposed Capital Improvements scheduled to be implemented during the period from 2002 through 2003, a portion of which is being funded by the 2002 Bond Issue.

B. WATER DISTRIBUTION SYSTEM

Following is a listing and the estimated cost of each project included in the Proposed Capital Improvements for the Authority's Water Distribution System as addressed in this study:

**PROPOSED CAPITAL IMPROVEMENT PROGRAM
WATER DISTRIBUTION SYSTEM**

<u>Description</u>	<u>2002 Bonds</u>
1 Emergency Water Line Contract	\$400,000
2 Valve Replacement Contract	400,000
3 Water Line Repair and Replacement Contract	2,008,970
4 Purchase Fire Hydrants	150,000
5 Purchase Water Meters	900,000
6 Highland Reservoir No. 1 Emergency Feed	750,000
7 Small Fire Protection System Upgrades	1,559,340
8 Oakland Water Improvements	500,000
9 West End Reconstruction	<u>400,000</u>
Subtotal – 2002 Bond Issue	\$7,068,310
10 12” Relay from Grandview to Merrimac on Various St	879,800
11 Chartiers Avenue 12” Relay	837,717
12 Murray Ave Business District Fire Protection Improve	855,865
13 North Murtland Street Fire Improvement	742,922
14 Greenfield Fire Improvement	2,833,696
15 Large Fire Protection System Upgrades	4,500,000
16 Large Fire Protection System Upgrades	<u>1,250,000</u>
Subtotal – PENNVEST Financing	<u>\$11,900,000</u>
TOTAL WATER DISTRIBUTION SYSTEM	<u>\$18,968,310</u>

C. PUMPING AND STORAGE FACILITIES

Following is a listing of Pumping and Storage Facility projects included in the Proposed Capital Improvement Program:

PROPOSED CAPITAL IMPROVEMENT PROGRAM
PUMPING AND STORAGE FACILITIES

<u>Description</u>	<u>2002 Bonds</u>
1 Update Switchgear at Pump Stations	\$175,000
2 Inspect all Storage Tanks	100,000
3 Convert Chlorine Facilities to Hypochlorite @ P.S.	175,000
4 Highland No. 1 Reservoir Liner & Study	<u>150,000</u>
Subtotal – 2002 Bond Issue	\$600,000
5 Squirrel Hill Tank & Swisshelm District	6,000,000
6 Garfield/Lincoln District Interconnect	1,000,000
7 Bloomfield P.S. Tank and Pressure District	<u>1,500,000</u>
Subtotal – PENNVEST Financing	<u>\$8,500,000</u>
TOTAL PUMPING AND STORAGE FACILITIES	<u>\$9,100,000</u>

D. WATER TREATMENT PLANT

An in-depth evaluation of the Authority's water treatment plant was conducted in early 1994 by the consulting engineering firm of Malcolm Pirnie, Inc. A portion of these improvements was funded under the 1995 Series A Bonds. To continue this program and to make additional improvements that are necessary, an additional \$4,050,000 is included in the proposed 2002 Bonds.

PROPOSED CAPITAL IMPROVEMENT PROGRAM
WATER TREATMENT PLANT

<u>Description</u>	<u>2002 Bonds</u>
1 Filter Backwash Sludge Handling	\$1,050,000
2 Upgrade Switchgear at WTP Facilities	250,000
3 Rehabilitation of Lab	175,000
4 Repair Filter Building Roof	200,000
5 Rehabilitation of Inlet Facilities & Screens	200,000

6	Rehabilitation of Clearwell	200,000
7	Rehabilitation of Clarifier	100,000
8	Cone Valve No. 3 Replacement	141,750
9	SCADA Upgrade	<u>100,000</u>
	TOTAL WATER TREATMENT PLANT	<u>\$2,416,750</u>

E. MISCELLANEOUS TOOLS AND EQUIPMENT

Miscellaneous tools and equipment include funds for the purchase of major equipment items such as large dump trucks, sewer cleaning equipments, backhoes, etc.

PROPOSED CAPITAL IMPROVEMENT PROGRAM
MISCELLANEOUS TOOLS AND EQUIPMENT

	<u>Description</u>	<u>2002 Bonds</u>
1	Miscellaneous Tools, Equipment and Vehicles	<u>\$1,400,000</u>
	TOTAL MISCELLANEOUS TOOLS AND EQUIPMENT	<u>\$1,400,000</u>

E. MISCELLANEOUS PROJECTS

Miscellaneous projects include funds to upgrade the Authority's record keeping system including its system of maps and drawings. Also included are funds to install a computerized maintenance management system to allow maintenance personnel to more efficiently address problems and to maintain detail records of work that is performed.

PROPOSED CAPITAL IMPROVEMENT PROGRAM
MISCELLANEOUS PROJECTS

	<u>Description</u>	<u>2002 Bonds</u>
1	GIS Implementation and Administration	\$2,000,000
2	Records Management Software/Program	250,000
3	Computerized Maintenance Management System	<u>175,000</u>
	TOTAL MISCELLANEOUS PROJECTS	<u>\$2,425,000</u>

F. SEWER SYSTEM

The proposed projects for the Sewer System included in the Proposed Capital Improvement Program are listed below:

PROPOSED CAPITAL IMPROVEMENT PROGRAM
SEWER SYSTEM

	<u>Description</u>	<u>2002 Bonds</u>
1	Sewer Contract	\$1,514,400
2	Manhole/Catch Basin Contract	2,250,000
3	Emergency Contracts	500,000
4	Sewer Lining Contract	2,350,000
5	Sewer Cleaning & TV Inspection	1,320,000
6	120" Sewer Study & Repair @ PNC Park	654,000
7	Sewage Pump Station Modifications	1,750,000
8	CSO Study, Engineering and Flow Monitoring	4,800,000
9	Elimination of Small CSOs	4,500,000
10	Sewer Separation	500,000
11	Jacks Run Sewer Separation	2,000,000
12	Lower Nine Mile Run	3,305,247
13	Shotcrete Rehabilitation Contract	1,404,300
14.	Manhole/Catch Basin Castings	<u>150,000</u>
	TOTAL SEWER PROJECTS	<u>\$26,997,547</u>

G. CITY AND URA PROJECTS

Based upon information provided by the City of Pittsburgh and the Urban Redevelopment Authority, the following projects were included in the Proposed Capital Improvement Program:

PROPOSED CAPITAL IMPROVEMENT PROGRAM
CITY AND URA PROJECTS

<u>1</u>	<u>Description</u>	<u>2002 Bonds</u>
2	Forbes Avenue/Market St. Reconstruction – COP	\$1,350,000
3	Neighborhood Streets – COP	675,000
4	Commercial Street – COP	600,000
5	Crane Avenue Sidewalk Project – COP	50,000
6	Beechwood/Monitor Int. Improvements – COP	8,000
7	Brookline Boulevard - COP	120,000
8	S. S. Industrial Development - URA	3,350,000
9	Nine Mile Run Redevelopment - URA	3,400,000
10	Allequippa Terrace - URA	3,900,000
11.	Bedford Dwellings - URA	3,696,000
12.	New Development Initiatives - URA	250,000
13.	East Liberty Development - URA	200,000
14.	Keystone Opportunity Zones – URA	200,000
15.	Garfield (Hope 6) – URA	1,200,000
16.	Strip District / Lawrenceville – URA	200,000
17.	South Side Riverfront Housing – URA	900,000
18.	10th Street - 12" Water Line – S&EA	258,000
19.	Riverfront Park Water Lines – S&EA	30,000
20.	Duquesne Boulevard 12" Sewer – S&EA	135,000
21.	Storm Sewer Outfalls – S&EA	300,000
22.	Separate Combined Sewers – S&EA	1,622,000
23.	Design Services – S&EA	703,500
24.	Storm Sewer Outfalls – S&EA	1,200,000
25.	Riverfront Park Water Lines – S&EA	150,000
26.	Sanitary Connection to Park Facilities – S&EA	75,000
	Design Services – S&EA	<u>427,500</u>
	TOTAL SEWER PROJECTS	<u>\$25,000,000</u>

E. ENGINEERING, CONTINGENCY AND CONTINUING PROJECTS

Engineering costs represent the costs for study, design and construction services that are directly related to the Capital Improvement Program projects. The Contingency fund is for unexpected projects or projects that were not planned but that become necessary to the operation of the water and sewer system during the life of the CIP. These may include emergency situations such as major waterline breaks and situations where safety becomes an issue. Continuing projects represent projects that the Authority now has under contract that require additional funding to complete work.

PROPOSED CAPITAL IMPROVEMENT PROGRAM
ENGINEERING, CONTINGENCY AND CONTINUING PROJECTS

	<u>Description</u>	<u>2002 Bonds</u>
1	Engineering Department Projects (Reimb.)	\$2,210,000
2	Construction Management	6,500,000
3	Consultant Design Services	3,750,000
4	Contingency Fund	5,000,000
5	Continuing Projects	<u>7,126,793</u>
	TOTAL MISCELLANEOUS PROJECTS	<u>\$24,586,793</u>

H. CAPITAL IMPROVEMENT PROGRAM COST SUMMARY

Following is a summary of the total Proposed Capital Improvement Program as presented herein. This presents the estimated total costs including allowances for engineering and contingencies.

PROPOSED CAPITAL IMPROVEMENT PROGRAM
SUMMARY

	<u>Description</u>	<u>2002 Bonds</u>
1	Water Distribution System	\$7,068,310
2	Pumping and Storage Facilities	600,000
3	Water Treatment Plant	2,416,750
4	Miscellaneous Tools and Equipment	1,400,000
5	Miscellaneous Projects	2,425,000
6	Sewer System	26,997,547
7	City of Pittsburgh, S&EA, and URA Projects	25,000,000
8	Engineering	12,460,000
9	Contingency	5,000,000
10	Continuing Projects	<u>7,126,793</u>
	Total 2002 Bond Issue CIP	\$90,494,400
11	Water Distribution System	8,150,000
12	Pumping and Storage Facilities	<u>8,500,000</u>
	Total PENNVEST Financing	<u>\$16,650,000</u>
	TOTAL CAPITAL IMPROVEMENT PROGRAM	<u>\$107,144,400</u>

I. PROJECTION OF EXPENDITURES

In conjunction with the development of the Proposed Capital Improvement Program, a review was made of each project to determine the anticipated start and ending date of each and the expenditure of funds during that period. It is recognized that although this program is presented as a three-year program, the actual expenditure of funds will extend beyond the three-year period.

Following is a summary of the projection of expenditures for each year. Details as to these expenditures by each project are included in Exhibit A.

SUMMARY
PROJECTION OF EXPENDITURES

<u>Year</u>	<u>PENNVEST Financing</u>	<u>2002 Bond Issue</u>	<u>Total Expenditures</u>
2002	\$5,816,304	\$44,555,300	\$50,371,604
2003	<u>10,833,696</u>	<u>45,939,100</u>	<u>56,772,796</u>
TOTAL	\$16,650,000	\$90,494,400	\$107,144,400

**SECTION III
PROPOSED BOND ISSUE**

A. GENERAL

The Pittsburgh Water and Sewer Authority proposes to issue new Water and Sewer Revenue Bonds on January 17, 2002 to provide \$90,494,400 for the Capital Improvement Program described in Section II of this report.

B. 2002 SERIES WATER AND SEWER REVENUE BOND

The 2002 Series Bonds will provide \$90,494,400 for the Capital Improvements as discussed in Section II of this report. These bonds will have interest rates between 3.5 percent and 5.2 percent and will mature between the years 2004 and 2031.

All bonds will be issued under the terms and conditions of the Trust Indenture dated as of October 15, 1993 as amended by later supplements. Table III-1 indicates the anticipated sources and use of these funds:

**TABLE III-1
2002 SERIES WATER AND SEWER REVENUE BONDS
SOURCE AND USES OF FUNDS**

SOURCES OF FUNDS	
Principal	\$110,070,000.00
Accrued Interest	<u>209,422.59</u>
TOTALS	\$110,279,422.59
 USE OF FUNDS	
Original Issue Discount (OID)	\$1,666,485.55
Deposit to Project Construction Fund	90,494,400.00
Deposit to Capitalized Interest (CIF) Fund	8,719,993.42
Deposit to Debt Service Fund (DSF)	209,422.59
Deposit to Debt Service Reserve Fund (DSRF)	7,433,435.00
Cost of Issuance	1,100,700.00
Gross Bond Insurance Premium	653,498.05
Rounding Amount	<u>1,487.98</u>
TOTALS	\$110,279,422.59

C. TOTAL DEBT SERVICE REQUIREMENTS

The existing total Debt Service Requirements of the Authority based upon the Series A and B of 1993 Bonds and the Series A, B and C of 1998 Bonds is as indicated in Table III-2:

**TABLE III-2
EXISTING DEBT SERVICE PAYMENTS**

<u>Year</u>	<u>1993 Series A & B</u>	<u>1998 Series A</u>	<u>1998 Series B</u>	<u>1998 Series C</u>	<u>Total</u>
2001	\$21,847,860	\$4,725,118	\$0	\$5,185,326	\$31,758,304
2002	21,853,920	4,725,118	0	5,185,326	31,764,364
2003	21,840,995	4,725,118	0	5,185,326	31,751,439
2004	21,852,765	4,725,118	0	5,185,326	31,763,209
2005	21,850,765	4,725,118	0	5,185,326	31,761,209
2006	21,848,802	4,725,118	0	5,185,326	31,759,246

In addition to the new debt service that will result from the issuance of the 2002 bonds, the Authority has obtained several low interest loans through the Pennsylvania Infrastructure Investment Authority (PENNVEST). The PENNVEST program is a state operated revolving fund that provides low interest loans and a limited number of grants to municipal agencies and developers for the construction of infrastructure. The Authority has successfully secured four loans to date and is in the process of preparing an additional project for consideration.

Table III-3 presents a forecast of future annual debt payments, including existing debt, PENNVEST debt, and the debt payments that will result from the 2002 bonds.

**TABLE III-3
FORCASTED DEBT SERVICE PAYMENTS**

<u>Year</u>	<u>Existing Debt Service</u>	<u>PENNVEST Debt Service</u>	<u>2002 Bonds Debt Service</u>	<u>Total</u>
2001	\$31,758,304	\$0	\$0	\$31,758,304
2002	31,764,364	49,984	0	31,814,349
2003	31,751,439	414,436	0	32,165,879
2004	31,763,209	1,382,449	7,042,950	40,188,609
2005	31,761,209	1,382,449	7,039,442	40,183,101
2006	31,759,246	1,382,449	7,040,671	40,180,178

SECTION IV FORECAST OF OPERATING EXPENSES

A. GENERAL

The projection of Operating Expenses of The Pittsburgh Water and Sewer Authority has been forecasted based on a review of the historical expenses and the anticipated level of operations during the forecast period (2002 through 2006). The historical operating expenses have been taken from Audited Financial Statements of the Authority for the years ending December 31, 1996 through December 31, 2000

Operations of The Pittsburgh Water and Sewer Authority through December 31, 1994 were carried out in accordance with the Lease and Management Agreement between the Authority and the City of Pittsburgh, dated March 29, 1984. Pursuant to this agreement the City provided services necessary to operate the Water and Sewer System to the Authority with the Authority reimbursing the City for all Direct Expenses actually incurred and expended by the City. In addition, the Authority paid to the City 1) an amount equal to the Indirect Expenses billed to the Authority by the City, and 2) the Additional Payment.

The Capital Lease Agreement and Cooperation Agreement between the Authority and City as authorized in Resolution No. 47 of 1995 terminated that relationship between the City and the Authority with respect to operation and maintenance of the Water System. The Cooperation Agreement provides for the City to render certain services to the Authority as defined in the agreement. The agreement also provides for the basis of payment for such services to be rendered by the City. As of January 1, 1995 all positions in the City Water Department and certain positions in the Water and Sewer Division of the Department of Engineering and Construction were eliminated from the City of Pittsburgh budget and similar positions were created and filled by the Authority.

The forecasted Operating Expenses are based on the provisions of the Cooperation Agreement.

B. HISTORICAL OPERATING EXPENSES

Table IV-1 presents the Audited Statement of Operating Expenses of the Authority for the years ending December 31, 1996 through December 31, 2000.

TABLE IV-1
HISTORICAL OPERATING EXPENSES
(In Thousands)

	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>
OPERATING EXPENSES					
Direct Operating Expenses	\$15,641	\$15,550	\$15,859	\$16,615	\$21,494
Cooperation Agreement					
Operating Expenses:					
Wastewater Direct Expenses	2,712	2,162	1,491	1,491	-
Indirect Cost Allocation –					
Wastewater	2,118	1,841	1,509	1,509	3,000
Indirect Cost Allocation –					
Water	2,764	2,195	1,850	4,150	4,150
Transfer Costs, Net	1,868	1,782	2,138	1,893	-
Expense of water Provided by					
other entities:					
Subsidy of Customers					
Located In the City	1,670	1,856	2,755	2,771	3,694
Hydrants Located in the City	364	404	295	299	
Amortization of Capitalized					
Lease Assets	<u>2,516</u>	<u>2,516</u>	<u>2,554</u>	<u>2,554</u>	<u>2,554</u>
TOTAL OPERATING EXPENSES	<u>\$29,653</u>	<u>\$28,306</u>	<u>\$28,451</u>	<u>\$31,282</u>	<u>\$34,892</u>

C. FORECAST OF OPERATING EXPENSES

The forecasted Operating Expenses for the study period (2001 through 2006) were based on using the 2001 operating results through October 2001 and the 2002 Budget adopted at the Authority Board's meeting of December 14, 2001. From this information, forecasted Operating Expenses were based on the following:

1. The Pittsburgh Water and Sewer Authority is currently negotiating new collective bargaining agreements with the American Federation of State, County and Municipal Employees (AFSCME), who represent the white-collar employees and foremen. These new agreements will cover the period January 1, 2002 through December 31, 2005. It is anticipated that wage adjustments will not exceed 3% per year for the four-year period covered by the agreements.

It has been assumed that similar salary increases will be negotiated with the other operating unions and given to non-union employees.

2. Utility expenses are forecasted to hold level over the study period. The operating staff has instituted a program to reduce energy costs through its pumping operations. Due to this, together with the anticipated deregulation of the electrical utilities, it is expected that electric power costs to the Authority will remain rather constant over the study period.
3. The forecast for Subsidy to Non-City Water Customers has been held level throughout the study period. This subsidy is a result of the differential in rates between the Authority and those of Pennsylvania- American Water Company. It is anticipated that the City Council will take action to cap the subsidy level at the rate differential currently existing.
4. All other expenses have been forecasted to increase at a rate of one percent per year.

Based upon the above considerations, Table IV-2 presents the Budget for 1998, as amended, and the forecasted 1999 through 2002 Operating Expenses for The Pittsburgh Water and Sewer Authority.

TABLE IV-2
FORCASTED OPERATING EXPENSES
(In Thousands)

	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>
OPERATING EXPENSES						
Direct Operating Expenses	\$24,764	\$25,507	\$26,272	\$27,060	\$27,872	\$28,708
Cooperation Agreement						
Operating Expenses:						
Indirect Cost						
Allocation – Water	3,000	3,000	3,000	3,000	3,000	3,000
Indirect Cost						
Allocation –						
Wastewater	4,150	4,150	4,150	4,150	4,150	4,150
Expense of Water						
Provided by Other						
Entities:						
Subsidy of Customers						
Located In the City	3,600	3,780	3,969	4,167	4,375	4,594
Delinquent Sewer Charges	<u>8,802</u>	<u>3,500</u>	<u>3,500</u>	<u>3,500</u>	<u>3,500</u>	<u>3,500</u>
TOTAL OPERATING EXPENSES	<u>\$44,316</u>	<u>\$39,937</u>	<u>\$40,891</u>	<u>\$41,877</u>	<u>\$42,897</u>	<u>\$43,952</u>

[THIS PAGE INTENTIONALLY LEFT BLANK]

**SECTION V
REVENUE FORECAST**

A. WATER SALES FORECAST

The primary source of income to the Authority is revenue through water sales. To support the operations of the Authority and to provide sufficient funds to pay the total Annual Debt Service Costs, water rates will have to be increased over the next five years. The assumed annual amounts of these increases across all user segments are as indicated below:

<u>Year</u>	<u>Percent Increase</u>	<u>Effective Date</u>
2002	9.8%	January 17, 2002
2003	7.0%	January 1, 2003
2004	0.0%	---
2005	0.0%	---
2006	0.0%	---

The Operating Revenue Forecast as indicated below is based on water sales (assuming a system-wide growth of 0.5% annually and the rate increases noted above), collection of delinquent sewer charges, and the collection of delinquent water charges

HISTORIC OPERATING REVENUE
(In Thousands)

	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>
OPERATING REVENUE					
Residential, Commercial and Industrial Billings	\$59,257	\$53,014	54,438	58,209	56,915
Other Revenue	<u>240</u>	<u>230</u>	<u>398</u>	<u>1,110</u>	<u>2,726</u>
TOTAL OPERATING REVENUE	\$59,497	53,244	54,836	59,319	59,641
OTHER REVENUE					
Interest Revenue	<u>3,460</u>	<u>2,651</u>	<u>2,801</u>	<u>3,130</u>	<u>3,614</u>
TOTAL REVENUE	<u>\$62,957</u>	<u>\$55,895</u>	<u>\$57,637</u>	<u>\$62,449</u>	<u>\$63,255</u>

B. INTEREST EARNINGS

During the study period (2001 through 2006) another source of significant revenue to the Authority is through interest earned on various restricted and unrestricted funds. These funds consist of:

- Construction Funds
- Debt Service Funds
- Debt Service Reserve Funds
- Revenue Fund

Table V-1 is a summary of the forecasted interest earnings from the various funds:

TABLE V-1
INTEREST EARNINGS
(In Thousands)

	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>
Construction Funds	\$2,012	\$1,829	\$593	\$0	\$0	\$0
Debt Service Funds	518	368	378	382	385	388
Debt Service Reserve Funds	575	355	387	387	387	387
Other Funds	353	353	353	353	353	353
Revenue Funds	<u>1,638</u>	<u>966</u>	<u>1,080</u>	<u>1,114</u>	<u>1,026</u>	<u>919</u>
TOTALS	<u>\$5,096</u>	<u>\$3,871</u>	<u>\$2,791</u>	<u>\$2,236</u>	<u>\$2,151</u>	<u>\$2,047</u>

For details in regard to the forecasted interest earnings from each of these funds, see the following Exhibits attached hereto:

<u>Fund</u>	<u>Exhibit</u>
Construction Funds	B
Debt Service Funds	C
Debt Service Reserve Funds	D

C. TRANSFER FROM CONSTRUCTION FUND

The engineering staff employed by the Authority is assigned to projects under the Capital Improvement Program. Therefore, the salary and benefit costs of such employees are reimbursed from the Construction Fund account.

SECTION VI RATE COVENANT ANALYSIS

A. AUTHORITY RATE COVENANT

The Authority's Trust Indenture provides for the fixing and charging by the Authority of rates, rents and charges for the water and sewer service furnished by its Water and Sewer System in accordance with the following Authority Rate Covenant. Under the Indenture, the Authority has covenanted with the owners of the bonds to adopt rates complying with either of the following in each Fiscal Year:

1. The Authority will maintain, charge and collect, so long as any of the bonds shall remain outstanding, reasonable rates, rentals and other charges for the use of the facilities of the Water and Sewer System which (after making due and reasonable allowances for contingencies and a margin of error in the estimates), together with other Receipts and Revenues, including any unrestricted cash and investments accumulated in the Revenue Fund at the beginning of each Fiscal Year, shall be at all times at least sufficient to provide annually;
 - a. Funds to pay all of the Current Expenses of the Authority; and
 - b. An amount equal to 120 percent of the Debt Service Requirements with respect to the bonds authenticated and delivered under the Indenture during the then current Fiscal year of the Authority.

or

2. The Authority will maintain, charge and collect, so long as any of the Bonds shall remain outstanding, reasonable rates, rentals and other charges for the use of the facilities of the Water and Sewer System which (after making due and reasonable allowances for contingencies and a margin of error in the estimates), together with other Receipts and Revenues, for the then current Fiscal Year (exclusive of interest income earned by the Authority on funds other than the Debt Service Reserve Fund; provided, however, that earnings on the Construction Fund may also be included during any construction period, but only to the extent such earnings are expressly required to be either retained in the Construction Fund and may be used to pay debt service on the Bonds or applied directly to payment of debt service of Bonds) shall be at all times at least sufficient to provide annually;
 - a. Funds to pay all of the Current Expenses of the Authority; and
 - b. An amount equal to 100 percent of the Debt Service Requirements with respect to the bonds authenticated and delivered under the Indenture during the then current Fiscal year of the Authority.

The Rate Covenant calculations included herein are based upon Method 1 above.

B. RATE COVENANT CALCULATIONS

Based on the forecasts of 1) Water Sales, 2) Interest Earnings, 3) Operating Expenses, and 4) Debt Service Requirements presented in the proceeding sections of this report, the Coverage Factors for the years 2002 through 2006 were calculated as shown in Table VI-1.

TABLE VI-1
DEBT SERVICE COVERAGE FACTOR
(IN THOUSANDS)

	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>
Cash Beginning of Year	\$37,097,150	\$40,259,081	\$46,132,269	\$42,990,211	\$39,110,075
Operating Revenue	66,842,621	71,879,213	72,238,609	72,599,802	72,962,801
Delinquent Sewer Collections	2,500,000	2,500,000	2,500,000	2,500,000	2,500,000
Interest Earnings	3,870,500	2,790,900	2,235,600	2,151,000	2,047,400
Transfer from Construction Fund	750,000	810,000	1,000,000	1,000,000	1,000,000
Tap Fee Collections	150,000	150,000	150,000	150,000	150,000
Other Income	<u>800,000</u>	<u>800,000</u>	<u>800,000</u>	<u>800,000</u>	<u>800,000</u>
Total Available funds	\$112,010,272	\$119,189,194	\$125,056,478	\$122,191,013	\$118,570,276
Operating Expenses	<u>39,936,841</u>	<u>40,891,047</u>	<u>41,877,658</u>	<u>42,897,837</u>	<u>43,952,788</u>
Net Available for Debt Service	\$72,073,430	\$78,298,148	\$83,174,820	\$79,293,176	\$74,617,488
Debt Service Requirements	\$31,814,349	\$32,165,879	\$40,188,609	\$40,183,101	\$40,180,178
Coverage Factor	2.27	2.43	2.07	1.97	1.86
Required Coverage	1.20	1.20	1.20	1.20	1.20
Cash at End of Year	\$40,259,081	\$46,132,269	\$42,990,211	\$39,110,075	\$34,437,309

As can be seen from review of Table VI-1, the Debt Service Coverage Factor of 1.20 (minimum) required by Method 1 of the Authority Rate Covenant is satisfied in each year of the study period (2002 through 2006).

*THE PITTSBURGH WATER AND SEWER AUTHORITY
PITTSBURGH, PENNSYLVANIA*

*ENGINEERING AND FINANCIAL FEASIBILITY STUDY
OF
PROPOSED CAPITAL IMPROVEMENT PROGRAM
FOR
2002 SERIES BONDS*

EXHIBIT A

*CAPITAL IMPROVEMENT PROGRAM AND PROJECTION
OF
EXPENDITURES FROM THE CONSTRUCTION FUND*

**THE PITTSBURGH WATER AND SEWER AUTHORITY
CAPITAL IMPROVEMENT PROGRAM - PRELIMINARY LIST OF PROJECTS
2002 SERIES BOND ISSUE**

"A" Rank Project Codes: f = fire protection improvement, r = regulatory compliance, h = public health, s = public safety, m = mandated by other agencies, p = protection of infrastructure.

Exh No.	Line	Description	Rank	2002	2003	2004	2005	2006	TOTAL
WATER DISTRIBUTION SYSTEM PROPOSED 2002 BONDS									
6A-1	1	Emergency Water Line Contract	A (s)	200,000	200,000	-	-	-	400,000
6A-1	2	Valve Replacement Contract	A(p)	-	400,000	-	-	-	400,000
6A-1	3	Water Line Repair and Replacement Contract	A (h,s)	1,108,970	900,000	-	-	-	2,008,970
6A-1	4	Purchase Fire Hydrants	A (s)	75,000	75,000	-	-	-	150,000
6A-1	5	Purchase Water Meters	A (p)	450,000	450,000	-	-	-	900,000
6A-1	6	Highland #2 to Highland #1 Emergency Feed	A (s)	750,000	-	-	-	-	750,000
6A-1	7	Small Fire Protection System Upgrades	A (f)	809,340	750,000	-	-	-	1,559,340
6A-1	8	Oakland Water Improvements	A (h,s)	100,000	400,000	-	-	-	500,000
6A-1	9	West End Reconstruction	A(s)	-	400,000	-	-	-	400,000
TOTAL CAPITAL PROJECTS				3,493,310	3,575,000	-	-	-	7,068,310
PROPOSED FUTURE BONDS									
7A-1	1	Emergency Water Line Contract	A (s)	-	-	200,000	200,000	200,000	600,000
7A-1	2	Valve Replacement Contract	A(p)	-	-	500,000	250,000	500,000	1,250,000
7A-1	3	Water Line Repair and Replacement Contract	A (h,s)	-	-	1,050,000	1,050,000	1,050,000	3,150,000
7A-1	4	Purchase Fire Hydrants	A (s)	-	-	75,000	75,000	75,000	225,000
7A-1	5	Purchase Water Meters	A (p)	-	-	50,000	50,000	50,000	150,000
7A-1	6	Install 3 Lines in 60" from WTP to Montrose	A (s)	-	-	6,000,000	-	-	6,000,000
7A-1	7	Small Fire Protection System Upgrades	A (f)	-	-	1,000,000	1,000,000	1,000,000	3,000,000
TOTAL CAPITAL PROJECTS				-	-	8,875,000	2,625,000	2,875,000	14,375,000
PENNVEST PROJECTS									
1	12" Relay from Grandview to Merrimac on Various St	A (p)	879,800	-	-	-	-	-	879,800
2	Chartiers Avenue 12" Relay	A (p)	837,717	-	-	-	-	-	837,717
3	Murray Ave Business District Fire Protection Improve	A (f)	855,865	-	-	-	-	-	855,865
4	North Murkland Street Fire Improvement	A (f)	742,922	-	-	-	-	-	742,922
5	Greenfield Fire Improvement	A (f)	-	2,833,696	-	-	-	-	2,833,696
6	Large Fire Protection System Upgrades	A (f)	-	2,000,000	2,500,000	-	-	-	4,500,000
7	Large Fire Protection System Upgrades	A (f)	-	-	-	1,250,000	-	-	1,250,000
TOTAL PROPOSED PENNVEST				3,316,304	4,833,696	2,500,000	1,250,000	-	11,900,000
Proposed 2002 Bonds				3,493,310	3,575,000	-	-	-	7,068,310
Proposed Future Projects				-	-	8,875,000	2,625,000	2,875,000	14,375,000
PENNVEST Financing				3,316,304	4,833,696	2,500,000	1,250,000	-	11,900,000
TOTAL				6,809,614	8,408,696	11,375,000	3,875,000	2,875,000	33,343,310

SUMMARY:

**THE PITTSBURGH WATER AND SEWER AUTHORITY
CAPITAL IMPROVEMENT PROGRAM - PRELIMINARY LIST OF PROJECTS
2002 SERIES BOND ISSUE**

"A" Rank Project Codes: f = fire protection improvement, r = regulatory compliance, h = public health, s = public safety, m = mandated by other agencies, p = protection of infrastructure.

Exh No.	Line	Description	Rank	2002	2003	2004	2005	2006	TOTAL
PUMPING AND STORAGE SYSTEM PROPOSED 2002 BONDS									
6A-2	1	Update Switchgear at Pump Stations	A(p)	-	175,000	-	-	-	175,000
6A-2	2	Inspect all Storage Tanks	A	50,000	50,000	-	-	-	100,000
6A-2	3	Convert Chlorine Facilities to Hypochlorite @ P.S.	A(s)	-	175,000	-	-	-	175,000
6A-2	4	Highland No. 1 Reservoir Liner & Study	A (p)	150,000	-	-	-	-	150,000
TOTAL CAPITAL PROJECTS				200,000	400,000	-	-	-	600,000
PROPOSED FUTURE BONDS									
7A-2	1	Update Switchgear at Pump Stations	A(p)	-	-	300,000	400,000	500,000	1,200,000
7A-2	2	Check Valves at Bruecken P.S.	A (p)	-	-	600,000	-	-	600,000
7A-2	3	Highland No. 1 Reservoir Liner & Study	A (p)	-	-	3,000,000	3,000,000	-	6,000,000
TOTAL CAPITAL PROJECTS				-	-	3,900,000	3,400,000	500,000	7,800,000
PENNVEST PROJECTS									
1		Squirrel Hill Tank & Swisshelm District	A (f,m)	2,000,000	4,000,000	-	-	-	6,000,000
2		Garfield/Lincoln District Interconnect	A (f,r)	-	1,000,000	-	-	-	1,000,000
3		Bloomfield P.S. Tank and Pressure District	A (p)	500,000	1,000,000	-	-	-	1,500,000
TOTAL PROPOSED PENNVEST				2,500,000	6,000,000	-	-	-	8,500,000
SUMMARY:									
Proposed 2002 Bonds				200,000	400,000	-	-	-	600,000
Proposed Future Projects				-	-	3,900,000	3,400,000	500,000	7,800,000
PENNVEST Financing				2,500,000	6,000,000	-	-	-	8,500,000
TOTAL				2,700,000	6,400,000	3,900,000	3,400,000	500,000	16,900,000

**THE PITTSBURGH WATER AND SEWER AUTHORITY
CAPITAL IMPROVEMENT PROGRAM - PRELIMINARY LIST OF PROJECTS
2002 SERIES BOND ISSUE**

"A" Rank Project Codes: f = fire protection improvement, r = regulatory compliance, h = public health, s = public safety, m = mandated by other agencies, p = protection of infrastructure.

Exh No.	Line	Description	Rank	2002	2003	2004	2005	2006	TOTAL
TREATMENT PLANT PROPOSED 2002 BONDS									
6A-3	1	Filter Backwash Sludge Handling	A (f)	250,000	800,000	-	-	-	1,050,000
6A-3	2	Upgrade Switchgear at WTP Facilities	A (p)	-	250,000	-	-	-	250,000
6A-3	3	Rehabilitation of Lab	A	-	175,000	-	-	-	175,000
6A-3	4	Repair Filter Building Roof	A (p)	200,000	-	-	-	-	200,000
6A-3	5	Rehabilitation of Inlet Facilities & Screens	A (f)	100,000	100,000	-	-	-	200,000
6A-3	6	Rehabilitation of Clearwell	A (f)	100,000	100,000	-	-	-	200,000
6A-3	7	Rehabilitation of Clarifier	A (f)	100,000	-	-	-	-	100,000
6A-3	8	Cone Valve #3 Replacement	A(r,h)	141,750	-	-	-	-	141,750
6A-3	9	SCADA Upgrade	A(p)	50,000	50,000	-	-	-	100,000
TOTAL CAPITAL PROJECTS				941,750	1,475,000	-	-	-	2,416,750
PROPOSED FUTURE BONDS									
7A-3	1	Filter Backwash Sludge Handling	A (f)	-	-	850,000	-	-	850,000
7A-3	2	Upgrade Switchgear at WTP Facilities	A (p)	-	-	300,000	300,000	300,000	900,000
7A-3	3	Rehabilitation of Inlet Facilities & Screens	A (f)	-	-	1,500,000	1,500,000	-	3,000,000
TOTAL CAPITAL PROJECTS				-	-	2,650,000	1,800,000	300,000	4,750,000
SUMMARY:									
Proposed 2002 Bonds				941,750	1,475,000	-	-	-	2,416,750
Proposed Future Projects				-	-	2,650,000	1,800,000	300,000	4,750,000
PENNVEST Financing				-	-	-	-	-	-
TOTAL				941,750	1,475,000	2,650,000	1,800,000	300,000	7,166,750

**THE PITTSBURGH WATER AND SEWER AUTHORITY
CAPITAL IMPROVEMENT PROGRAM - PRELIMINARY LIST OF PROJECTS
2002 SERIES BOND ISSUE**

"A" Rank Project Codes: f = fire protection improvement, r = regulatory compliance, h = public health, s = public safety, m = mandated by other agencies, p = protection of infrastructure.

Exh No.	Line	Description	Rank	2002	2003	2004	2005	2006	TOTAL
6A-4	1	Miscellaneous Tools, Equipment & Vehicles	A (p)	500,000	900,000	-	-	-	1,400,000
		TOTAL CAPITAL PROJECTS		500,000	900,000	-	-	-	1,400,000
7A-4	1	Miscellaneous Tools, Equipment & Vehicles	A (p)	-	-	225,000	225,000	225,000	675,000
		TOTAL CAPITAL PROJECTS		-	-	225,000	225,000	225,000	675,000
SUMMARY:		Proposed 2002 Bonds		500,000	900,000	-	-	-	1,400,000
		Proposed Future Projects		-	-	225,000	225,000	225,000	675,000
		PENNVEST Financing		-	-	-	-	-	-
		TOTAL		500,000	900,000	225,000	225,000	225,000	2,075,000

**THE PITTSBURGH WATER AND SEWER AUTHORITY
CAPITAL IMPROVEMENT PROGRAM - PRELIMINARY LIST OF PROJECTS
2002 SERIES BOND ISSUE**

"A" Rank Project Codes: f = fire protection improvement, r = regulatory compliance, h = public health, s = public safety, m = mandated by other agencies, p = protection of infrastructure.

Exh No.	Line	Description	Rank	2002	2003	2004	2005	2006	TOTAL
MISCELLANEOUS PROPOSED 2002 BONDS									
6A-5	1	GIS Implementation and Administration	A (f)	300,000	1,700,000	-	-	-	2,000,000
6A-5	2	Records Management Software/Program	A (p,r)	75,000	175,000	-	-	-	250,000
6A-5	3	Computerized Maintenance Mgmt. System	A(p)	-	175,000.00	-	-	-	175,000
TOTAL CAPITAL PROJECTS				375,000	2,050,000	-	-	-	2,425,000
PROPOSED FUTURE BONDS									
7A-5	1	GIS Implementation and Administration	A (f)	-	-	500,000	500,000	500,000	1,500,000
7A-5	2	Records Management Software/Program	A (p,r)	-	-	75,000	75,000	75,000	225,000
7A-5	3	Computerized Maintenance Mgmt. System	A(p)	-	-	100,000	-	-	100,000
TOTAL CAPITAL PROJECTS				-	-	675,000	575,000	575,000	1,825,000
SUMMARY									
Proposed 2002 Bonds				375,000	2,050,000	-	-	-	2,425,000
Proposed Future Projects				-	675,000	575,000	575,000	575,000	1,825,000
PENNVEST Financing				-	-	-	-	-	-
TOTAL				375,000	2,050,000	575,000	575,000	575,000	4,250,000

**THE PITTSBURGH WATER AND SEWER AUTHORITY
CAPITAL IMPROVEMENT PROGRAM - PRELIMINARY LIST OF PROJECTS
2002 SERIES BOND ISSUE**

"A" Rank Project Codes: f = fire protection improvement, r = regulatory compliance, h = public health, s = public safety, m = mandated by other agencies, p = protection of infrastructure.

Exh No.	Line	Description	Rank	2002	2003	2004	2005	2006	TOTAL
SEWER SYSTEM PROPOSED 2002 BONDS									
6B-1	1	Sewer Contract	A(p,h)	764,000	750,000	-	-	-	1,514,000
6B-1	2	Manhole/Catch Basin Contract	A(p,h)	1,250,000	1,000,000	-	-	-	2,250,000
6B-1	3	Emergency Contracts	A(p,h)	250,000	250,000	-	-	-	500,000
6B-1	4	Sewer Lining Contract	A(p,h)	1,600,000	750,000	-	-	-	2,350,000
6B-1	5	Sewer Cleaning & TV Inspection	A(p,h)	570,000	750,000	-	-	-	1,320,000
6B-1	6	120" Sewer Study & Repair @ PNC Park	A(p)	654,000	0	-	-	-	654,000
6B-1	7	Sewage Pump Station Modifications	A(r,p)	250,000	1,500,000	-	-	-	1,750,000
6B-1	8	CSO Study, Engineering and Flow Monitoring	A(r)	2,000,000	2,800,000	-	-	-	4,800,000
6B-1	9	Elimination of Small CSOs	A(r)	1,500,000	3,000,000	-	-	-	4,500,000
6B-1	10	Frankstown Ave. Sewer Separation	A(r)	0	500,000	-	-	-	500,000
6B-1	11	Jacks Run Sewer Separation	A(r)	800,000	1,200,000	-	-	-	2,000,000
6B-1	12	Lower Nine Mile Run	A(r)	1,655,247	1,650,000	-	-	-	3,305,247
6B-1	13	Shotcrete Rehabilitation Contract	A(r)	654,300	750,000	-	-	-	1,404,300
6B-1	14	Manhole/Catch Basin Castings	A(r)	75,000	75,000	-	-	-	150,000
TOTAL CAPITAL PROJECTS				12,022,547	14,975,000	-	-	-	26,997,547
PROPOSED FUTURE BONDS									
7B-1	1	Sewer Contract	A(p,h)	-	-	750,000	750,000	750,000	2,250,000
7B-1	2	Manhole/Catch Basin Contract	A(p,h)	-	-	1,200,000	1,200,000	1,200,000	3,600,000
7B-1	3	Emergency Contracts	A(p,h)	-	-	200,000	200,000	200,000	600,000
7B-1	4	Sewer Lining Contract	A(p,h)	-	-	850,000	850,000	850,000	2,550,000
7B-1	5	Sewer Cleaning & TV Inspection	A(p,h)	-	-	750,000	750,000	750,000	2,250,000
7B-1	6	CSO Study, Engineering and Flow Monitoring	A(r)	-	-	1,000,000	500,000	0	1,500,000
7B-1	7	Elimination of Small CSOs	A(r)	-	-	4,500,000	4,500,000	4,500,000	13,500,000
7B-1	8	Close Large CSOs	A(r)	-	-	10,000,000	10,000,000	10,000,000	30,000,000
7B-1	9	Sewer Separation	A(r)	-	-	10,000,000	10,000,000	10,000,000	30,000,000
7B-1	10	Upper Basin Nine Mile Run	A(r)	-	-	3,000,000	3,000,000	3,000,000	9,000,000
7B-1	11	Manhole/Catch Basin Castings	A(r)	-	-	75,000	75,000	75,000	225,000
TOTAL CAPITAL PROJECTS				-	-	32,325,000	31,825,000	31,325,000	95,475,000
SUMMARY									
Proposed 2002 Bonds				12,022,547	14,975,000	-	-	-	26,997,547
Proposed Future Projects				-	-	32,325,000	31,825,000	31,325,000	95,475,000
PENNVEST Financing				-	-	-	-	-	-
TOTAL				12,022,547	14,975,000	32,325,000	31,825,000	31,325,000	122,472,547

**THE PITTSBURGH WATER AND SEWER AUTHORITY
CAPITAL IMPROVEMENT PROGRAM - PRELIMINARY LIST OF PROJECTS
2002 SERIES BOND ISSUE**

"A" Rank Project Codes: f = fire protection improvement, r = regulatory compliance, h = public health, s = public safety, m = mandated by other agencies, p = protection of infrastructure.

Exh No.	Line	Description	Rank	2002	2003	2004	2005	2006	TOTAL
CITY, URA, AND S&EA PROJECTS PROPOSED 2002 BONDS									
CITY OF PITTSBURGH									
6C-1	1	Forbes Avenue/Market St. Reconstruction	A (m)	-	1,350,000	-	-	-	1,350,000
6C-1	2	Neighborhood Streets	A (m)	275,000	400,000	-	-	-	675,000
6C-1	3	Commercial Street	A (m)	250,000	350,000	-	-	-	600,000
6C-1	4	Crane Avenue Sidewalk Project	A (m)	50,000	-	-	-	-	50,000
6C-1	5	Beechwood/Monitor Int. Improvements	A (m)	8,000	-	-	-	-	8,000
6C-1	6	Brookline Boulevard	A (m)	-	120,000	-	-	-	120,000
URBAN REDEVELOPMENT AUTHORITY (URA)									
6C-1	7	S. S. Industrial Development - URA	A (m)	1,450,000	1,900,000	-	-	-	3,350,000
6C-1	8	Nine Mile Run Redevelopment - URA	A (m)	1,225,000	2,175,000	-	-	-	3,400,000
6C-1	9	Allequippa Terrace - URA	A (m)	1,950,000	1,950,000	-	-	-	3,900,000
6C-1	10	Bedford Dwellings - URA	A (m)	1,200,000	2,496,000	-	-	-	3,696,000
6C-1	11	New Development Initiatives - URA	A (m)	-	250,000	-	-	-	250,000
6C-1	12	East Liberty Development - URA	A (m)	200,000	-	-	-	-	200,000
6C-1	13	Keystone Opportunity Zones	A (m)	200,000	-	-	-	-	200,000
6C-1	14	Garfield (Hope 6)	A (m)	200,000	1,000,000	-	-	-	1,200,000
6C-1	15	Strip District / Lawrenceville	A (m)	200,000	-	-	-	-	200,000
6C-1	16	South Side Riverfront Housing	A (m)	-	900,000	-	-	-	900,000
CONVENTION CENTER – S&EA									
6C-1	17	10th Street - 12" Water Line	A (m)	258,000	-	-	-	-	258,000
6C-1	18	Riverfront Park Water Lines	A (m)	30,000	-	-	-	-	30,000
6C-1	19	Duquesne Boulevard 12" Sewer	A (m)	135,000	-	-	-	-	135,000
6C-1	20	Storm Sewer Outfalls	A (m)	-	300,000	-	-	-	300,000
6C-1	21	Separate Combined Sewers	A (m)	1,622,000	-	-	-	-	1,622,000
6C-1	22	Design Services	A (m)	486,700	216,800	-	-	-	703,500
NORTH SHORE RIVERFRONT PARK – S&EA									
6C-1	23	Storm Sewer Outfalls	A (m)	1,200,000	-	-	-	-	1,200,000
6C-1	24	Riverfront Park Water Lines	A (m)	75,000	75,000	-	-	-	150,000
6C-1	25	Sanitary Connection to Park Facilities	A (m)	37,500	37,500	-	-	-	75,000
6C-1	26	Design Services	A (m)	393,700	33,800	-	-	-	427,500
TOTAL CAPITAL PROJECTS				11,445,900	13,554,100	-	-	-	25,000,000
PROPOSED FUTURE BONDS									
7C-1	-	Future City, URA and S&EA Projects	A(m)	-	-	9,550,000	8,000,000	8,000,000	25,550,000
TOTAL CAPITAL PROJECTS				-	-	9,550,000	8,000,000	8,000,000	25,000,000

**THE PITTSBURGH WATER AND SEWER AUTHORITY
CAPITAL IMPROVEMENT PROGRAM - PRELIMINARY LIST OF PROJECTS
2002 SERIES BOND ISSUE**

"A" Rank Project Codes: f = fire protection improvement, r = regulatory compliance, h = public health, s = public safety, m = mandated by other agencies, p = protection of infrastructure.

SUMMARY								
Proposed 2002 Bonds	11,445,900	13,554,100	-	-	-	-	-	25,000,000
Proposed Future Projects	-	-	9,550,000	8,000,000	8,000,000	8,000,000	8,000,000	25,000,000
PENNVEST Financing	-	-	-	-	-	-	-	-
TOTAL	11,445,900	13,554,100	9,550,000	8,000,000	8,000,000	8,000,000	8,000,000	50,550,000

**THE PITTSBURGH WATER AND SEWER AUTHORITY
CAPITAL IMPROVEMENT PROGRAM - PRELIMINARY LIST OF PROJECTS
2002 SERIES BOND ISSUE**

"A" Rank Project Codes: f = fire protection improvement, r = regulatory compliance, h = public health, s = public safety, m = mandated by other agencies, p = protection of infrastructure.

Exh No.	Line	Description	Rank	2002	2003	2004	2005	2006	TOTAL
ENGINEERING & CONSTRUCTION MANAGEMENT									
PROPOSED 2002 BONDS									
6D-1	1	Engineering Department Projects (Reimb.)	A (p)	1,075,000	1,135,000	-	-	-	2,210,000
6D-1	2	Construction Management	A (p)	3,000,000	3,500,000	-	-	-	6,500,000
6D-1	3	Consultant Design Services	A (p)	1,875,000	1,875,000	-	-	-	3,750,000
TOTAL CAPITAL PROJECTS				5,950,000	6,510,000	-	-	-	12,460,000
PROPOSED FUTURE BONDS									
7D-1	1	Engineering Department Projects (Reimb.)	A (p)	-	-	1,000,000	1,000,000	1,000,000	3,000,000
7D-1	2	Construction Management	A (p)	-	-	3,500,000	4,000,000	4,000,000	11,500,000
7D-1	3	Consultant Design Services	A (p)	-	-	750,000	750,000	750,000	2,250,000
TOTAL CAPITAL PROJECTS				-	-	5,250,000	5,750,000	5,750,000	16,750,000
SUMMARY				-	6,510,000	-	-	-	12,460,000
Proposed 2002 Bonds				5,950,000	6,510,000	5,250,000	5,750,000	5,750,000	16,750,000
Proposed Future Projects				-	-	-	-	-	-
PENNVEST Financing				-	-	-	-	-	-
TOTAL				5,950,000	6,510,000	5,250,000	5,750,000	5,750,000	29,210,000

**THE PITTSBURGH WATER AND SEWER AUTHORITY
CAPITAL IMPROVEMENT PROGRAM - PRELIMINARY LIST OF PROJECTS
2002 SERIES BOND ISSUE**

"A" Rank Project Codes: f = fire protection improvement, r = regulatory compliance, h = public health, s = public safety, m = mandated by other agencies, p = protection of infrastructure.

Exh No.	Line	Description	Rank	2002	2003	2004	2005	2006	TOTAL
CONTINGENCY									
PROPOSED 2002 BONDS									
6E-1	1	Bond Contingency	A	2,500,000	2,500,000	-	-	-	5,000,000
6E-1	2	Continuing Projects	A	7,126,793	-	-	-	-	7,126,793
		TOTAL CAPITAL PROJECTS		9,626,793	2,500,000	0	0	0	12,126,793
PROPOSED FUTURE BONDS									
7E-1		Bond Contingency	A	-	-	2,500,000	2,500,000	2,500,000	7,500,000
		TOTAL CAPITAL PROJECTS		-	-	2,500,000	2,500,000	2,500,000	7,500,000
SUMMARY									
		Proposed 2002 Bonds		9,262,793	2,500,000	-	-	-	12,126,793
		Proposed Future Projects		-	-	2,500,000	2,500,000	2,500,000	7,500,000
		PENNVEST Financing		-	-	-	-	-	-
		TOTAL		9,626,793	2,500,000	2,500,000	2,500,000	2,500,000	19,626,793

**THE PITTSBURGH WATER AND SEWER AUTHORITY
CAPITAL IMPROVEMENT PROGRAM - PRELIMINARY LIST OF PROJECTS
2002 SERIES BOND ISSUE**

"A" Rank Project Codes: f = fire protection improvement, r = regulatory compliance, h = public health, s = public safety, m = mandated by other agencies, p = protection of infrastructure.

Exh No.	Line	Description	Rank	2002	2003	2004	2005	2006	TOTAL
WATER SYSTEM									
		Proposed 2002 Bonds		3,493,310	3,575,000	-	-	-	7,068,310
		Proposed Future Projects		-	-	8,875,000	2,625,000	2,875,000	14,375,000
		PENNVEST Financing		3,316,304	4,833,696	2,500,000	1,250,000	-	11,900,000
		TOTAL		6,809,614	8,408,696	11,375,000	3,875,000	2,875,000	33,343,310
PUMPING AND STORAGE SYSTEM									
		Proposed 2002 Bonds		200,000	400,000	-	-	-	600,000
		Proposed Future Projects		-	-	3,900,000	3,400,000	500,000	7,800,000
		PENNVEST Financing		2,500,000	6,000,000	-	-	-	8,500,000
		TOTAL		2,700,000	6,400,000	3,900,000	3,400,000	500,000	16,900,000
TREATMENT PLANT									
		Proposed 2002 Bonds		941,750	1,475,000	-	-	-	2,416,750
		Proposed Future Projects		-	-	2,650,000	1,800,000	300,000	4,750,000
		PENNVEST Financing		-	-	-	-	-	-
		TOTAL		941,750	1,475,000	2,650,000	1,800,000	300,000	7,166,750
MISCELLANEOUS TOOLS AND EQUIPMENT									
		Proposed 2002 Bonds		500,000	900,000	-	-	-	1,400,000
		Proposed Future Projects		-	-	225,000	225,000	225,000	675,000
		PENNVEST Financing		-	-	-	-	-	-
		TOTAL		500,000	900,000	225,000	225,000	225,000	2,075,000
MISCELLANEOUS PROJECTS									
		Proposed 2002 Bonds		375,000	2,050,000	-	-	-	2,425,000
		Proposed Future Projects		-	-	675,000	575,000	575,000	1,825,000
		PENNVEST Financing		-	-	-	-	-	-
		TOTAL		375,000	2,050,000	675,000	575,000	575,000	4,250,000
SEWER SYSTEM									
		Proposed 2002 Bonds		12,022,547	14,975,000	-	-	-	26,997,547

**THE PITTSBURGH WATER AND SEWER AUTHORITY
CAPITAL IMPROVEMENT PROGRAM - PRELIMINARY LIST OF PROJECTS
2002 SERIES BOND ISSUE**

"A" Rank Project Codes: f = fire protection improvement, r = regulatory compliance, h = public health, s = public safety, m = mandated by other agencies, p = protection of infrastructure.

	2002	2003	2004	2005	2006	TOTAL
Proposed Future Projects	-	-	32,325,000	31,825,000	31,325,000	95,475,000
PENNVEST Financing	-	-	-	-	-	-
TOTAL	12,022,547	14,975,000	32,325,000	31,825,000	31,325,000	122,472,547
CITY OF PITTSBURGH, S&EA, URA AND OTHER PROJECTS						
Proposed 2002 Bonds	11,445,900	13,554,100	-	-	-	25,000,000
Proposed Future Projects	-	-	9,550,000	8,000,000	8,000,000	25,550,000
PENNVEST Financing	-	-	-	-	-	-
TOTAL	11,445,900	13,554,100	9,550,000	8,000,000	8,000,000	50,550,000
ENGINEERING AND CONSTRUCTION MANAGEMENT						
Proposed 2002 Bonds	5,950,000	6,510,000	-	-	-	12,460,000
Proposed Future Projects	-	-	5,250,000	5,750,000	5,750,000	16,750,000
PENNVEST Financing	-	-	-	-	-	-
TOTAL	5,950,000	6,510,000	5,250,000	5,750,000	5,750,000	29,210,000
CONTINGENCY						
Proposed 2002 Bonds	9,626,793	2,500,000	-	-	-	12,126,793
Proposed Future Projects	-	-	2,500,000	2,500,000	2,500,000	7,500,000
PENNVEST Financing	-	-	-	-	-	-
TOTAL	9,626,793	2,500,000	2,500,000	2,500,000	2,500,000	19,626,793
TOTALS						
Proposed 2002 Bonds	44,555,300	45,939,100	-	-	-	90,494,400
Proposed Future Projects	-	-	65,950,000	56,700,000	52,050,000	174,700,000
PENNVEST Financing	5,816,304	10,833,696	2,500,000	1,250,000	-	20,400,000
TOTAL	50,371,604	56,772,796	68,450,000	57,950,000	52,050,000	285,594,400

*THE PITTSBURGH WATER AND SEWER AUTHORITY
PITTSBURGH, PENNSYLVANIA*

*ENGINEERING AND FINANCIAL FEASIBILITY STUDY
OF
PROPOSED CAPITAL IMPROVEMENT PROGRAM
FOR
2002 SERIES BONDS*

EXHIBIT B

*EARNED INTEREST
FROM
CONSTRUCTION FUNDS*

**THE PITTSBURGH WATER AND SEWER AUTHORITY
INTEREST INCOME FROM 2002 CONSTRUCTION FUND**

Date	Beginning Balance	Drawdown	2.50% Interest	Investment Earnings	Ending Balance	Annual Draw	Annual Earnings
Jan-02					90,494,400.00		
Jan-02	90,494,400.00	2,500,000.00	2.50%	188,530.00	87,994,400.00		
Feb-02	87,994,400.00	2,500,000.00	2.50%	183,321.67	85,494,400.00		
Mar-02	85,494,400.00	3,000,000.00	2.50%	178,113.33	82,494,400.00		
Apr-02	82,494,400.00	3,000,000.00	2.50%	171,863.33	79,494,400.00		
May-02	79,494,400.00	3,500,000.00	2.50%	165,613.33	75,994,400.00		
Jun-02	75,994,400.00	3,500,000.00	2.50%	158,321.67	72,494,400.00		
Jul-02	72,494,400.00	3,500,000.00	2.50%	151,030.00	68,994,400.00		
Aug-02	68,994,400.00	4,000,000.00	2.50%	143,738.33	64,994,400.00		
Sep-02	64,994,400.00	4,000,000.00	2.50%	135,405.00	60,994,400.00		
Oct-02	60,994,400.00	4,500,000.00	2.50%	127,071.67	56,494,400.00		
Nov-02	56,494,400.00	4,500,000.00	2.50%	117,696.67	51,994,400.00		
Dec-02	51,994,400.00	4,500,000.00	2.50%	108,321.67	47,494,400.00	43,000,000.00	1,829,026.67
Jan-03	47,494,400.00	4,994,400.00	2.50%	98,946.67	42,500,000.00		
Feb-03	42,500,000.00	4,500,000.00	2.50%	88,541.67	38,000,000.00		
Mar-03	38,000,000.00	4,500,000.00	2.50%	79,166.67	33,500,000.00		
Apr-03	33,500,000.00	4,500,000.00	2.50%	69,791.67	29,000,000.00		
May-03	29,000,000.00	4,000,000.00	2.50%	60,416.67	25,000,000.00		
Jun-03	25,000,000.00	4,000,000.00	2.50%	52,083.33	21,000,000.00		
Jul-03	21,000,000.00	4,000,000.00	2.50%	43,750.00	17,000,000.00		
Aug-03	17,000,000.00	4,000,000.00	2.50%	35,416.67	13,000,000.00		
Sep-03	13,000,000.00	3,500,000.00	2.50%	27,083.33	9,500,000.00		
Oct-03	9,500,000.00	3,500,000.00	2.50%	19,791.67	6,000,000.00		
Nov-03	6,000,000.00	3,500,000.00	2.50%	12,500.00	2,500,000.00		
Dec-03	2,500,000.00	2,500,000.00	2.50%	5,208.33	-	47,494,400.00	592,696.67
Jan-04							
Feb-04							
Mar-04							
Apr-04							
May-04							
Jun-04							
Jul-04							
Aug-04							
Sep-04							
Oct-04							
Nov-04							
Dec-04							
Jan-05							
Feb-05							
Mar-05							
Apr-05							
May-05							
Jun-05							
Jul-05							
Aug-05							
Sep-05							

**THE PITTSBURGH WATER AND SEWER AUTHORITY
INTEREST INCOME FROM 2002 CONSTRUCTION FUND**

Date	Beginning Balance	Drawdown	2.50% Interest	Investment Earnings	Ending Balance	Annual Draw	Annual Earnings
Oct-05							
Nov-05							
Dec-05							
Jan-06							
Feb-06							
Mar-06							
Apr-06							
May-06							
Jun-06							
Jul-06							
Aug-06							
Sep-06							
Oct-06							
Nov-06							
Dec-06							

*THE PITTSBURGH WATER AND SEWER AUTHORITY
PITTSBURGH, PENNSYLVANIA*

*ENGINEERING AND FINANCIAL FEASIBILITY STUDY
OF
PROPOSED CAPITAL IMPROVEMENT PROGRAM
FOR
2002 SERIES BONDS*

EXHIBIT C

*EARNED INTEREST
FROM
DEBT SERVICE FUNDS*

**THE PITTSBURGH WATER AND SEWER AUTHORITY
INTEREST INCOME FROM 1993 DEBT SERVICE FUND**

Date	Deposit	Interest Deposit	Withdrawal	Interest @ 2.50%	Balance	Earned interest
Opening Balance					7,077,415.00	
Jan-01	1,821,000.00	536,872.58	0.00	25,065.84	9,460,353.42	
Feb-01	1,821,000.00	7,902.71	0.00	33,505.42	11,322,761.55	
Mar-01	1,821,000.00	0.00	6,106,430.00	40,101.45	7,077,433.00	
Apr-01	1,821,000.00	0.00	0.00	25,065.91	8,923,498.91	
May-01	1,821,000.00	0.00	0.00	31,604.06	10,776,102.97	
Jun-01	1,821,000.00	0.00	0.00	38,165.36	12,635,268.33	
Jul-01	1,821,000.00	0.00	0.00	44,749.91	14,501,018.24	
Aug-01	1,821,000.00	0.00	0.00	51,357.77	16,373,376.01	
Sep-01	1,821,000.00	0.00	15,741,430.00	57,989.04	2,510,935.05	
Oct-01	1,821,000.00	407,166.64	0.00	8,892.89	4,747,994.59	
Nov-01	1,821,000.00	0.00	0.00	16,815.81	6,585,810.40	
Dec-01	1,821,000.00	(396,638.22)	0.00	23,324.75	8,033,496.93	396,638.22
Jan-02	1,821,000.00	31,875.00	0.00	16,736.45	9,903,108.38	
Feb-02	1,821,000.00	0.00	0.00	20,631.48	11,744,739.86	
Mar-02	1,821,000.00	0.00	5,894,460.00	24,468.21	7,695,748.07	
Apr-02	1,821,000.00	0.00	0.00	16,032.81	9,532,780.87	
May-02	1,821,000.00	0.00	0.00	19,859.96	11,373,640.83	
Jun-02	1,821,000.00	0.00	0.00	23,695.09	13,218,335.92	
Jul-02	1,821,000.00	0.00	0.00	27,538.20	15,066,874.12	
Aug-02	1,821,000.00	0.00	0.00	31,389.32	16,919,263.44	
Sep-02	1,821,000.00	0.00	15,959,460.00	35,248.47	2,816,051.91	
Oct-02	1,821,000.00	0.00	0.00	5,866.77	4,642,918.68	
Nov-02	1,821,000.00	0.00	0.00	9,672.75	6,473,591.43	
Dec-02	1,821,000.00	(244,626.15)	0.00	13,486.65	8,063,451.93	244,626.15
Jan-03	1,821,000.00	0.00	0.00	16,798.86	9,901,250.79	
Feb-03	1,821,000.00	0.00	0.00	20,627.61	11,742,878.39	
Mar-03	1,821,000.00	0.00	5,667,997.50	24,464.33	7,920,345.22	
Apr-03	1,821,000.00	0.00	0.00	16,500.72	9,757,845.94	
May-03	1,821,000.00	0.00	0.00	20,328.85	11,599,174.79	
Jun-03	1,821,000.00	0.00	0.00	24,164.95	13,444,339.74	
Jul-03	1,821,000.00	0.00	0.00	28,009.04	15,293,348.78	
Aug-03	1,821,000.00	0.00	0.00	31,861.14	17,146,209.92	
Sep-03	1,821,000.00	0.00	16,172,997.50	35,721.27	2,829,933.69	
Oct-03	1,821,000.00	0.00	0.00	5,895.70	4,656,829.39	
Nov-03	1,821,000.00	0.00	0.00	9,701.73	6,487,531.11	
Dec-03	1,821,000.00	(247,589.87)	0.00	13,515.69	8,074,456.93	247,589.87
Jan-04	1,821,000.00	0.00	0.00	16,821.79	9,912,278.72	
Feb-04	1,821,000.00	0.00	0.00	20,650.58	11,753,929.30	
Mar-04	1,821,000.00	0.00	5,426,382.50	24,487.35	8,173,034.15	
Apr-04	1,821,000.00	0.00	0.00	17,027.15	10,011,061.30	
May-04	1,821,000.00	0.00	0.00	20,856.38	11,852,917.68	
Jun-04	1,821,000.00	0.00	0.00	24,693.58	13,698,611.26	
Jul-04	1,821,000.00	0.00	0.00	28,538.77	15,548,150.03	
Aug-04	1,821,000.00	0.00	0.00	32,391.98	17,401,542.01	

**THE PITTSBURGH WATER AND SEWER AUTHORITY
INTEREST INCOME FROM 1993 DEBT SERVICE FUND**

Date	Deposit	Interest Deposit	Withdrawal	Interest @ 2.50%	Balance	Earned interest
Sep-04	1,821,000.00	0.00	16,426,382.50	36,253.21	2,832,412.72	
Oct-04	1,821,000.00	0.00	0.00	5,900.86	4,659,313.58	
Nov-04	1,821,000.00	0.00	0.00	9,706.90	6,490,020.49	
Dec-04	1,821,000.00	(250,849.43)	0.00	13,520.88	8,073,691.93	250,849.43
Jan-05	1,821,000.00	0.00	0.00	16,820.19	9,911,512.12	
Feb-05	1,821,000.00	0.00	0.00	20,648.98	11,753,161.11	
Mar-05	1,821,000.00	0.00	5,167,882.50	24,485.75	8,430,764.36	
Apr-05	1,821,000.00	0.00	0.00	17,564.09	10,269,328.45	
May-05	1,821,000.00	0.00	0.00	21,394.43	12,111,722.88	
Jun-05	1,821,000.00	0.00	0.00	25,232.76	13,957,955.64	
Jul-05	1,821,000.00	0.00	0.00	29,079.07	15,808,034.71	
Aug-05	1,821,000.00	0.00	0.00	32,933.41	17,661,968.12	
Sep-05	1,821,000.00	0.00	16,682,882.50	36,795.77	2,836,881.39	
Oct-05	1,821,000.00	0.00	0.00	5,910.17	4,663,791.56	
Nov-05	1,821,000.00	0.00	0.00	9,716.23	6,494,507.79	
Dec-05	1,821,000.00	(254,111.08)	0.00	13,530.22	8,074,926.93	254,111.08
Jan-06	1,821,000.00	0.00	0.00	16,822.76	9,912,749.69	
Feb-06	1,821,000.00	0.00	0.00	20,651.56	11,754,401.26	
Mar-06	1,821,000.00	0.00	4,894,401.25	24,488.34	8,705,488.34	
Apr-06	1,821,000.00	0.00	0.00	18,136.43	10,544,624.78	
May-06	1,821,000.00	0.00	0.00	21,967.97	12,387,592.74	
Jun-06	1,821,000.00	0.00	0.00	25,807.48	14,234,400.23	
Jul-06	1,821,000.00	0.00	0.00	29,655.00	16,085,055.23	
Aug-06	1,821,000.00	0.00	0.00	33,510.53	17,939,565.76	
Sep-06	1,821,000.00	0.00	16,954,401.25	37,374.10	2,843,538.61	
Oct-06	1,821,000.00	0.00	0.00	5,924.04	4,670,462.65	
Nov-06	1,821,000.00	0.00	0.00	9,730.13	6,501,192.78	
Dec-06	1,821,000.00	(257,612.50)	0.00	13,544.15	8,078,124.43	257,612.50

* Interest transferred from the Prior Construction Fund, the 1993 Construction Fund, and the 1995 Capital Projects Fund. Each of these funds is now closed.

**THE PITTSBURGH WATER AND SEWER AUTHORITY
INTEREST INCOME FROM 1998A DEBT SERVICE FUND**

Date	Deposit	Interest Deposit	Withdrawal	Interest @ 2.50%	Balance	Earned interest
Opening Balance					1,577,384.49	
Jan-01	393,759.79	0.00	0.00	5,389.40	1,976,533.68	
Feb-01	393,759.79	0.00	0.00	6,753.16	2,377,046.62	
Mar-01	393,759.79	0.00	2,362,558.75	8,121.58	416,369.24	
Apr-01	393,759.79	0.00	0.00	1,422.59	811,551.62	
May-01	393,759.79	0.00	0.00	2,772.80	1,208,084.22	
Jun-01	393,759.79	0.00	0.00	4,127.62	1,605,971.63	
Jul-01	393,759.79	0.00	0.00	5,487.07	2,005,218.49	
Aug-01	393,759.79	0.00	0.00	6,851.16	2,405,829.44	
Sep-01	393,759.79	0.00	2,362,558.75	8,219.92	445,250.40	
Oct-01	393,759.79	0.00	0.00	1,521.27	840,531.46	
Nov-01	393,759.79	0.00	0.00	2,871.82	1,237,163.07	
Dec-01	393,759.79	(57,765.36)	0.00	4,226.97	1,577,384.47	57,765.36
Jan-02	393,759.79	0.00	0.00	3,286.22	1,974,430.48	
Feb-02	393,759.79	0.00	0.00	4,113.40	2,372,303.66	
Mar-02	393,759.79	0.00	2,362,558.75	4,942.30	408,447.00	
Apr-02	393,759.79	0.00	0.00	850.93	803,057.73	
May-02	393,759.79	0.00	0.00	1,673.04	1,198,490.55	
Jun-02	393,759.79	0.00	0.00	2,496.86	1,594,747.20	
Jul-02	393,759.79	0.00	0.00	3,322.39	1,991,829.38	
Aug-02	393,759.79	0.00	0.00	4,149.64	2,389,738.81	
Sep-02	393,759.79	0.00	2,362,558.75	4,978.62	425,918.47	
Oct-02	393,759.79	0.00	0.00	887.33	820,565.59	
Nov-02	393,759.79	0.00	0.00	1,709.51	1,216,034.90	
Dec-02	393,759.79	(34,943.64)	0.00	2,533.41	1,577,384.45	34,943.64
Jan-03	393,759.79	0.00	0.00	3,286.22	1,974,430.46	
Feb-03	393,759.79	0.00	0.00	4,113.40	2,372,303.64	
Mar-03	393,759.79	0.00	2,362,558.75	4,942.30	408,446.98	
Apr-03	393,759.79	0.00	0.00	850.93	803,057.70	
May-03	393,759.79	0.00	0.00	1,673.04	1,198,490.53	
Jun-03	393,759.79	0.00	0.00	2,496.86	1,594,747.18	
Jul-03	393,759.79	0.00	0.00	3,322.39	1,991,829.36	
Aug-03	393,759.79	0.00	0.00	4,149.64	2,389,738.79	
Sep-03	393,759.79	0.00	2,362,558.75	4,978.62	425,918.45	
Oct-03	393,759.79	0.00	0.00	887.33	820,565.57	
Nov-03	393,759.79	0.00	0.00	1,709.51	1,216,034.88	
Dec-03	393,759.79	(34,943.64)	0.00	2,533.41	1,577,384.43	34,943.64

**THE PITTSBURGH WATER AND SEWER AUTHORITY
INTEREST INCOME FROM 1998A DEBT SERVICE FUND**

Date	Deposit	Interest Deposit	Withdrawal	Interest @ 2.50%	Balance	Earned interest
Jan-04	393,759.79	0.00	0.00	3,286.22	1,974,430.44	
Feb-04	393,759.79	0.00	0.00	4,113.40	2,372,303.62	
Mar-04	393,759.79	0.00	2,362,558.75	4,942.30	408,446.96	
Apr-04	393,759.79	0.00	0.00	850.93	803,057.68	
May-04	393,759.79	0.00	0.00	1,673.04	1,198,490.51	
Jun-04	393,759.79	0.00	0.00	2,496.86	1,594,747.16	
Jul-04	393,759.79	0.00	0.00	3,322.39	1,991,829.34	
Aug-04	393,759.79	0.00	0.00	4,149.64	2,389,738.77	
Sep-04	393,759.79	0.00	2,362,558.75	4,978.62	425,918.43	
Oct-04	393,759.79	0.00	0.00	887.33	820,565.55	
Nov-04	393,759.79	0.00	0.00	1,709.51	1,216,034.86	
Dec-04	393,759.79	(34,943.64)	0.00	2,533.41	1,577,384.41	34,943.64
Jan-05	393,759.79	0.00	0.00	3,286.22	1,974,430.42	
Feb-05	393,759.79	0.00	0.00	4,113.40	2,372,303.60	
Mar-05	393,759.79	0.00	2,362,558.75	4,942.30	408,446.94	
Apr-05	393,759.79	0.00	0.00	850.93	803,057.66	
May-05	393,759.79	0.00	0.00	1,673.04	1,198,490.49	
Jun-05	393,759.79	0.00	0.00	2,496.86	1,594,747.14	
Jul-05	393,759.79	0.00	0.00	3,322.39	1,991,829.32	
Aug-05	393,759.79	0.00	0.00	4,149.64	2,389,738.75	
Sep-05	393,759.79	0.00	2,362,558.75	4,978.62	425,918.41	
Oct-05	393,759.79	0.00	0.00	887.33	820,565.53	
Nov-05	393,759.79	0.00	0.00	1,709.51	1,216,034.83	
Dec-05	393,759.79	(34,943.64)	0.00	2,533.41	1,577,384.39	34,943.64
Jan-06	393,759.79	0.00	0.00	3,286.22	1,974,430.40	
Feb-06	393,759.79	0.00	0.00	4,113.40	2,372,303.58	
Mar-06	393,759.79	0.00	2,362,558.75	4,942.30	408,446.92	
Apr-06	393,759.79	0.00	0.00	850.93	803,057.64	
May-06	393,759.79	0.00	0.00	1,673.04	1,198,490.47	
Jun-06	393,759.79	0.00	0.00	2,496.86	1,594,747.12	
Jul-06	393,759.79	0.00	0.00	3,322.39	1,991,829.30	
Aug-06	393,759.79	0.00	0.00	4,149.64	2,389,738.73	
Sep-06	393,759.79	0.00	2,362,558.75	4,978.62	425,918.39	
Oct-06	393,759.79	0.00	0.00	887.33	820,565.51	
Nov-06	393,759.79	0.00	0.00	1,709.51	1,216,034.81	
Dec-06	393,759.79	(34,943.64)	0.00	2,533.41	1,577,384.37	34,943.64

**THE PITTSBURGH WATER AND SEWER AUTHORITY
INTEREST INCOME FROM 1998C DEBT SERVICE FUND**

Date	Deposit	Interest Deposit	Withdrawal	Interest @ 2.50%	Balance	Earned interest
Opening Balance					1,731,008.61	
Jan-01	432,110.52	0.00	0.00	5,914.28	2,169,033.41	
Feb-01	432,110.52	0.00	0.00	7,410.86	2,608,554.79	
Mar-01	432,110.52	0.00	2,592,663.13	8,912.56	456,914.75	
Apr-01	432,110.52	0.00	0.00	1,561.13	890,586.39	
May-01	432,110.52	0.00	0.00	3,042.84	1,325,739.75	
Jun-01	432,110.52	0.00	0.00	4,529.61	1,762,379.88	
Jul-01	432,110.52	0.00	0.00	6,021.46	2,200,511.86	
Aug-01	432,110.52	0.00	0.00	7,518.42	2,640,140.80	
Sep-01	432,110.52	0.00	2,592,663.13	9,020.48	488,608.67	
Oct-01	432,110.52	0.00	0.00	1,669.41	922,388.60	
Nov-01	432,110.52	0.00	0.00	3,151.49	1,357,650.62	
Dec-01	432,110.52	(63,391.19)	0.00	4,638.64	1,731,008.59	63,391.19
Jan-02	432,110.52	0.00	0.00	3,606.27	2,166,725.38	
Feb-02	432,110.52	0.00	0.00	4,514.01	2,603,349.91	
Mar-02	432,110.52	0.00	2,592,663.13	5,423.65	448,220.94	
Apr-02	432,110.52	0.00	0.00	933.79	881,265.26	
May-02	432,110.52	0.00	0.00	1,835.97	1,315,211.75	
Jun-02	432,110.52	0.00	0.00	2,740.02	1,750,062.29	
Jul-02	432,110.52	0.00	0.00	3,645.96	2,185,818.78	
Aug-02	432,110.52	0.00	0.00	4,553.79	2,622,483.08	
Sep-02	432,110.52	0.00	2,592,663.13	5,463.51	467,393.98	
Oct-02	432,110.52	0.00	0.00	973.74	900,478.24	
Nov-02	432,110.52	0.00	0.00	1,876.00	1,334,464.75	
Dec-02	432,110.52	(38,346.84)	0.00	2,780.13	1,731,008.57	38,346.84
Jan-03	432,110.52	0.00	0.00	3,606.27	2,166,725.36	
Feb-03	432,110.52	0.00	0.00	4,514.01	2,603,349.89	
Mar-03	432,110.52	0.00	2,592,663.13	5,423.65	448,220.92	
Apr-03	432,110.52	0.00	0.00	933.79	881,265.24	
May-03	432,110.52	0.00	0.00	1,835.97	1,315,211.73	
Jun-03	432,110.52	0.00	0.00	2,740.02	1,750,062.27	
Jul-03	432,110.52	0.00	0.00	3,645.96	2,185,818.75	
Aug-03	432,110.52	0.00	0.00	4,553.79	2,622,483.06	
Sep-03	432,110.52	0.00	2,592,663.13	5,463.51	467,393.96	
Oct-03	432,110.52	0.00	0.00	973.74	900,478.22	
Nov-03	432,110.52	0.00	0.00	1,876.00	1,334,464.73	
Dec-03	432,110.52	(38,346.84)	0.00	2,780.13	1,731,008.55	38,346.84
Jan-04	432,110.52	0.00	0.00	3,606.27	2,166,725.34	
Feb-04	432,110.52	0.00	0.00	4,514.01	2,603,349.87	
Mar-04	432,110.52	0.00	2,592,663.13	5,423.65	448,220.90	
Apr-04	432,110.52	0.00	0.00	933.79	881,265.22	
May-04	432,110.52	0.00	0.00	1,835.97	1,315,211.71	
Jun-04	432,110.52	0.00	0.00	2,740.02	1,750,062.25	
Jul-04	432,110.52	0.00	0.00	3,645.96	2,185,818.73	
Aug-04	432,110.52	0.00	0.00	4,553.79	2,622,483.04	

**THE PITTSBURGH WATER AND SEWER AUTHORITY
INTEREST INCOME FROM 1998C DEBT SERVICE FUND**

Date	Deposit	Interest Deposit	Withdrawal	Interest @ 2.50%	Balance	Earned interest
Sep-04	432,110.52	0.00	2,592,663.13	5,463.51	467,393.94	
Oct-04	432,110.52	0.00	0.00	973.74	900,478.20	
Nov-04	432,110.52	0.00	0.00	1,876.00	1,334,464.71	
Dec-04	432,110.52	(38,346.84)	0.00	2,780.13	1,731,008.53	38,346.84
Jan-05	432,110.52	0.00	0.00	3,606.27	2,166,725.32	
Feb-05	432,110.52	0.00	0.00	4,514.01	2,603,349.85	
Mar-05	432,110.52	0.00	2,592,663.13	5,423.65	448,220.88	
Apr-05	432,110.52	0.00	0.00	933.79	881,265.20	
May-05	432,110.52	0.00	0.00	1,835.97	1,315,211.69	
Jun-05	432,110.52	0.00	0.00	2,740.02	1,750,062.23	
Jul-05	432,110.52	0.00	0.00	3,645.96	2,185,818.71	
Aug-05	432,110.52	0.00	0.00	4,553.79	2,622,483.02	
Sep-05	432,110.52	0.00	2,592,663.13	5,463.51	467,393.92	
Oct-05	432,110.52	0.00	0.00	973.74	900,478.18	
Nov-05	432,110.52	0.00	0.00	1,876.00	1,334,464.69	
Dec-05	432,110.52	(38,346.84)	0.00	2,780.13	1,731,008.51	38,346.84
Jan-06	432,110.52	0.00	0.00	3,606.27	2,166,725.30	
Feb-06	432,110.52	0.00	0.00	4,514.01	2,603,349.83	
Mar-06	432,110.52	0.00	2,592,663.13	5,423.65	448,220.86	
Apr-06	432,110.52	0.00	0.00	933.79	881,265.18	
May-06	432,110.52	0.00	0.00	1,835.97	1,315,211.67	
Jun-06	432,110.52	0.00	0.00	2,740.02	1,750,062.21	
Jul-06	432,110.52	0.00	0.00	3,645.96	2,185,818.69	
Aug-06	432,110.52	0.00	0.00	4,553.79	2,622,483.00	
Sep-06	432,110.52	0.00	2,592,663.13	5,463.51	467,393.90	
Oct-06	432,110.52	0.00	0.00	973.74	900,478.16	
Nov-06	432,110.52	0.00	0.00	1,876.00	1,334,464.67	
Dec-06	432,110.52	(38,346.84)	0.00	2,780.13	1,731,008.49	38,346.84

**THE PITTSBURGH WATER AND SEWER AUTHORITY
INTEREST INCOME FROM 2002 DEBT SERVICE FUND**

Date	Deposit	Interest Deposit	Withdrawal	Interest @ 2.50%	Balance	Earned interest
Jan-01						
Feb-01						
Mar-01						
Apr-01						
May-01						
Jun-01						
Jul-01						
Aug-01						
Sep-01						
Oct-01						
Nov-01						
Dec-01					209,422.59	0.00
Jan-02	595,000.00	0.00	0.00	436.30	804,858.89	
Feb-02	595,000.00	0.00	0.00	1,676.79	1,401,535.68	
Mar-02	595,000.00	0.00	0.00	2,919.87	1,999,455.54	
Apr-02	595,000.00	0.00	0.00	4,165.53	2,598,621.07	
May-02	595,000.00	0.00	0.00	5,413.79	3,199,034.87	
Jun-02	595,000.00	0.00	0.00	6,664.66	3,800,699.52	
Jul-02	595,000.00	0.00	3,570,000.00	7,918.12	833,617.65	
Aug-02	595,000.00	0.00	0.00	1,736.70	1,430,354.35	
Sep-02	595,000.00	0.00	0.00	2,979.90	2,028,334.26	
Oct-02	595,000.00	0.00	0.00	4,225.70	2,627,559.95	
Nov-02	595,000.00	0.00	0.00	5,474.08	3,228,034.04	
Dec-02	595,000.00	(50,336.52)	0.00	6,725.07	3,779,422.59	50,336.52
Jan-03	595,000.00	0.00	3,570,000.00	7,873.80	812,296.39	
Feb-03	595,000.00	0.00	0.00	1,692.28	1,408,988.67	
Mar-03	595,000.00	0.00	0.00	2,935.39	2,006,924.06	
Apr-03	595,000.00	0.00	0.00	4,181.09	2,606,105.16	
May-03	595,000.00	0.00	0.00	5,429.39	3,206,534.54	
Jun-03	595,000.00	0.00	0.00	6,680.28	3,808,214.82	
Jul-03	595,000.00	0.00	3,570,000.00	7,933.78	841,148.60	
Aug-03	595,000.00	0.00	0.00	1,752.39	1,437,901.00	
Sep-03	595,000.00	0.00	0.00	2,995.63	2,035,896.62	
Oct-03	595,000.00	0.00	0.00	4,241.45	2,635,138.07	
Nov-03	595,000.00	0.00	0.00	5,489.87	3,235,627.95	
Dec-03	595,000.00	(57,946.25)	0.00	6,740.89	3,779,422.59	57,946.25
Jan-04	595,000.00	0.00	3,570,000.00	7,873.80	812,296.39	
Feb-04	595,000.00	0.00	0.00	1,692.28	1,408,988.67	
Mar-04	595,000.00	0.00	0.00	2,935.39	2,006,924.06	
Apr-04	595,000.00	0.00	0.00	4,181.09	2,606,105.16	
May-04	595,000.00	0.00	0.00	5,429.39	3,206,534.54	
Jun-04	595,000.00	0.00	0.00	6,680.28	3,808,214.82	
Jul-04	595,000.00	0.00	3,570,000.00	7,933.78	841,148.60	
Aug-04	595,000.00	0.00	0.00	1,752.39	1,437,901.00	
Sep-04	595,000.00	0.00	0.00	2,995.63	2,035,896.62	

**THE PITTSBURGH WATER AND SEWER AUTHORITY
INTEREST INCOME FROM 2002 DEBT SERVICE FUND**

Date	Deposit	Interest Deposit	Withdrawal	Interest @ 2.50%	Balance	Earned interest
Oct-04	595,000.00	0.00	0.00	4,241.45	2,635,138.07	
Nov-04	595,000.00	0.00	0.00	5,489.87	3,235,627.95	
Dec-04	595,000.00	(57,946.25)	0.00	6,740.89	3,779,422.59	57,946.25
Jan-05	595,000.00	0.00	3,570,000.00	7,873.80	812,296.39	
Feb-05	595,000.00	0.00	0.00	1,692.28	1,408,988.67	
Mar-05	595,000.00	0.00	0.00	2,935.39	2,006,924.06	
Apr-05	595,000.00	0.00	0.00	4,181.09	2,606,105.16	
May-05	595,000.00	0.00	0.00	5,429.39	3,206,534.54	
Jun-05	595,000.00	0.00	0.00	6,680.28	3,808,214.82	
Jul-05	595,000.00	0.00	3,570,000.00	7,933.78	841,148.60	
Aug-05	595,000.00	0.00	0.00	1,752.39	1,437,901.00	
Sep-05	595,000.00	0.00	0.00	2,995.63	2,035,896.62	
Oct-05	595,000.00	0.00	0.00	4,241.45	2,635,138.07	
Nov-05	595,000.00	0.00	0.00	5,489.87	3,235,627.95	
Dec-05	595,000.00	(57,946.25)	0.00	6,740.89	3,779,422.59	57,946.25
Jan-06	595,000.00	0.00	3,570,000.00	7,873.80	812,296.39	
Feb-06	595,000.00	0.00	0.00	1,692.28	1,408,988.67	
Mar-06	595,000.00	0.00	0.00	2,935.39	2,006,924.06	
Apr-06	595,000.00	0.00	0.00	4,181.09	2,606,105.16	
May-06	595,000.00	0.00	0.00	5,429.39	3,206,534.54	
Jun-06	595,000.00	0.00	0.00	6,680.28	3,808,214.82	
Jul-06	595,000.00	0.00	3,570,000.00	7,933.78	841,148.60	
Aug-06	595,000.00	0.00	0.00	1,752.39	1,437,901.00	
Sep-06	595,000.00	0.00	0.00	2,995.63	2,035,896.62	
Oct-06	595,000.00	0.00	0.00	4,241.45	2,635,138.07	
Nov-06	595,000.00	0.00	0.00	5,489.87	3,235,627.95	
Dec-06	595,000.00	(57,946.25)	0.00	6,740.89	3,779,422.59	57,946.25

*THE PITTSBURGH WATER AND SEWER AUTHORITY
PITTSBURGH, PENNSYLVANIA*

*ENGINEERING AND FINANCIAL FEASIBILITY STUDY
OF
PROPOSED CAPITAL IMPROVEMENT PROGRAM
FOR
2002 SERIES BONDS*

EXHIBIT D

*EARNED INTEREST
FROM DEBT SERVICE RESERVE FUNDS*

**THE PITTSBURGH WATER AND SEWER AUTHORITY
INTEREST INCOME FROM 2002 DEBT SERVICE RESERVE FUND**

Date	Deposit	Interest Deposit	Withdrawal	Interest @ 2.50%	Balance	Earned interest
Jan-01						
Feb-01						
Mar-01						
Apr-01						
May-01						
Jun-01						
Jul-01						
Aug-01						
Sep-01						
Oct-01						
Nov-01						
Dec-01					0.00	0.00
Jan-02	0.00	0.00	0.00	0.00	7,433,435.00	
Feb-02	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Mar-02	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Apr-02	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
May-02	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Jun-02	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Jul-02	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Aug-02	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Sep-02	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Oct-02	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Nov-02	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Dec-02	0.00	0.00	32,267.30	32,267.30	7,433,435.00	354,940.33
Jan-03	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Feb-03	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Mar-03	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Apr-03	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
May-03	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Jun-03	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Jul-03	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Aug-03	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Sep-03	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Oct-03	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Nov-03	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Dec-03	0.00	0.00	32,267.30	32,267.30	7,433,435.00	387,207.63
Jan-04	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Feb-04	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Mar-04	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Apr-04	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
May-04	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Jun-04	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Jul-04	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Aug-04	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Sep-04	0.00	0.00	32,267.30	32,267.30	7,433,435.00	

**THE PITTSBURGH WATER AND SEWER AUTHORITY
INTEREST INCOME FROM 2002 DEBT SERVICE RESERVE FUND**

Date	Deposit	Interest Deposit	Withdrawal	Interest @ 2.50%	Balance	Earned interest
Oct-04	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Nov-04	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Dec-04	0.00	0.00	32,267.30	32,267.30	7,433,435.00	387,207.63
Jan-05	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Feb-05	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Mar-05	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Apr-05	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
May-05	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Jun-05	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Jul-05	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Aug-05	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Sep-05	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Oct-05	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Nov-05	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Dec-05	0.00	0.00	32,267.30	32,267.30	7,433,435.00	387,207.63
Jan-06	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Feb-06	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Mar-06	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Apr-06	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
May-06	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Jun-06	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Jul-06	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Aug-06	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Sep-06	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Oct-06	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Nov-06	0.00	0.00	32,267.30	32,267.30	7,433,435.00	
Dec-06	0.00	0.00	32,267.30	32,267.30	7,433,435.00	387,207.63

APPENDIX F

Form of Bond Counsel Opinion

APPENDIX F

[FORM OF OPINION OF BOND COUNSEL]

March ____, 2002

The Pittsburgh Water and Sewer Authority
441 Smithfield Street, Third Floor
Pittsburgh, PA 15222

\$ _____ Aggregate Principal Amount of The Pittsburgh
Water and Sewer Authority Water and Sewer System First Lien
Revenue Bonds, Series of 2002

Ladies and Gentlemen:

We have acted as Bond Counsel to The Pittsburgh Water and Sewer Authority (the "Authority") in connection with the issuance by the Authority of \$ _____ aggregate principal amount of its Water and Sewer System First Lien Revenue Bonds, Series of 2002 (the "Bonds") pursuant to the provisions of the Pennsylvania Municipality Authorities Act, 53 Pennsylvania Consolidated Statutes Annotated § 5601 et. seq. (the "Act"). The Bonds are being issued under a Trust Indenture dated as of October 15, 1993, as amended and supplemented by a First Supplemental Indenture dated as of July 15, 1995, a Second Supplemental Indenture dated as of March 1, 1998 and a Third Supplemental Indenture dated as of March 1, 2002 (the "Indenture"), between the Authority and J. P. Morgan Trust Company, National Association, successor trustee by merger to Chase Manhattan Trust Company, National Association, successor trustee to PNC Bank, National Association, as Trustee (the "Trustee"), for the purpose of (i) providing funds to pay for capital improvements to the Authority's Water and Sewer System, (ii) funding a debt service reserve fund, and (iii) paying certain costs of issuance of the Bonds.

In our capacity as Bond Counsel, we have examined applicable sections of the Internal Revenue Code of 1986, as amended (the "Code"), and the regulations promulgated thereunder, the Act and such documents, certificates, opinions and other instruments as we have deemed necessary to enable us to express the opinions set forth below, including original counterparts or certified copies of the Indenture and the Agreement.

In the examination of such documents, we have assumed the genuineness of all signatures and the authenticity of all documents submitted to us as originals and the conformity to the original documents submitted to us as certified or photostatic copies, and we have relied upon the aforesaid documents with respect to the accuracy of material factual matters contained therein.

Based upon and subject to the foregoing, it is our opinion that:

1. The Authority is a public instrumentality of the Commonwealth of Pennsylvania and a body corporate and politic, organized and existing under Pennsylvania law, with full power and authority under the Act to undertake the financing of the Project, to execute, deliver and perform its obligations under the Indenture, and to issue and sell the Bonds.

2. The Indenture has been duly authorized, executed and delivered by the Authority and, assuming due authorization, execution and delivery by the Trustee, constitutes the legal, valid and binding obligation of the Authority enforceable in accordance with its terms, except as enforcement may be limited by bankruptcy, insolvency or other laws or equitable principles affecting the enforcement of creditors' rights.

3. The issuance and sale of the Bonds have been duly authorized by the Authority and the Bonds are legal, valid and binding obligations of the Authority enforceable in accordance with their terms, except as the rights created thereunder and enforcement may be limited by bankruptcy, insolvency or other laws or equitable principles affecting the enforcement of creditors' rights.

4. Assuming the accuracy of the certifications of the Authority and its continuing compliance with certain covenants and the requirements of the Code, interest on the Bonds is excluded from gross income for purposes of federal income taxation under existing laws as enacted and construed on the date hereof. Interest on the Bonds is not an item of tax preference for purposes of the federal alternative minimum tax imposed on individuals and corporations. However, interest on Bonds held by a corporation (other than an S corporation, regulated investment company, real estate investment trust or real estate mortgage conduit) may be subject to alternative minimum tax and an environmental tax because of its inclusion in the earnings and profits of such corporate holder. Also, interest on Bonds held by certain foreign corporations may be subject to the branch profits tax imposed by the Code.

5. Under the laws of the Commonwealth of Pennsylvania as enacted and construed on the date hereof, interest on the Bonds is exempt from Pennsylvania personal income tax and corporate net income tax, and the Bonds are exempt from personal property taxes in Pennsylvania.

Ownership of the Bonds may result in collateral 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 with "excess net passive income" and taxpayers who may be deemed to have incurred or continued indebtedness to purchase or carry the Bonds. We express no opinion as to such collateral income tax consequences. Prospective purchasers of the Bonds should consult their own tax advisors as to such consequences.

We express no opinion herein with respect to the adequacy or accuracy of any offering document or other information pertaining to the offering or sale of the Bonds.

We have not undertaken and will not undertake any responsibility to supplement or update our opinions to consider or inform any person of events or actions occurring or taken (or not occurring or not taken) subsequent to the date hereof, including, but not limited to, those which may affect the tax status of the Bonds.

We call your attention to the fact that the Bonds do not pledge the credit or taxing power of the City of Pittsburgh or the Commonwealth of Pennsylvania or any political subdivision thereof. The Authority has no taxing power.

Very truly yours,

BUCHANAN INGERSOLL
PROFESSIONAL CORPORATION

By: _____

[THIS PAGE INTENTIONALLY LEFT BLANK]

APPENDIX G

Form of Insurance Policy

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.

Form No.: 2B-0012 (1/01)



Authorized Officer of Insurance Trustee

[THIS PAGE INTENTIONALLY LEFT BLANK]