

NEW ISSUE

In the opinion of Nixon Peabody LLP, Bond Counsel to the Authority, under existing law, and assuming compliance with the tax covenants described herein, interest on the Fiscal 2004 B Bonds is excluded from gross income for federal income tax purposes under Section 103 of the Internal Revenue Code of 1986, as amended (the “Code”) and is not treated as a preference item in calculating the alternative minimum tax imposed under the Code with respect to individuals and corporations. Bond Counsel is of the opinion that interest on the Fiscal 2004 B Bonds is, however, included in the adjusted current earnings of certain corporations for purposes of computing the alternative minimum tax imposed on such corporations. Bond Counsel is further of the opinion that, under existing law, interest on the Fiscal 2004 B Bonds is exempt from personal income taxes of the State of New York and its political subdivisions, including The City of New York, as described more fully herein. See, however, “TAX EXEMPTION” herein regarding certain other tax considerations.

**\$347,615,000**  
**New York City**  
**Municipal Water Finance Authority**  
**Water and Sewer System Revenue Bonds, Fiscal 2004 Series B**

**Dated: Date of Delivery**

**Due: June 15, as shown on the inside front cover**

The Fiscal 2004 B Bonds will be issued as registered bonds and will be registered in the name of Cede & Co., as nominee of The Depository Trust Company, New York, New York which will act as securities depository for the Fiscal 2004 B Bonds. Purchases of beneficial interests in such Fiscal 2004 B Bonds will be made in book-entry-only form. Purchasers will not receive certificates representing the ownership interest in the Fiscal 2004 B Bonds purchased by them. See “APPENDIX F—BOOK-ENTRY-ONLY FORM.”

Interest on the Fiscal 2004 B Bonds will accrue from their date of delivery and will be payable semiannually on each June 15th and December 15th commencing June 15, 2004. The Fiscal 2004 B Bonds will be issued in authorized denominations of \$5,000 and integral multiples thereof. The Fiscal 2004 B Bonds are subject to redemption prior to maturity as described herein. The proceeds of the Fiscal 2004 B Bonds are expected to be applied (i) to refund a portion of the Authority’s Outstanding Water and Sewer System Revenue Bonds and (ii) to pay certain costs of issuance.

**The Fiscal 2004 B Bonds are special obligations of the Authority, payable solely from and secured by a pledge of and first lien on the gross revenues of the System. The Authority has no taxing power. The Fiscal 2004 B Bonds are not a debt of the State of New York, The City of New York or the New York City Water Board and none of the State of New York, The City of New York or the New York City Water Board is liable on the Fiscal 2004 B Bonds.**

The Fiscal 2004 B Bonds are offered when, as and if issued by the Authority and received by the Underwriters, and subject to the approval of legality by Nixon Peabody LLP, New York, New York, Bond Counsel. Certain legal matters will be passed upon for the Underwriters by Willkie Farr & Gallagher LLP, New York, New York. It is anticipated that the Fiscal 2004 B Bonds will be available for delivery to The Depository Trust Company in New York, New York, on or about March 18, 2004.

<b>First Albany Capital, Inc.</b>	<b>UBS Financial Services Inc.</b> <b>Goldman, Sachs &amp; Co.</b>	<b>Merrill Lynch &amp; Co.</b>
<b>Bear, Stearns &amp; Co. Inc.</b> <b>JPMorgan</b>	<b>Citigroup Global Markets Inc.</b> <b>Morgan Stanley</b>	<b>Lehman Brothers</b> <b>Siebert Brandford Shank &amp; Co., LLC</b>
<b>M.R. Beal &amp; Company</b> <b>A.G. Edwards &amp; Sons, Inc.</b> <b>Raymond James &amp; Associates, Inc.</b>	<b>CIBC World Markets</b> <b>First American Municipals, Inc.</b> <b>Roosevelt &amp; Cross Incorporated</b>	<b>RBC Dain Rauscher Inc.</b> <b>Quick &amp; Reilly, Inc.</b> <b>Wachovia Bank, National Association</b>

**\$347,615,000**

**New York City Municipal Water Finance Authority**

**Water and Sewer System Revenue Bonds,  
Fiscal 2004 Series B**

<u>Maturity</u>	<u>Amount</u>	<u>Rate</u>	<u>Price or Yield</u>	<u>Maturity</u>	<u>Amount</u>	<u>Rate</u>	<u>Price or Yield</u>
2004	\$ 5,665,000	2%	.80%	2017	165,000	3¾%	3.76%
2005	1,705,000	2	1.03	2017 (2)	18,230,000	5	3.76
2006	1,745,000	2	1.26	2018 (2)	105,000	3.90	3.87
2007	1,780,000	2¼	1.57	2018 (2)	56,760,000	5	3.87
2011	3,560,000	2¾	2.78	2019	2,330,000	3.90	3.93
2012	4,620,000	3	3.04	2019 (2)	37,775,000	5	3.93
2012	27,020,000	5	3.04	2021	2,640,000	4.10	100
2014 (1)	7,685,000	3.40	100	2021 (2)	7,150,000	5	4.10
2014 (1)	44,360,000	5	3.40	2022	500,000	4.15	4.17
2015 (1)	2,190,000	3½	3.53	2022 (2)	20,355,000	5	4.17
2015 (1)(2)	58,435,000	5	3.53	2023	7,535,000	4¼	4.26
2016	740,000	3.70	100	2023 (1)(2)	21,365,000	5	4.19
2016 (2)	13,200,000	5	3.70				

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(1) Insured by Financial Security Assurance Inc.

(2) Priced to the stated yield to the June 15, 2014 optional redemption date at a redemption price of 100%.

**New York City Municipal Water Finance Authority**  
**75 Park Place, 6th Floor**  
**New York, New York 10007**  
**212-788-5889**

Mark Page, <i>ex officio</i>	<i>Member</i>
Erin M. Crotty, <i>ex officio</i>	<i>Member</i>
Martha E. Stark, <i>ex officio</i>	<i>Member</i>
Christopher O. Ward, <i>ex officio</i>	<i>Member</i>
Charles E. Dorkey III	<i>Member</i>
Arthur B. Hill	<i>Member</i>
Judy Wesalo Temel	<i>Member</i>
Alan L. Anders	<i>Executive Director</i>
Thomas G. Paolicelli	<i>Treasurer</i>
Marjorie E. Henning	<i>Secretary</i>
Lawrence R. Glantz	<i>Comptroller</i>
Philip Wasserman	<i>Deputy Treasurer</i>
Prescott D. Ulrey	<i>Assistant Secretary</i>
Raymond Orlando	<i>Manager of Investor Relations</i>

**New York City Water Board**  
**59-17 Junction Boulevard, 8th Floor**  
**Flushing, New York 11373-5108**  
**718-595-3586**

Mark R. Hellerer	<i>Chairman</i>
Lilyan H. Affinito	<i>Member</i>
Dawn S. Davis	<i>Member</i>
Amaziah Howell	<i>Member</i>
Stacey Coleman Morse	<i>Member</i>
James T.B. Tripp	<i>Member</i>
Maria Santos Valentin	<i>Member</i>
David B. Tweedy	<i>Executive Director</i>
William Kusterbeck	<i>Treasurer</i>
Carmelo Emilio	<i>Deputy Treasurer</i>
Albert F. Moncure, Jr.	<i>Secretary</i>

**Authority Consultants**

Bond Counsel	<i>Nixon Peabody LLP</i>
Consulting Engineer	<i>Metcalf &amp; Eddy of New York, Inc.</i>
Financial Advisors	<i>Lamont Financial Services Corporation/Ramirez &amp; Co., Inc.</i>
Rate Consultant	<i>Black &amp; Veatch New York LLP</i>

This Official Statement does not constitute an offer to sell or the solicitation of an offer to buy any of the Fiscal 2004 B Bonds in any jurisdiction to any person to whom it is unlawful to make such offer in such jurisdiction. No dealer, salesperson or any other person has been authorized to give any information or make any representation, other than those contained herein, in connection with the offering of any of the Fiscal 2004 B Bonds and if given or made, such information or representation must not be relied upon. Information contained on the Authority's web page, or on any other web page, on the City's web site is not a part of this Official Statement. Neither the delivery of this Official Statement nor the sale of any of the Fiscal 2004 B Bonds implies that there has been no change in the affairs of the Authority, the Board or the City or the other matters described herein since the date hereof.

If and when included in this Official Statement, the words "expects," "forecasts," "projects," "intends," "anticipates," "estimates" and analogous expressions are intended to identify forward-looking statements as defined in the Securities Act of 1933, as amended, and any such statements inherently are subject to a variety of risks and uncertainties that could cause actual results to differ materially from those projected. Such risks and uncertainties include, among others, general economic and business conditions, changes in political, social and economic conditions, regulatory initiatives and compliance with governmental regulations, litigation and various other events, conditions and circumstances, many of which are beyond the control of the Authority. These forward-looking statements speak only as of the date of this Official Statement. The Authority disclaims any obligation or undertaking to release publicly any updates or revisions to any forward-looking statement contained herein to reflect any change in the Authority's expectations with regard thereto or any change in events, conditions or circumstances on which any such statements are based.

Other than with respect to information concerning Financial Security Assurance Inc. ("Financial Security") contained in Appendices I and J herein, none of the information in this Official Statement has been supplied or verified by Financial Security and Financial Security makes no representation or warranty, express or implied, as to (i) the accuracy or completeness of such information; (ii) the validity of the Fiscal 2004 B Bonds; or (iii) the tax exempt status of the interest on the Fiscal 2004 B Bonds.

**IN CONNECTION WITH THIS OFFERING, THE UNDERWRITERS MAY OVERALLOT OR EFFECT TRANSACTIONS WHICH STABILIZE OR MAINTAIN THE MARKET PRICE OF THE FISCAL 2004 B BONDS AT A LEVEL ABOVE THAT WHICH MIGHT OTHERWISE PREVAIL IN THE OPEN MARKET, SUCH STABILIZING, IF COMMENCED, MAY BE DISCONTINUED AT ANY TIME.**

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## SUMMARY STATEMENT

*The following is a brief summary of the information contained in this Official Statement and is subject in all respects to the additional information contained herein, including the appendices attached hereto. Defined terms have the same meaning herein as elsewhere in this Official Statement.*

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**Use of Proceeds:**

The proceeds of the Fiscal 2004 B Bonds are expected to be applied (i) to refund a portion of the Authority's Outstanding Water and Sewer System Revenue Bonds and (ii) to pay certain costs of issuance.

**Description of the Bonds:**

The Fiscal 2004 B Bonds are being issued by the Authority in the principal amount of \$347,615,000, pursuant to its Water and Sewer System General Revenue Bond Resolution adopted on November 14, 1985, as amended, and its Sixty-seventh Supplemental Resolution adopted on February 26, 2004. The Fiscal 2004 B Bonds are issued in book-entry only form and in authorized denominations of \$5,000 and integral multiples thereof.

**Redemption Provisions:**

The Fiscal 2004 B Bonds are subject to optional redemption as described herein.

**The System:**

The Water System provides approximately 1,250 million gallons per day (mgd) of water to approximately 828,000 accounts. It supplies water to approximately 9,000,000 people, of which approximately 8,000,000 are in the City and the balance are in Westchester, Putnam, Orange and Ulster Counties. The Sewer System is comprised of an extensive network of sewage collection and treatment facilities that treat over 1,200 mgd of dry-weather sewage. Under the Act, the Lease and the Agreement, the Board is obligated to pay the operating expenses of the System. The City is obligated to operate and maintain the System regardless of payment by the Board.

Summary Financial Information:

	Fiscal Years					
	Historical			Projected(1)		
	2001	2002	2003	2004	2005	2006
Revenues Available for Debt Service(2) . . . . .	\$1,527.0	\$1,592.4	\$1,653.7	\$1,691.9	\$1,854.6	\$2,037.9
Other Revenues(2) . . . . .	—	31.0	99.1	—	—	—
Net Operating Expenses(2) . . . . .	672.5	708.3	782.4	771.8	806.7	823.1
Other Expenses (including Rental Payments to the City)(2) . . . . .	198.3	172.2	263.3	163.6	158.9	169.0
Total Expenses(2) . . . . .	870.8	880.5	1,045.7	935.4	965.6	992.1
Total First Resolution Bond Debt Service . . . . .	487.2	496.4	496.7	578.3	678.9	804.6
Net Debt Service on Second Resolution Bonds(3) . . . . .	9.0	—	—	76.5	161.7	234.0
Net Surplus . . . . .	160.0	246.0	210.4	101.7	48.5	7.2
First Resolution Debt Service Coverage . . . . .	3.13x	3.20x	3.33x	2.93x	2.73x	2.53x
First and Second Resolution Debt Service Coverage(3) . . . . .	3.08x	3.20x	3.33x	2.58x	2.21x	1.96x
Rate Increase . . . . .	1.0%	3.0%	6.5%	5.5%(4)	9.4%	9.4%

Totals may not add due to rounding.

- (1) Projections are as of April 2003.
- (2) Historical figures are derived from the accounting records utilized in preparation of the statements of cash flows contained in the annual financial statements.
- (3) Includes interest on Commercial Paper Notes and reflects offset of carryforward revenues and Debt Service Fund earnings.
- (4) Actual rate increase for Fiscal Year 2004.

**Total Authority Debt Outstanding:** The Authority has approximately \$8.98 billion of Bonds and \$3.33 billion of Second Resolution Bonds Outstanding. See “CAPITAL IMPROVEMENT AND FINANCING PROGRAM—Debt Service Requirements.” In addition, the Authority currently has an \$800 million commercial paper program.

**Capital Program:** The City’s Ten Year Capital Strategy published in April 2003 (the “Ten Year Capital Strategy”), which is updated every two years, includes the projected capital improvements to the System for Fiscal Years 2004 through 2013. The City’s Current Capital Plan released in January 2004 (the “Current Capital Plan”) is updated quarterly and supercedes the Ten Year Capital Strategy for Fiscal Years 2004 through 2008. The Ten Year Capital Strategy as modified by the Current Capital Plan comprises the Capital Improvement Program (the “CIP”). The CIP includes projected capital commitments of \$17.2 billion for water and sewer facilities of which approximately 98% is expected to be provided from System funds. The CIP is designed to maintain a satisfactory level of service, to improve operation of the System and to address future System requirements.



Bond Financing Program:

The following table shows total Authority indebtedness expected to be issued for capital purposes, excluding refunding bonds, from Fiscal Year 2004 to Fiscal Year 2008 as of April 2003.

<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>Period Total</u>
(Millions of Dollars)					
\$1,723.7	\$1,899.1	\$1,867.7	\$1,734.4	\$1,809.5	\$9,034.4

Security for the Bonds:

Revenue Pledge:

The Bonds are special obligations of the Authority, payable solely from and secured by a pledge of the gross revenues of the System prior to the payment of operation and maintenance costs or any other expenses.

Debt Service Reserve Fund:

Upon the delivery of the Fiscal 2004 B Bonds, the Debt Service Reserve Fund will be funded in an amount at least equal to the maximum annual Adjusted Aggregate Debt Service on the Bonds.

Rate Covenant:

The Board has covenanted to establish and collect rates, fees and charges sufficient in each Fiscal Year so that Revenues collected in such Fiscal Year will be at least equal to the sum of 115% of Aggregate Debt Service on all Bonds Outstanding and on any Projected Series of Bonds (excluding Refundable Principal Installments for the payment of which funds are held in trust) payable in such Fiscal Year, and 100% of the Operating Expenses and Required Deposits (which includes debt service on the Second Resolution Bonds and other subordinate debt) to the extent required to be paid from Revenues for such Fiscal Year.

Additional Bonds Test:

Additional Bonds may be issued only if the estimated Revenues for the Fiscal Year in which such Bonds are issued and each of the following five Fiscal Years will be at least equal to the sum of 115% of the maximum estimated Adjusted Aggregate Debt Service on all Bonds, including the Bonds to be issued, and 100% of the sum of the projected Operating Expenses and Required Deposits (including Debt Service Reserve Fund replenishment and subordinate debt service) for such Fiscal Years and only if the Revenues for either of the last two Fiscal Years preceding the Fiscal Year in which the Bonds are to be issued were at least equal to the sum of (i) 115% of the Aggregate Debt Service for such Fiscal Year (excluding any Principal Installments, or portion thereof, paid from sources other than the Revenues) and (ii) 100% of the sum of Operating Expenses and Required Deposits for such Fiscal Year. Refunding Bonds may be issued under the Resolution either upon satisfaction of such conditions or other conditions. Second Resolution Bonds may

be issued under the Second Resolution only if the Revenues for either of the last two Fiscal Years preceding the Fiscal Year in which the Bonds are to be issued were at least equal to the sum of (i) 110% of the Aggregate Debt Service for such Fiscal Year on the First Resolution Bonds, the Second Resolution Bonds and certain other Subordinated Indebtedness (excluding any Debt Service paid from sources other than the Revenues) and (ii) 100% of the sum of Operating Expenses and Required Deposits for such Fiscal Year. Refunding Second Resolution Bonds may be issued under the Second Resolution either upon satisfaction of such conditions or other conditions.

Summary of Certain Legal Opinions: Bond Counsel has rendered opinions to the effect that, in the event of a bankruptcy of the City, (i) a court, exercising reasonable judgment after full consideration of all relevant factors, would not hold that the Revenues are property of the City and would not order the substantive consolidation of the assets and liabilities of either the Board or the Authority with those of the City and (ii) the Board, in the event the City should reject the Lease, would be entitled to remain in possession of the System for the balance of the Lease term. Bond Counsel has also opined that under current law neither the Board nor the Authority qualifies as a debtor under the United States Bankruptcy Code.

Rates: Rates, fees and charges are imposed by the Board and are not subject to regulatory approval except for those rates charged to a limited class of upstate users representing approximately 1% of Revenues.

The Authority: The Authority, a separate legal entity established in 1984, has the power to (i) issue bonds, bond anticipation notes and other obligations for the purpose of financing the renovation and improvement of the System, (ii) refund its bonds and notes and general obligation bonds of the City issued for water or sewer purposes, (iii) require the Board to fix rates sufficient to pay the costs of operating and financing improvements to the System and (iv) require the City to maintain the System adequately. The Authority has no taxing power.

The Board: The Board, a separate legal entity established in 1984, has leased the System from the City. It is authorized to fix and collect rates, fees and charges adequate to pay the cost of operating and financing the System.

The Agreement: Pursuant to the Agreement, the Authority has agreed to finance capital projects for the system, both current work and work commenced in prior years, through the issuance of bonds, notes or other indebtedness secured by revenues of the System.

The Lease: Pursuant to the Lease, the Board has acquired the System from the City for a term continuing until provision has been made for the repayment of all Outstanding Bonds or other indebtedness of the Authority.

Financial Statements and Independent Auditor:

The financial statements (for the years ended June 30, 2002 and June 30, 2003) of the New York City Water and Sewer System included in Appendix D to this Official Statement have been audited by KPMG LLP, independent certified public accountants, to the extent and for the periods indicated in their report thereon.

## OFFICIAL STATEMENT

**\$347,615,000**

### **New York City Municipal Water Finance Authority Water and Sewer System Revenue Bonds, Fiscal 2004 Series B**

#### INTRODUCTORY STATEMENT

##### **General**

The purpose of this Official Statement is to set forth certain information pertaining to the New York City Municipal Water Finance Authority (the “Authority”), a public benefit corporation duly created and existing under the New York City Municipal Water Finance Authority Act, as amended (the “Act”); the New York City Water Board (the “Board”), a public benefit corporation created and existing under Chapter 515 of the Laws of 1984, both of which laws were enacted by the Legislature of the State of New York (the “State”); and the Authority’s \$347,615,000 Water and Sewer System Revenue Bonds, Fiscal 2004 Series B (the “Fiscal 2004 B Bonds”). Capitalized terms used in this Official Statement and not defined herein shall have the meanings ascribed thereto in APPENDIX C—GLOSSARY AND SUMMARY OF CERTAIN DOCUMENTS—Glossary.”

Pursuant to a lease agreement (the “Lease”) between the Board and The City of New York (the “City”), dated as of July 1, 1985, as amended, the Board has leased from the City its facilities for the collection, transmission and distribution of water (the “Water System”) and its facilities for the collection, treatment and disposal of sewage (the “Sewer System”) (collectively, the “System”). As required by the Act and the Lease, the System is operated and maintained by the Department of Environmental Protection of the City (“DEP”). The Board has also entered into a financing agreement, dated as of July 1, 1985, as amended (the “Agreement”), with the Authority and the City for the financing of capital improvements to the System through the issuance of bonds, notes and other obligations under the Authority’s Water and Sewer System General Revenue Bond Resolution adopted on November 14, 1985, as amended (the “Resolution” or the “First Resolution”, and when issued thereunder, the “Bonds”), or subordinate obligations of the Authority under its Second Resolution (defined below). Pursuant to the Lease and the Agreement, the Board has agreed to levy and collect rates, fees and charges. Pursuant to the Lease, the City may, with the prior written consent of the Board, grant interests in the Leased Property which, in the reasonable judgment of the Board, do not interfere with the operation and maintenance of the System and the collection of the Revenues from the System.

The Fiscal 2004 B Bonds will be issued by the Authority pursuant to the Resolution and its Sixty-seventh Supplemental Resolution adopted on February 26, 2004 (the “Sixty-seventh Supplemental Resolution”). The Resolution and the Sixty-seventh Supplemental Resolution are collectively referred to herein as the “Resolutions”. The Bank of New York serves as trustee under the Resolutions (in such capacity, the “Trustee”) and will continue to serve as Trustee unless a successor is appointed in accordance with the Resolutions. The Authority has issued subordinate revenue bonds (the “Second Resolution Bonds”) pursuant to its Water and Sewer Second General Revenue Bond Resolution adopted on March 30, 1994, as amended (the “Second Resolution”).

The Bonds are special obligations of the Authority, payable solely from and secured by a pledge of the Revenues, all moneys or securities in any of the funds and accounts established under the Resolution, including the Debt Service Reserve Fund, and all other moneys and securities to be received, held or set aside pursuant to the Resolution, subject only to provisions of the Resolution and the Agreement relating to the use and application thereof. The Board has covenanted in the Agreement to maintain rates, fees and charges at sufficient levels to produce in each twelve-month period beginning on July 1 (a “Fiscal Year”) an amount equal to 115% of the Aggregate Debt Service and Projected Debt Service on the Bonds (excluding Refundable Principal Installments for the payment of which funds are held in trust) to become due in such Fiscal Year on Bonds, plus 100% of the operation and maintenance expenses of the System certified by the City and of Required Deposits (which includes the debt service on the Second Resolution Bonds and other subordinate debt) to the extent required to be paid from Revenues. The Agreement requires a report of the Rate Consultant setting forth its recommendations as to any revisions of the rates,

fees and charges necessary or advisable to meet the requirements of the rate covenant. The Board is obligated to take necessary action to cure or avoid any deficiency. See “SECURITY FOR THE BONDS—Rate Covenant.” The Agreement also requires a Consulting Engineer to review the operation and maintenance of the System, and further requires the City to operate and maintain the System in accordance with the advice and recommendations of the Consulting Engineer. See “SECURITY FOR THE BONDS.”

Rates, fees and charges are imposed by the Board and are not subject to regulatory approval under current law except for the rates charged to a limited class of upstate users, representing approximately 1% of Revenues. See “RATES AND BILLINGS.”

The Authority has relied upon Metcalf & Eddy of New York, Inc. (“Metcalf & Eddy”), its Consulting Engineer, for certain engineering feasibility information and upon Black & Veatch New York LLP (“Black & Veatch”), its Rate Consultant, for certain financial estimates and projections. See “ENGINEERING FEASIBILITY REPORT AND FORECASTED CASH FLOWS.”

### **Financial Projection Assumptions**

The estimates and projections contained in this Official Statement are based on, among other factors, evaluations of historical revenue and expenditure data and analyses of economic trends affecting the Authority’s finances. The financial projections contained herein are subject to certain contingencies that cannot be quantified and are subject to the uncertainties inherent in any attempt to predict the results of future operations. Accordingly, such projections are subject to periodic revision which may involve substantial change. Consequently, the Authority makes no representation or warranty that these estimates and projections will be realized.

The financial projections contained in this Official Statement, including projected operating and maintenance expenses, debt service, revenues, sources and uses of funds, and the forecasted cash flows and rate increases, were prepared in April 2003. These projections will be updated in April 2004 in connection with the Board’s deliberations concerning the annual budget and rates and charges for water and sewer service for Fiscal Year 2005. Based on results to date and other factors, actual financial results for Fiscal Year 2004 and subsequent years will differ from these projections.

### **World Trade Center Attack**

On September 11, 2001, two hijacked passenger jetliners flew into the World Trade Center, resulting in a substantial loss of life, destruction of the World Trade Center and damage to other buildings in the vicinity. Trading on the major New York stock exchanges was suspended until September 17, 2001, and business in the financial district was interrupted. Recovery, clean up and repair efforts have resulted in substantial expenditures. The City has been largely reimbursed by the federal government for all of its direct costs for response and remediation of the World Trade Center site September 11 attack. It is not possible to quantify at present with any certainty the long-term impact of the September 11 attack on the City and its economy.

In recent years, DEP has taken a number of steps to enhance and augment its security arrangements to protect the System, including water supply structures and facilities. These steps include, among others, increasing the size of the DEP police force to 186 officers; obtaining legislation authorizing the DEP police to function as police officers within the City, as well as in the upstate watersheds; purchasing additional police vehicles and surveillance equipment; and further securing facilities through additional locks, fencing and other physical barriers to prevent access by unauthorized persons. In addition, DEP has been consulting with other governmental agencies, including the Federal Bureau of Investigation and the U.S. Army Corps of Engineers, on longer-term plans to modernize and improve security systems. In response to the attacks on the World Trade Center, DEP, in concert with law enforcement authorities, immediately implemented certain further measures to protect the System. These include, among others, increased frequency of patrols, restricting vehicular access to certain facilities, and more frequent monitoring of the water supply for contaminants. Increased security requirements have resulted in additional labor costs and related expenses in the System.

## PLAN OF FINANCING

A portion of the Fiscal 2004 B Bonds is expected to be used for payment of a portion of the principal of, and interest on, certain maturities of the Authority's Water and Sewer System Revenue Bonds, Fiscal 1994 Series B, Fiscal 1994 Series D, Fiscal 1994 Series E, Fiscal 1994 Series F and Fiscal 1994 Series G as identified in Appendix H hereof (the "Refunded Bonds"). Pursuant to an Escrow Agreement between the Authority and The Bank of New York (the "Escrow Trustee"), the Authority will irrevocably deposit cash and Defeasance Obligations in the trust with the Escrow Trustee. The Defeasance Obligations will bear interest at such rates and will mature at such times and in such amounts so that, together with any uninvested cash held by the Escrow Trustee, sufficient moneys will be available to make full and timely payment of the maturing principal and redemption premium and interest on, the Refunded Bonds to their respective redemption dates. Upon such irrevocable deposit, the Refunded Bonds will no longer be deemed to be Outstanding and will no longer be entitled to the benefit of the pledge and lien established by the Resolution, or to payment from Revenues of the System. The Authority will direct the Trustee to redeem the Refunded Bonds on the dates and at the redemption prices set forth in Appendix H hereto.

The Authority also expects to issue approximately \$425,000,000 Water and Sewer System Revenue Bonds, Fiscal 2004 Series C (the "Fiscal 2004 C Bonds") to fund a portion of its capital program and to advance refund certain Outstanding Bonds. The Fiscal 2004 B Bonds and the Fiscal 2004 C Bonds are each expected to be delivered on March 18, 2004.

Shortly after the issuance of the Fiscal 2004 B Bonds and the Fiscal 2004 C Bonds, the Authority expects to issue and privately place with the New York State Environmental Facilities Corporation ("EFC" or the "Corporation") approximately \$300,000,000 Second Resolution Bonds, Fiscal 2004 Series 2, and the proceeds will be applied (i) to pay principal and interest on a portion of the Authority's outstanding Commercial Paper Notes and (ii) to pay certain costs of issuance.

## USE OF PROCEEDS

It is anticipated that the proceeds of the Fiscal 2004 B Bonds will be applied in the following manner:

Deposit to Escrow Fund for Refunded Bonds .....	\$377,492,217
Underwriters' Discount .....	1,987,036
Bond Insurance .....	598,329
Costs of Issuance .....	<u>315,724</u>
Total Uses of Proceeds of the Fiscal 2004 B Bonds.....	<u>\$380,393,306</u>

## THE FISCAL 2004 B BONDS

### General

The Fiscal 2004 B Bonds initially delivered to the Underwriters will be dated their date of delivery. The Fiscal 2004 B Bonds will mature on and will bear interest payable on the dates and at the rates shown on the inside cover of this Official Statement.

Principal of, redemption premium, if any, and interest on the Fiscal 2004 B Bonds will be payable in lawful money of the United States of America. The Fiscal 2004 B Bonds will be issued only as fully registered bonds without coupons in denominations of \$5,000 and integral multiples thereof.

### Book-Entry Only

The Fiscal 2004 B Bonds will be issued as registered bonds and will be registered in the name of Cede & Co., as nominee of The Depository Trust Company ("DTC"), which will act as securities depository for the Fiscal 2004 B Bonds. Purchases of beneficial interests in such Fiscal 2004 B Bonds will be made in book-entry-only form. Purchasers will not receive certificates representing the ownership interest in the Fiscal 2004 B Bonds purchased by them. See "APPENDIX F—BOOK-ENTRY-ONLY FORM."

## **Redemption of Fiscal 2004 B Bonds**

### *Optional Redemption*

The Fiscal 2004 B Bonds are subject to redemption prior to maturity at the option of the Authority from any moneys available therefor on and after June 15, 2014 in whole or in part, at any time, by lot at the redemption price of par plus accrued interest to the redemption date.

### *Notice of Redemption.*

Notice of redemption is to be given by first class mail, postage prepaid, at least 30 days prior to the date fixed for redemption, to the registered owners of Fiscal 2004 B Bonds to be redeemed at their addresses shown on the books of registry. So long as Cede & Co., as nominee of DTC, is the registered owner of the Fiscal 2004 B Bonds, notice of redemption is to be sent to DTC. No assurance can be given by the Authority that DTC and DTC participants will promptly transmit notices of redemption to Beneficial Owners. See "APPENDIX F—BOOK-ENTRY-ONLY FORM."

If, on any redemption date, moneys for the redemption of the Fiscal 2004 B Bonds to be redeemed, together with interest thereon to the redemption date, are held by the Trustee so as to be available therefor on such date, and if notice of redemption has been mailed, then interest on the Fiscal 2004 B Bonds to be redeemed will cease to accrue from and after the redemption date and such Fiscal 2004 B Bonds will no longer be considered to be Outstanding under the Resolution.

The notice of redemption may provide that the Fiscal 2004 B Bonds will be due and payable on the redemption date only if moneys sufficient to accomplish such redemption are held by the Trustee on the scheduled redemption date.

## SECURITY FOR THE BONDS

### Revenues

The Act empowers the Board to establish and collect rates, fees and charges for the use of service provided by the System in order to receive Revenues, which together with other available amounts, will be sufficient to place the System on a self-sustaining basis. All Revenues of the System are deposited by the Board in the Local Water Fund held by the Board. The Authority holds a statutory first lien on the Revenues for the payment of all amounts due to the Authority under the Agreement. In the event that the Board fails to make any required payment to the Authority, the Authority or the Trustee may petition for the appointment, by any court having jurisdiction, of a receiver to administer the affairs of the Board, and, with court approval, establish rates and charges to provide Revenues sufficient to make required payments. However, no holder or owner of any bond or note issued by the Authority, or any receiver of the System, may compel the sale of any part of the System.

The City has covenanted in the Agreement to operate and maintain the System in accordance with the advice and recommendations of the Consulting Engineer. Such obligation to operate and maintain the System may be enforced by the Authority in accordance with the provisions of the Act and the terms of the Agreement and the Lease and is not contingent on payment by the Board. The amounts required to operate and maintain the System are certified to the Board by the City and reviewed by the Consulting Engineer.

Beginning on the first day of each month the Board is required to pay to the Trustee under the Resolution the Revenues in the Local Water Fund, for deposit in the Revenue Fund established under the Resolution until the amount so deposited equals the Minimum Monthly Balance and the Required Deposits for such month. The Minimum Monthly Balance is the amount required to accumulate the funds necessary for timely payment of all debt service on Outstanding Bonds. Required Deposits are the amounts required to be paid from Revenues for deposit to the Authority Expense Fund, the Debt Service Reserve Fund and the Subordinated Indebtedness Fund, including amounts required for payment of the Second Resolution Bonds and other subordinate debt. See “APPENDIX C—GLOSSARY AND SUMMARY OF CERTAIN DOCUMENTS—Summary of the Agreement—Minimum Monthly Balance.”

Amounts on deposit in the Revenue Fund are required to be paid to the following funds established under the Resolution in the following order of priority: first, to the Debt Service Fund; second, to the Authority Expense Fund; third, to the Debt Service Reserve Fund to replenish any deficiency therein; and fourth, to the Subordinated Indebtedness Fund. If amounts on deposit in such Debt Service Fund or such Debt Service Reserve Fund are less than the requirements thereof, amounts on deposit in the Subordinated Indebtedness Fund are required to be used to make up such deficiency. See “APPENDIX C—GLOSSARY AND SUMMARY OF CERTAIN DOCUMENTS—Summary of the Resolution—Payments into Certain Funds.”

In each month, after making required payments to the Revenue Fund the Board is required, after paying monthly Board Expenses, to pay the City  $\frac{1}{2}$  of the Operating Expenses for the current Fiscal Year from the balance remaining in the Local Water Fund. After making such payments, any amounts remaining in the Local Water Fund in each month are paid proportionately (a) to the Trustee for deposit in the Revenue Fund until the total of all amounts deposited in the Revenue Fund equals the Cash Flow Requirement for such Fiscal Year and (b) to the City until all amounts required to be paid to the City for Operating Expenses for such Fiscal Year have been paid. For a more complete description of the required payments from the Local Water Fund, see “APPENDIX C—GLOSSARY AND SUMMARY OF CERTAIN DOCUMENTS—Summary of the Resolution” and “Summary of the Agreement.”

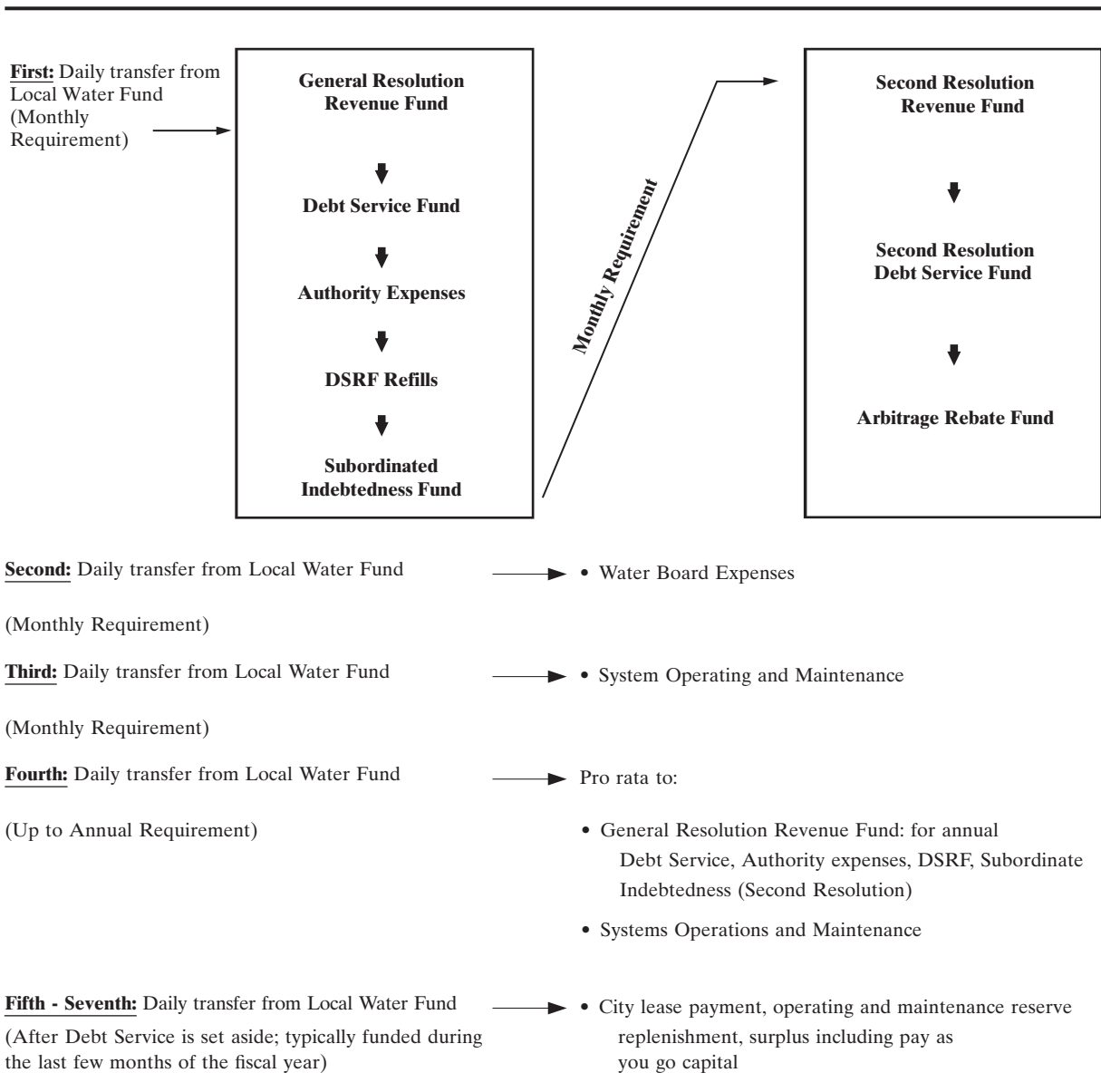
The Fiscal 2004 B Bonds will be on a parity with the currently Outstanding Bonds and with Bonds hereafter issued and are payable from and secured by a pledge of (i) all Revenues, (ii) all moneys or securities in any of the Funds and Accounts established under the Resolutions, except that moneys or securities on deposit in a Special Account are pledged only to the Series of Bonds to which such Account relates and moneys and securities on deposit in the Common Account are pledged only to the Bonds for which a Special Account has not been established pursuant to the Resolution, and (iii) all other moneys



and securities to be received, held or set aside pursuant to the Resolution, subject only to the provisions of the Resolution and the Agreement permitting the application thereof for the purposes and on the terms and conditions set forth therein, including the making of any required payments to the United States with respect to arbitrage earnings. No such Special Account has been established by the Authority. See “APPENDIX C—GLOSSARY AND SUMMARY OF CERTAIN DOCUMENTS—Summary of the Resolution” and “Summary of the Agreement.”

Pursuant to the Agreement, the Resolution and the Second Resolution, the Revenues received by the Board will be applied in the manner set forth in the following chart. The information contained in such chart is qualified by reference to the Agreement, the Resolution and the Second Resolution.

## Consolidated Flow of Funds



## **Debt Service Reserve Fund**

The Resolution establishes a Debt Service Reserve Fund and requires as a condition to the issuance of each Series of Bonds that there be deposited into the Debt Service Reserve Fund the amount, if any, necessary to make the amount on deposit therein equal to the Debt Service Reserve Requirement, after giving effect to the issuance of such Bonds. The Debt Service Reserve Requirement is an amount equal to maximum annual Adjusted Aggregate Debt Service in the then current or any future Fiscal Year on all Bonds Outstanding. Adjusted Aggregate Debt Service includes an assumed amortization of Refundable Principal Installments under certain circumstances. Amounts on deposit in the Debt Service Reserve Fund will be applied, to the extent Revenues are not available, to pay Principal Installments and interest on the Bonds. See "APPENDIX C—GLOSSARY AND SUMMARY OF CERTAIN DOCUMENTS—Summary of the Resolution—Debt Service Reserve Fund."

In lieu of making cash deposits to the Debt Service Reserve Fund, the Authority may satisfy the Debt Service Reserve Requirement by depositing Financial Guaranties into the Debt Service Reserve Fund. See "APPENDIX C—GLOSSARY AND SUMMARY OF CERTAIN DOCUMENTS—Summary of the Resolution—Debt Service Reserve Fund."

On February 1, 2004 the market value of the securities and cash in the Debt Service Reserve Fund was in excess of the Debt Service Reserve Fund Requirement. The Debt Service Reserve Fund Requirement was approximately \$652.6 million as of such date. Upon the delivery of the Fiscal 2004 B Bonds, the Debt Service Reserve Fund will be funded in an amount at least equal to the maximum annual Adjusted Aggregate Debt Service on the Bonds.

## **Rate Covenant**

The Board has covenanted in the Agreement to establish, fix, revise and collect rates, fees and charges for the use of, or the services furnished by the System, adequate, together with other available funds, to provide for (i) the timely payment of Principal Installments of and interest on all Bonds, and the principal of and interest on any other indebtedness of the Authority (which includes Second Resolution Bonds and other subordinate debt) payable from Revenues, (ii) the proper operation and maintenance of the System, (iii) all other payments required for the System not otherwise provided for, and (iv) all other payments required pursuant to the Agreement and the Lease.

Without limiting the generality of the foregoing, the Board has covenanted to establish and collect rates, fees and charges sufficient in each Fiscal Year so that Revenues collected in such Fiscal Year will be at least equal to the sum of 115% of Aggregate Debt Service and Projected Debt Service on all Bonds (excluding Refundable Principal Installments that are payable from funds held in trust therefor) payable in such Fiscal Year, and 100% of the Operating Expenses and Required Deposits (including debt service on Second Resolution Bonds and other subordinate debt) required to be paid from Revenues for such Fiscal Year (the "Rate Covenant"). Amounts on deposit in the Revenue Fund on July 1 of a Fiscal Year will reduce the amount of Revenues required to be raised to meet the Required Deposits for such Fiscal Year. A failure to generate Revenues as set forth in this paragraph will not constitute an "event of default" under the Agreement if the Board takes timely action to correct any such deficiency as described in the following paragraph.

Under the Resolution and the Second Resolution, the Authority is required to submit to the Board by May 1 of each year the Authority Budget for the ensuing Fiscal Year showing the itemized estimated Cash Flow Requirement for such Fiscal Year. At the beginning of each month, the Authority is to recalculate the Cash Flow Requirement for the then current Fiscal Year and to submit any revisions to the Authority Budget required as a consequence to the Board. The Authority Budget and Cash Flow Requirement are to be used by the Board to set rates, fees and charges.

The Board has covenanted in the Agreement to review the adequacy of rates, fees and charges at least annually. If such annual review, or the report of the Rate Consultant required pursuant to the Agreement, indicates that the rates, fees and charges are or will be insufficient to meet the requirements of the Rate Covenant described above, the Board will promptly take the necessary action to cure or avoid any such deficiency. In addition, under the Agreement, the City, which is responsible for billing, collecting and enforcing collections of rates and charges established by the Board, has agreed that it will diligently pursue all actions necessary to cure or avoid any such deficiency.

The Board has covenanted in the Agreement that it will not furnish or supply or cause to be furnished or supplied any product, use or service of the System free of charge or at a nominal charge, and will enforce (or cause the City to enforce) the payment of any and all amounts owing to the Board for use of the System, except to the extent required by the Act, as in effect on July 24, 1984.

### **Additional Bonds**

The Authority may issue additional Bonds to pay for capital improvements to the System, to pay or provide for the payment of Bonds, Second Resolution Bonds and bond anticipation notes, including commercial paper notes, to refund general obligation bonds of the City issued for water or sewer purposes and to fund certain reserves. Under the Resolution, additional Bonds may be issued only upon satisfaction of certain requirements, including receipt by the Trustee of:

(a) a certificate by an Authorized Representative of the Authority to the effect that the Revenues for either of the last two Fiscal Years immediately preceding the Fiscal Year in which such Bonds are to be issued were at least equal to the sum of 115% of the Aggregate Debt Service during such Fiscal Year (excluding from Aggregate Debt Service any Principal Installments, or portion thereof, paid from a source other than Revenues), and 100% of the sum of the Operating Expenses of the System certified by the City and the Required Deposits for such Fiscal Year, and

(b) a certificate of the Rate Consultant to the effect that the estimated Revenues for each of the following five Fiscal Years (plus the Fiscal Year in which such Bonds are issued) after giving effect to any increases or decreases in rates, fees and charges projected for such Fiscal Years will be at least equal to the sum of 115% of the maximum estimated Adjusted Aggregate Debt Service on all Bonds then Outstanding including the Bonds to be issued, and 100% of the sum of the projected Operating Expenses and Required Deposits for such Fiscal Years. Adjusted Aggregate Debt Service includes an assumed amortization of Refundable Principal Installments under certain circumstances. See “—Refundable Principal Installments.”

The Authority may issue additional Bonds for the purpose of refunding Outstanding Bonds without satisfaction of the requirements described above only if:

(a) the average annual debt service on the refunding Bonds does not exceed the average annual debt service on the Bonds to be refunded, and

(b) the maximum debt service in any Fiscal Year on the refunding Bonds does not exceed the maximum debt service in any Fiscal Year on the Bonds to be refunded.

See “APPENDIX C—GLOSSARY AND SUMMARY OF CERTAIN DOCUMENTS—Summary of the Resolution.”

### **Authority Debt**

At the date of this Official Statement, the Authority has approximately \$8.98 billion aggregate principal amount of Outstanding Bonds (Capital Appreciation Bonds are included at their accreted value as of February 12, 2004). In addition, at the date of this Official Statement, the Authority has approximately \$3.33 billion aggregate principal amount of outstanding Second Resolution Bonds. The Authority is authorized to have outstanding up to \$800 million of commercial paper notes (the “Commercial Paper Notes”).

For purposes of the Board’s rate covenant, Refundable Principal Installments may be excluded from Debt Service to the extent they are payable from funds held in trust therefor. See “—Rate Covenant.”

Second Resolution Bonds are payable from, among other sources, and secured by, a pledge of amounts on deposit in the Subordinated Indebtedness Fund, subject to the first lien on such amounts in favor of the Bonds. Amounts on deposit in the Subordinated Indebtedness Fund will be available, to the extent not utilized for Bonds, to pay debt service on Second Resolution Bonds.

The Commercial Paper Notes are special obligations of the Authority the proceeds of which are used to pay the costs of capital improvements to the System. The Series One Notes, the Series Five Notes, and

the Series Six Notes are each secured by standby line of credit agreements which provide liquidity for such Commercial Paper Notes. In March 2003, the Authority authorized its Extendable Municipal Commercial Paper Notes, Series Seven. Principal of and interest on the Series Seven Notes are not secured by any liquidity or credit facility and are payable from remarketing proceeds and the proceeds of additional Series Seven Notes, Bonds or Second Resolution Bonds. Interest on the Commercial Paper Notes is secured by the Revenues of the System and the moneys and investments from time to time on deposit in the Subordinated Indebtedness Fund and the funds and accounts established under the resolutions authorizing their issuance. The pledge of the Revenues and the moneys and investments from time to time on deposit in the Subordinated Indebtedness Fund is subject and subordinate to the pledge thereof made by the Resolution for the benefit of the holders of Bonds. The pledge of the moneys and investments on deposit in the Subordinated Indebtedness Fund securing Commercial Paper Notes is of equal priority with the pledge securing Second Resolution Bonds.

The Authority's obligations to the banks providing standby lines of credit, including the Authority's obligation to pay interest on moneys advanced, are secured by a pledge of the moneys and investments on deposit in the Subordinated Indebtedness Fund on a parity with the pledge to secure the Second Resolution Bonds. Interest on such advances is also secured by a pledge of Revenues which is subordinate to the pledge securing the Bonds.

### **Other Authority Indebtedness**

The Authority has issued \$665,370,000 of its Crossover Refunding Bonds in six separate series (the "Crossover Bonds"). Each series of Crossover Bonds was issued pursuant to a separate Crossover Refunding Bond Resolution of the Authority. Each series of Crossover Bonds is secured by the proceeds of such series of bonds and any investment income thereon, until their respective Tender Dates. Guaranteed investment contracts are expected to provide sufficient amounts to pay debt service on the Crossover Bonds until their respective Tender Dates. The Crossover Bonds have a subordinate lien on the Subordinated Indebtedness Fund under the Second Resolution but have no lien on Revenues. If certain conditions are met on the relevant Tender Date, the Crossover Bonds of the respective series will be exchanged for Bonds to be issued pursuant to the Resolution and the proceeds of the respective series of Crossover Bonds will be applied to redeem other Outstanding Bonds of specified series. The first series of Crossover Bonds is expected to be exchanged for Bonds in June 2004.

### **Derivatives**

In an effort to reduce its borrowing costs over the life of its bonds, the Authority has entered into interest rate exchange agreements.

On June 18, 2002, the Authority entered into an interest rate exchange agreement in connection with \$20,000,000 of its Fiscal 2003 Series A Bonds. Under this contract, which runs from July 9, 2002 through June 15, 2013, the Authority receives from Morgan Stanley Capital Services a floating rate tied to the Consumer Price Index, which matches the interest rate on such bonds, on the notional amount of \$20,000,000 and pays a fixed interest rate on such notional amount.

On December 17, 2003, the Authority entered into an interest rate exchange agreement with BNP Paribas. This agreement, which took effect on December 23, 2003 and runs through June 15, 2014, requires the Authority to pay the weighted weekly average of the Bond Market Association Municipal Swap Index on a notional amount of \$200,000,000. In return, BNP Paribas pays the Authority a fixed rate of 3.567% per annum on the notional amount.

### **Covenant of the State**

Section 1045-t of the Act constitutes a pledge of the State to the holders of Bonds not to limit or alter the rights vested in the Authority or the Board by the Act to fulfill the terms of any agreement made with or for the benefit of the holders of the Bonds until such obligations together with the interest thereon are fully met and discharged.

## THE AUTHORITY

### Purpose and Powers

The New York City Municipal Water Finance Authority is a public benefit corporation created pursuant to the Act. Among its powers under the Act, the Authority may borrow money, issue debt and enter into the Agreement, and refund its bonds and notes and general obligation bonds of the City issued for water or sewer purposes. Additionally, the Authority has the power to require that the Board charge and collect sufficient rates to pay the costs of operating and financing the System and to enforce the obligation of the City to adequately operate and maintain the System, regardless of reimbursement by the Board of costs incurred by the City for operation and maintenance.

Pursuant to the Act, there is a statutory first lien on the Revenues in favor of the payment of all amounts due to the Authority under the Agreement. The Revenues remain subject to this lien until provision for payment of all indebtedness issued by the Authority has been made. See “Certain Legal Opinions” for a description of the opinion rendered by Bond Counsel that in the event of a City bankruptcy, a court, exercising reasonable judgment after full consideration of all relevant factors, would not hold that the Revenues are property of the City.

### Membership

The Act authorizes a seven-member board to administer the Authority. (There is currently one vacancy on the board). Four of the members of the Board of Directors are designated in the Act as *ex officio* members: the Commissioner of Environmental Protection of the City, the Director of Management and Budget of the City, the Commissioner of Finance of the City and the Commissioner of Environmental Conservation of the State. Of the three remaining public members, two are appointed by the Mayor and one is appointed by the Governor. The public members have terms of two years. Pursuant to the Act, all members continue to hold office until their successors are appointed and qualified.

The current members of the Board of Directors are:

<u>Member</u>	<u>Occupation</u>
Mark Page(1).....	Director of Management and Budget of the City
Erin M. Crotty(1).....	Commissioner of Environmental Conservation of the State
Martha E. Stark(1).....	Commissioner of Finance of the City
Christopher O. Ward(1).....	Commissioner of Environmental Protection of the City
Charles E. Dorkey III(2).....	Partner, Torys
Arthur B. Hill(3).....	Retired, United Parcel Service
Judy Wesalo Temel(2).....	Principal, JWT Consulting

(1) *Ex officio*.

(2) Appointed by the Mayor.

(3) Appointed by the Governor.

The following is a brief description of certain officers and staff members of the Authority:

Alan L. Anders, Executive Director

Mr. Anders was appointed Executive Director in June 2002 after serving as Treasurer since October 1990. Mr. Anders also serves as Deputy Director for Finance of the Office of Management and Budget of the City. Prior to joining the Authority and the City in September 1990, Mr. Anders had been a senior investment banker for J. P. Morgan Securities since 1977. Prior to that date, he was Executive Director of the Commission on Governmental Efficiency and Economy in Baltimore, Maryland. Mr. Anders is a graduate of the University of Pennsylvania and the University of Maryland Law School.

Thomas G. Paolicelli, Treasurer

Mr. Paolicelli was appointed Treasurer in June 2002 after having served as Deputy Treasurer since November 2000. He is a graduate of the State University of New York at Buffalo and the University at Albany's Rockefeller College of Public Affairs and Policy.

Marjorie E. Henning, Secretary

Ms. Henning was appointed Secretary in November 1993. Ms. Henning also serves as General Counsel to the Office of Management and Budget of the City. Ms. Henning is a graduate of the State University of New York at Buffalo and the Harvard Law School.

Lawrence R. Glantz, Comptroller

Mr. Glantz was appointed Comptroller in January 2000. He is a graduate of Hofstra University.

Philip Wasserman, Deputy Treasurer

Mr. Wasserman was appointed Deputy Treasurer in June 2002. He joined the Authority in June of 2000 as a financial analyst and was appointed Assistant Treasurer in November 2000. He is a graduate of Cornell University, Columbia University, and the University of Texas at Austin.

Prescott D. Ulrey, Assistant Secretary

Mr. Ulrey was appointed Assistant Secretary in February 1998. Mr. Ulrey also serves as Counsel of the Office of Management and Budget of the City. He is a graduate of the University of California at Berkeley, the Fletcher School of Law and Diplomacy of Tufts University and Columbia Law School.

Raymond Orlando, Manager of Investor Relations

Mr. Orlando was appointed Manager of Investor Relations in June 2000. He is a graduate of the University of Pennsylvania and the John F. Kennedy School of Government at Harvard University.

## THE BOARD

### Purpose and Powers

The Board is a public benefit corporation of the State created by Chapter 515 of the Laws of 1984. The primary responsibility of the Board is to fix, revise, charge, collect and enforce rates and other charges for the System.

The Board is required under the Act to establish rates that will provide adequate funds to pay the debt service on outstanding Authority indebtedness and the City's cost of operating and maintaining the System. In each Fiscal Year, any amounts remaining in the Local Water Fund, after making the required payments under the Agreement, shall be deposited in the General Account in the Operation and Maintenance Reserve Fund and shall be available either as a source of funding for System expenditures or upon certification of the City for deposit to the Authority's Construction Fund to pay for the costs of System capital projects. See "APPENDIX C—GLOSSARY AND SUMMARY OF CERTAIN DOCUMENTS—Summary of the Agreement—Application of Moneys in the Operation and Maintenance Reserve Fund."

Pursuant to the Lease, the Board has a leasehold interest in the System for a term continuing until all Bonds or other obligations issued by the Authority are paid in full or provision for payment has been made. Under the Lease, the City is required to provide billing, collection, enforcement and legal services to the Board. The Board is required to compensate the City for the cost of these services.

### Membership

The Board consists of seven members who are appointed by the Mayor for terms of two years. The Act also provides that at least one member will have experience in the science of water resource development and that no member of the Board will be a member of the Authority. The Chairman is appointed by the Mayor. Pursuant to the Act, all members continue to hold office until their successors are appointed and qualified.

The current members of the Board are:

<u>Member</u>	<u>Occupation</u>
Mark R. Hellerer, Chairman . . . . .	Partner, Pillsbury Winthrop LLP
Lilyan H. Affinito . . . . .	Retired
Dawn S. Davis . . . . .	Bronx Pro Real Estate Management
Amaziah Howell . . . . .	President, Howell Petroleum Products, Inc.
Stacy Coleman Morse . . . . .	Retired
James T.B. Tripp . . . . .	General Counsel, Environmental Defense Fund
Maria Santos Valentin . . . . .	Senior Associate General Counsel, Open Society Institute

The following is a brief description of the staff members of the Board:

David B. Tweedy, Executive Director

Mr. Tweedy was appointed Executive Director of the Board in November 2002 and First Deputy Commissioner of DEP in September 2002. Prior to joining DEP, Mr. Tweedy served for twelve years in various management and executive positions at the New York City Transit Authority ("NYCT"), most recently as Senior Director in the Capital Program Management Department of NYCT, managing non-engineering functions such as Personnel, Systems and Administration and Budgeting. Prior to the NYCT, Mr. Tweedy served as a Vice President at Bankers Trust Company in the Global Operating Services unit. He also worked in financial functions at International Paper Co. Mr. Tweedy is a graduate of Yale University and received an M.B.A. in Finance from Columbia University.

William Kusterbeck, Treasurer

Mr. Kusterbeck has served as Treasurer since his appointment in November 1985. For the period from August through November 2002 he also served as Acting Executive Director. Mr. Kusterbeck

has worked for DEP since 1979. He has served in various positions in DEP including Director of Rates and Revenue, and Director of the Office of Planning. Mr. Kusterbeck is a graduate of Hunter College of the City University of New York and Columbia University Graduate School of Business.

Carmelo Emilio, Deputy Treasurer

Mr. Emilio was appointed Deputy Treasurer in June 2000. He has worked for the City since 1976, and has served as the Chief of Financial Operations at the Water Board from 1996. Prior to joining the Water Board, Mr. Emilio worked with the New York City Office of Management and Budget as a Revenue Analyst. Mr. Emilio is a graduate of Baruch College of the City University of New York.

Albert F. Moncure, Jr., Secretary

Mr. Moncure was named Acting Secretary in February 1997 and Secretary in April 1997. Mr. Moncure also serves as Chief of the Municipal Finance Division of the New York City Law Department. Mr. Moncure has worked for the Law Department since 1986. Mr. Moncure is a graduate of Dartmouth College and the Yale Law School.



## THE DEPARTMENT OF ENVIRONMENTAL PROTECTION

### Organization

Over 5,700 DEP staff members are assigned to the System. Approximately 800 people within the System staff are assigned to the design and construction of ongoing capital projects, including projects within the Capital Improvement Program, as hereinafter defined, and approximately 400 provide administrative and support services to both System and non-System staff. There are approximately 300 additional employees within the DEP staff whose duties are not related to water and sewer service and whose cost is not included as a System cost.

The New York City Department of Design and Construction (the “DDC”) has responsibility for the construction and reconstruction of water and sewer mains in the City. Based upon current workloads, a proportion of DDC’s staff equivalent to 350 full-time positions is devoted to System construction projects.

DEP is managed by a Commissioner, who is appointed by the Mayor. It is organized into seven bureaus: Customer Services; Water and Sewer Operations; Water Supply; Environmental Engineering; Wastewater Treatment; Management and Budget; and Executive Bureaus.

The following are brief descriptions of certain management personnel responsible for the operation of the System.

Christopher O. Ward, Commissioner

Mr. Ward was appointed Commissioner in April 2002. Prior to joining DEP, Mr. Ward served as the Chief of Planning and External Affairs for The Port Authority of New York and New Jersey (the “Port Authority”), where he also was the Director of the Port Redevelopment Program for the Port Commerce Department, a position he had held since 1997. Prior to joining the Port Authority, Mr. Ward held positions as the Director of Business Development for American Stevedoring, Inc., Senior Vice-President of Transportation and Commerce for the New York City Economic Development Corporation, Assistant Commissioner of Energy Policy and Programming at the New York City Department of Telecommunications and Energy, and General Manager of New York City Public Utility Service. Mr. Ward has also served as an Adjunct Professor at the School of International and Public Affairs of Columbia University. He is a graduate of Macalester College and received a Masters Degree from Harvard University.

David B. Tweedy, First Deputy Commissioner

Mr. Tweedy was appointed First Deputy Commissioner of DEP in September 2002 and Executive Director of the Board in November 2002. Prior to joining DEP, Mr. Tweedy served for twelve years in various management and executive positions at the New York City Transit Authority (“NYCT”), most recently as Senior Director in the Capital Program Management Department of NYCT, managing non-engineering functions such as Personnel, Systems and Administration and Budgeting. Prior to the NYCT, Mr. Tweedy served as a Vice President at Bankers Trust Company in the Global Operating Services unit. He also worked in financial functions at International Paper Co. Mr. Tweedy is a graduate of Yale University and received an M.B.A. in Finance from Columbia University.

Denise M. Richardson, Deputy Commissioner

Denise M. Richardson was appointed Deputy Commissioner for Customer Services in January 2003. Ms. Richardson has held various positions in City government since 1983. Prior to joining Customer Services, Ms. Richardson served as Chief Procurement Officer for the capital construction program of NYCT. Ms. Richardson’s other government positions have included that of Assistant Commissioner/Agency Chief Contracting Officer at the Department of Information Technology and Telecommunications, Deputy Agency Chief Contracting Officer at DEP, Construction Contract Administrator for the Department of General Services (now the Department of Design and Construction), and Director of Administration and Budget Analyst, respectively, at the Department of Sanitation. She also previously worked as Business Manager for Honeywell, Inc. Ms. Richardson

is a graduate of Simmons College and received a Master's Degree in Public Administration/Urban and Regional Planning from Princeton University.

Douglas S. Greeley, P.E., Deputy Commissioner

Mr. Greeley was appointed Director of the Bureau of Water and Sewer Operations in 1996. He has been with DEP since 1973 and has served in numerous capacities, including Chief of System Operations, Chief of the Maintenance Division, and Chief of the Repairs Division of DEP's Bureau of Water Supply and Wastewater Collection. Mr. Greeley is a graduate of the Stevens Institute of Technology. He is a Professional Engineer.

Michael A. Principe, Ph.D., Deputy Commissioner

Dr. Principe was appointed Acting Deputy Commissioner of the Bureau of Water Supply ("BWS") in June 2000 and Deputy Commissioner in May 2001. He has been with DEP since 1981, serving in a variety of roles, most recently as the Deputy Director of BWS and Chief of the Division of Drinking Water Quality Control within BWS. Dr. Principe graduated from Cornell University with a B.S. in Natural Resources, received a M.S. in Environmental Science from SUNY College of Environmental Science and Forestry at Syracuse, New York, and a Ph.D. in Biology from CUNY Graduate School and University Center.

Warren Kurtz, P.E., Deputy Commissioner

Mr. Kurtz was appointed Deputy Commissioner of the Bureau of Environmental Engineering ("BEE") in November 2002. He has been with DEP since 1969, and has served as the Chief of the Program Management Division, Deputy Director of the Section 208 Area-wide Wastewater Treatment Management Planning Program, Assistant Chief Engineer and most recently as Deputy Director for Facilities Planning within the BEE. He also previously served in the City's Legislative Office of Budget Review and the Mayor's Office of Construction. Mr. Kurtz received a Bachelor's Degree in Civil Engineering and a Master's Degree in Engineering from City College of New York, an M.S. in Urban Affairs from Hunter College, and an M.B.A. from California State University, Northridge.

Alfonso R. Lopez, P.E., Deputy Commissioner

Mr. Lopez was appointed Acting Deputy Commissioner of the Bureau of Wastewater Treatment in January 2001 and Deputy Commissioner in May 2001. He has been with the DEP since 1973 and has served in numerous positions including Chief of Process Engineering, Chief of North Facilities Operations, Chief of Biosolids Engineering and Planning Division and most recently as Deputy Director of Facilities Operations. Mr. Lopez is a graduate of New York University with a degree in Civil Engineering and is a Professional Engineer.

## **Labor Relations**

During the last decade, there have been no strikes or major work stoppages of DEP employees affecting the System. Approximately 95% of DEP's employees are members of labor unions which represent such employees in collective bargaining with the City. The majority of DEP employees who are members of unions are members of District Council 37 of the American Federation of State, County and Municipal Employees ("DC 37"). The last agreement with DC 37 covered the period from April 1, 2000 through June 30, 2002. Negotiations for a new contract commenced in March 2003 and are ongoing.

## CAPITAL IMPROVEMENT AND FINANCING PROGRAM

### Capital Improvement Program

The City's Ten Year Capital Strategy published in April 2003 (the "Ten Year Capital Strategy"), which is updated every two years, includes the projected capital improvements to the System for Fiscal Years 2004 through 2013. The City's Current Capital Plan released in January 2004 (the "Current Capital Plan") is updated quarterly and supercedes the Ten Year Capital Strategy for Fiscal Years 2004 through 2008. The Ten Year Capital Strategy as modified by the Current Capital Plan comprises the Capital Improvement Program (the "CIP"). The CIP includes projected capital commitments of \$17.2 billion for water and sewer facilities. As of January 2004, the Current Capital Plan increased the total projected costs of projects included in the Ten Year Capital Strategy for Fiscal Years 2004 through 2008 from \$8.97 billion to \$9.69 billion.

The CIP establishes long range programmatic goals for the System and reflects a review of the present condition and long-term needs of the plant and equipment constituting the System. The CIP incorporates the requirements of legal mandates, the present replacement cycle for System facilities, extensions to the present service area, and programs to enhance and optimize the operation of the System. Allowances are included in the CIP for emergency repair and replacement. The value of the actual work done in any given year will differ from that outlined in the CIP. Capital commitments in the CIP for the years beyond the Current Capital Plan will change due to the addition of new projects, as well as due to changes in project schedules and costs. The capital program projected in the CIP substantially exceeds levels required in order to maintain the current condition of the System.

The CIP is presented in the following table.

**CAPITAL IMPROVEMENT PROGRAM**  
(Thousands of Dollars)

<b>CITY FUNDS</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>Total</b>
<b>WATER SUPPLY AND TRANSMISSION</b>											
Conveyance . . . . .	\$ 39,754	\$ —	\$ —	\$ 50,000	\$ 50,000	\$ —	\$ 425,000	\$ —	\$ 550,000	\$ —	\$ 1,114,754
Kensico-City Tunnel . . . . .	15,000	—	50,000	—	—	500,000	150,000	500,000	—	500,000	1,715,000
City Tunnel No. 3, Stage 1 . . . . .	9,568	135,100	58,500	—	—	—	—	—	2,800	—	205,968
City Tunnel No. 3, Stage 2 . . . . .	39,088	642,700	5,000	—	33,000	—	150,000	—	15,000	—	884,788
Miscellaneous Programs . . . . .	838	2,000	—	—	—	—	—	—	—	—	2,838
Subtotal . . . . .	104,248	779,800	113,500	50,000	83,000	500,000	725,000	500,000	567,800	500,000	3,923,348
<b>WATER DISTRIBUTION</b>											
Brooklyn-Queens Aquifer . . . . .	8,162	3,600	8,200	—	—	—	—	—	—	—	19,962
Croton Filtration Project . . . . .	61,217	9,673	415,000	451,600	470,000	—	7,000	—	—	—	1,414,490
Dam Safety Program . . . . .	56,398	50,000	92,475	—	305,000	—	—	—	—	—	503,873
Trunk Distribution and Main Extension . . . . .	17,309	51,276	35,420	43,081	19,689	5,729	5,872	6,031	6,206	6,398	197,011
Trunk Distribution and Main Replacement . . . . .	141,782	53,624	53,769	92,213	100,352	110,271	110,128	109,969	111,534	113,256	996,898
Water Quality Preservation . . . . .	441,264	295,942	121,848	496,186	13,300	11,609	11,927	11,255	11,593	44,191	1,459,115
Other System Improvements . . . . .	11,208	—	5,100	—	—	—	—	—	—	—	16,308
Subtotal . . . . .	737,340	464,115	731,812	1,083,080	908,341	127,609	134,927	127,255	129,333	163,845	4,607,657
<b>WATER POLLUTION CONTROL</b>											
Consent Decree Upgrading & Construction . . . . .	760,450	246,500	290,721	—	125,000	260,000	48,457	10,000	31,000	70,000	1,842,128
Plant Upgrading & Reconstruction . . . . .	118,409	99,180	137,075	73,950	194,025	86,050	100,500	93,500	83,500	83,500	1,069,689
Sludge Disposal . . . . .	26,620	—	—	—	—	148,250	—	—	—	—	174,870
Plant Component Stabilization(1) . . . . .	203,927	260,974	298,794	—	215,000	345,000	325,000	330,000	345,000	365,000	2,688,695
Water Quality Mandates . . . . .	21,788	163,386	56,659	(11,650)	36,370	31,000	16,000	205,000	10,000	100,000	628,553
Subtotal . . . . .	1,131,194	770,040	783,249	62,300	570,395	870,300	489,957	638,500	469,500	618,500	6,403,935
<b>SEWERS</b>											
Replacement or Augmentation . . . . .	25,100	2,232	5,000	5,476	8,600	—	—	—	—	—	46,408
Extensions to Accommodate New Development . . . . .	110,125	64,162	76,156	36,131	59,608	83,802	70,800	89,801	69,219	92,560	752,364
Programmatic Response to Regulatory Mandates . . . . .	—	—	—	—	9,000	—	—	—	—	—	9,000
Programmatic Replacement and Reconstruction . . . . .	3,943	—	500	—	—	3,200	3,200	3,200	3,293	3,395	20,731
Replacement of Chronically Failing Components . . . . .	130,801	67,141	28,249	16,120	51,251	46,998	45,000	45,999	49,127	48,587	529,273
Trunks . . . . .	1,665	5,000	5,136	—	—	—	—	—	—	—	11,801
Subtotal . . . . .	271,634	138,535	115,041	57,727	128,459	134,000	119,000	139,000	121,639	144,542	1,369,577
<b>EQUIPMENT</b>											
Conservation . . . . .	23,039	14,612	30,861	4,612	9,611	4,223	4,223	4,223	4,345	4,480	104,229
Management Information Systems . . . . .	4,329	1,892	2,000	2,000	2,000	—	—	—	—	—	12,221
Facility Purchases & Reconstruction . . . . .	22,622	55,966	30,300	1,600	38,103	38,118	—	—	—	—	186,709
Utility Relocation . . . . .	27,789	20,156	20,480	20,375	20,375	20,375	20,375	20,405	20,435	20,510	211,275
Vehicles and Equipment . . . . .	10,842	4,500	4,000	3,999	4,000	4,000	4,000	4,000	4,000	4,000	47,341
Subtotal . . . . .	88,621	97,126	87,641	32,586	74,089	66,716	28,598	28,628	28,780	28,990	561,775
<b>TOTAL CITY FUNDS</b> . . . . .	<b>2,333,037</b>	<b>2,249,616</b>	<b>1,831,243</b>	<b>1,285,693</b>	<b>1,764,284</b>	<b>1,698,625</b>	<b>1,497,482</b>	<b>1,433,383</b>	<b>1,317,052</b>	<b>1,455,877</b>	<b>16,866,292</b>
<b>STATE, FEDERAL, AND PRIVATE FUNDS</b>											
Water Quality Preservation . . . . .	6,419	—	—	—	—	—	—	—	—	—	6,419
Consent Decree Upgrading & Construction . . . . .	32,862	—	—	—	—	—	—	—	—	—	32,862
Plant Upgrading & Reconstruction . . . . .	2,563	—	—	—	—	—	—	—	—	—	2,563
Plant Component Stabilization (1) . . . . .	62,958	—	—	—	—	—	—	—	—	—	62,958
Water Quality Mandates . . . . .	25,550	25,000	25,000	25,000	25,000	25,000	25,000	25,000	—	—	200,550
Other System Improvements . . . . .	278	75	—	—	—	—	—	—	—	—	353
<b>TOTAL NON-CITY FUNDS</b> . . . . .	<b>130,630</b>	<b>25,075</b>	<b>25,000</b>	<b>25,000</b>	<b>25,000</b>	<b>25,000</b>	<b>25,000</b>	<b>25,000</b>	<b>—</b>	<b>—</b>	<b>305,705</b>
<b>TOTAL FUNDS</b> . . . . .	<b>\$2,463,667</b>	<b>\$2,274,691</b>	<b>\$1,856,243</b>	<b>\$1,310,693</b>	<b>\$1,789,284</b>	<b>\$1,723,625</b>	<b>\$1,522,482</b>	<b>\$1,458,383</b>	<b>1,317,052</b>	<b>1,455,877</b>	<b>\$17,171,997</b>

(1) Plant Component Stabilization includes amounts for the biological nutrient removal program.

The difference between the Current Capital Plan and the Ten Year Capital Strategy for fiscal years 2004 through 2008 reflects increases of \$727.7 million in State, federal and private funds and an increase of \$622 million in System funds, including the proceeds of Authority bonds. The following table presents a comparison of the Ten Year Capital Strategy and Current Capital Plan.

**COMPARISON OF 2004-2008 PROJECTIONS**  
(Thousands of Dollars)

	<b>Ten Year Capital Strategy 2004-2008</b>	<b>Current Capital Plan 2004-2008</b>	<b>Increase (Decrease)</b>
<b>SYSTEM FUNDS</b>			
Water Supply and Transmission.....	\$1,145,671	\$1,130,548	\$(15,123)
Water Distribution .....	3,512,783	3,924,688	411,905
Water Pollution Control .....	3,238,951	3,317,178	78,227
Sewers .....	651,914	711,396	59,482
Equipment.....	292,527	380,063	87,536
Total .....	<u>\$8,841,846</u>	<u>\$9,463,873</u>	<u>\$622,027</u>
<b>STATE, FEDERAL AND PRIVATE FUNDS .....</b>	<b>\$ 125,012</b>	<b>\$ 230,705</b>	<b>\$105,693</b>
Total Funds-All Sources .....	\$8,966,858	\$9,694,578	\$727,720

The CIP was evaluated independently by Metcalf & Eddy. Metcalf & Eddy concluded that the CIP is responsive to the long-term operating requirements of the area served by the System. See “APPENDIX A—LETTER OF METCALF & EDDY, CONSULTING ENGINEERS.”

Although Black & Veatch, the Authority’s rate consultant, has not performed a detailed independent review of the capital program elements and has not made an engineering evaluation of the System, Black & Veatch has concluded that the gross level of anticipated commitments through 2013 as reflected in the CIP appears to be reasonable compared to other large water and wastewater utilities.

Following is a detailed explanation of the capital program elements within the CIP.

*Water Supply and Transmission*

*Kensico-City Tunnel.* The Kensico-City Tunnel will be a 16 mile long tunnel from the Kensico Reservoir to the Van Cortlandt Park Valve Chamber, bypassing the Hillview Reservoir. This tunnel will provide redundancy for the sections of the Catskill and Delaware Aqueducts that run from the Kensico Reservoir to the City.

*Conveyance.* This program will research and develop alternate conveyance conduits and/or water supplies for the City in order to provide more dependability within the Water System. The alternate water supplies could be used during drought situations, to augment the City’s daily water supply, or during repairs and inspections of existing aqueducts and tunnels.

*Tunnel 3.* Stages I and II of Tunnel 3 include completion of the Brooklyn/Queens and Manhattan segments. Excavation of Stage I was completed in 1985. Stage I became operational in July 1998 and has improved the reliability of the transmission system. Stage I amounts relate to facility improvements at Hillview Reservoir. Completion of the Brooklyn/Queens segment of Stage II will improve services to Staten Island, Brooklyn and Queens. Construction of the Manhattan segment of Stage II will follow completion of the Brooklyn/Queens segment of Stage II which is expected to be completed in 2005. The entire Stage II is scheduled to be completed in 2012. See “THE SYSTEM—The Water System—Water Collection and Distribution.”

*Water Distribution*

*Croton Filtration Project.* The City is a party to a federal court consent decree with the United States and the State which sets out a timetable for the design and construction of a full-scale water treatment facility to filter Croton System water. See “THE SYSTEM—The Water System—Governmental Regulation.”

*Water Quality Preservation.* The City provides for improvements to the upstate watersheds including projects undertaken pursuant to the Filtration Avoidance Determination (as hereinafter defined) in the Catskill and Delaware watersheds such as the acquisition of environmentally sensitive property, the upgrade of non-City owned water pollution control facilities and the construction of an ultraviolet water treatment facility. Other projects in the upstate watersheds include enhanced security systems and repair of the leak in the Rondout-West Branch Tunnel. See “INTRODUCTORY STATEMENT—World Trade Center Attack,” “THE SYSTEM—The Water System—Water Collection and Distribution,” and “THE SYSTEM—The Water System—Governmental Regulation.”

#### *Water Pollution Control*

*Consent Decree Upgrading and Construction.* The Clean Water Act (as hereinafter defined) and the State Consent Decrees (as hereinafter defined) require construction of an intercepting sewer for one of the fourteen plants, and the upgrading of six plants. These projects are designed to improve the quality of the surrounding waters.

*Water Quality Mandates.* During periods of heavy rainfall, a combination of stormwater and sewage bypasses treatment and is released into the City’s waterways. This program provides for the study, design and construction of the facilities necessary to control the polluting effects of such releases.

*Plant Upgrading and Reconstruction.* This program includes various projects undertaken to upgrade or reconstruct treatment plants, sewage pump stations, motor vessels, regulators and components of the plant treatment system.

*Plant Component Stabilization.* This program includes the replacement and reconstruction of failing components within the fourteen plants and their related facilities necessary to maintain process reliability and the retrofit of five water pollution control plants to decrease the amount of nitrogen discharged into the surrounding water.

#### *Sewers*

*Replacement of Chronically Failing Components.* This program provides for the replacement of sewers that have already collapsed or experience chronic malfunctions (for example, sagging, bends or improper alignment) that cannot be overcome through maintenance or experience chronic malfunction due to inadequate capacity.

*Programmatic Replacement and Reconstruction.* Systematic replacement of sewers constructed with what are now considered to be substandard methods and materials or with materials that have exceeded their useful life has been undertaken. This will avoid more costly future repairs and will improve the general reliability of the System.

*Programmatic Response to Regulatory Mandates.* A program to address the mandated construction of new sewers required by the Clean Water Act has been established. This program is designed to eliminate the occasional discharge of untreated sewage.

*Replacement or Augmentation of Existing System.* The combined sewers must be large enough to convey a certain amount of both stormwater and sewage flow based on population density, industrial discharges and stormwater runoff in the sewered area. Some existing sewers fail to handle this flow adequately due to events occurring subsequent to their original design.

The sewer projects contained within this category will increase the capacity of these sewers to adequate levels through reconstruction, repair, replacement or diversion of flow into supplemental sewer pipe. Also included in this category are sewer projects that are undertaken primarily because other infrastructure projects make such sewer work desirable. These projects include the construction of sewers in conjunction with other utilities’ (such as water, gas and electric) road reconstruction and major land use changes.

*Extensions to Accommodate New Development.* The City must provide acceptable sewage disposal methods for residents within its jurisdiction and must therefore construct new sewers as required. The

construction of sewers to replace septic tanks in populated areas avoids health problems associated with viruses, bacteria and other sewage-related pollutants and minimizes stormwater flooding.

*Equipment*

*Utility Relocation for Sewers and Water Main Projects.* Under the City’s cost-sharing agreement with gas utilities, the City is required to pay 51% of utility work required as a result of water main and sewer construction projects.

**Historical Capital Program**

The following table presents capital commitments and capital expenditures of the System for Fiscal Years 1999 through 2003. Capital commitments are contractual obligations entered into during the Fiscal Year while capital expenditures represent cash payments made during the Fiscal Year.

**System Capital Commitments and Expenditures  
(Millions of Dollars)**

	1999		2000		2001		2002		2003	
	<u>System Funds(1)</u>	<u>All Funds(2)</u>	<u>System Funds(1)</u>	<u>All Funds(2)</u>	<u>System Funds(1)</u>	<u>All Funds(2)</u>	<u>System Funds(1)</u>	<u>All Funds(2)</u>	<u>System Funds(1)</u>	<u>All Funds(2)</u>
<b>Commitments</b>										
Water Supply . . . . .	\$ 4	\$ 4	\$ 71	\$ 71	\$ 130	\$ 130	\$ 135	\$ 135	\$ 63	\$ 63
Water Mains . . . . .	200	203	271	271	178	178	492	492	337	337
Sewer . . . . .	185	185	240	240	90	90	199	199	201	202
Water Pollution Control	198	199	420	420	970	970	806	806	681	687
Equipment . . . . .	81	81	66	66	56	56	37	37	84	84
Total . . . . .	<u>\$668</u>	<u>\$672</u>	<u>\$1,068</u>	<u>\$1,068</u>	<u>\$1,423</u>	<u>\$1,423</u>	<u>\$1,669</u>	<u>\$1,669</u>	<u>\$1,366</u>	<u>\$1,373</u>
<b>Expenditures</b>										
Water Supply . . . . .	\$ 87	\$ 87	\$ 75	\$ 75	\$ 77	\$ 77	\$ 84	\$ 84	\$ 87	\$ 87
Water Mains . . . . .	187	190	168	169	214	215	325	325	269	270
Sewer . . . . .	174	174	218	218	196	196	184	185	187	187
Water Pollution Control	274	278	263	268	275	276	327	328	568	575
Equipment . . . . .	59	59	68	68	78	78	50	50	47	47
Total . . . . .	<u>\$779</u>	<u>\$788</u>	<u>\$792</u>	<u>\$798</u>	<u>\$840</u>	<u>\$842</u>	<u>\$970</u>	<u>\$972</u>	<u>\$1,158</u>	<u>\$1,166</u>

(1) System Funds include the proceeds of Authority bonds sold directly to the public and those privately placed with the EFC (as defined below) under the revolving fund program and System revenues.

(2) All Funds include federal and State capital grants.

## **Financing Program**

*Prior Financing.* Since the first issuance of bonds by the Authority in 1985, capital improvements to the System have been financed primarily with (1) proceeds of bonds sold directly to the public and privately placed with EFC in connection with the revolving loan fund program described below, (2) federal and State capital grants, and (3) pay-as-you-go capital paid from System revenues. See “Debt Service Requirements” below.

*Future Financing.* The Authority estimates that approximately 98% of the System’s capital costs will be paid from proceeds of bonds and other forms of indebtedness sold to the public and privately placed with EFC and System revenues. For purposes of forecasting revenue requirements for the System, the principal amount of bonds estimated to be issued for capital purposes in each of the Fiscal Years 2004 through 2008 averages approximately \$1.7 billion per year. See the table entitled “Sources and Uses of Capital Funds” under “CAPITAL IMPROVEMENT AND FINANCING PROGRAM.”

Historically, federal grant funds were provided pursuant to the federal Water Pollution Control Act, as amended by the Clean Water Act of 1977 and by the Water Quality Act of 1987 (the “Clean Water Act”), in a program administered by the states, for construction and reconstruction of water pollution control facilities. The City has used these grant funds for five water pollution control plants: Oakwood Beach, Coney Island, Owls Head, Red Hook and North River. The Clean Water Act currently requires states to use federal funds in revolving loan programs in lieu of a federal grant program for water pollution control facilities. To this end, a revolving loan program has been established by the State and administered by EFC in order to use federal financial assistance together with State matching grants in a program to assist municipalities to construct eligible sewage facilities by providing subsidized loans. In addition, pursuant to the Safe Drinking Water Act Amendments of 1996, the State has also initiated a revolving loan program, also administered by EFC to provide loans for drinking water projects. The Authority has participated in loans under both of the revolving loan programs and anticipates further borrowing under the programs. These revolving loan programs have routinely featured the public sale of bonds by EFC to finance the purchase by EFC of Authority Second Resolution Bonds. See “THE SYSTEM—The Water System—Governmental Regulation” and “THE SYSTEM—The Sewer System—Governmental Regulation.” Implementation of the CIP is dependent upon the Authority’s ability to market its securities successfully in the public credit markets.



## Sources and Uses of Capital Funds

The following table presents the projected flow of funds in the Construction Fund of the System as of April 2003. The total proceeds from future issues of General Resolution Bonds and Second Resolution Bonds are shown on Line 1 and the proceeds of Commercial Paper Notes are illustrated on Line 2. Lines 4 through 8 show the disposition of the proceeds. Lines 9 through 13 of the table indicate activity in the Construction Fund for each year of the reporting period.

### Sources and Uses of Capital Funds (Millions of Dollars)

<u>Line No.</u>	<u>Description</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>Total</u>
	Disposition of Bond Proceeds						
1	Proceeds from Sale of Bonds . . .	\$ 1,765.4	\$ 1,899.1	\$ 2,253.0	\$ 1,840.1	\$ 1,809.5	\$ 9,567.1
2	Proceeds from Short-Term Obligations . . . . .	<u>1,570.2</u>	<u>1,719.0</u>	<u>1,691.0</u>	<u>1,572.0</u>	<u>1,639.0</u>	<u>8,191.2</u>
3	Total Proceeds . . . . .	3,335.6	3,618.1	3,944.0	3,412.1	3,448.5	17,758.3
	Transfers						
4	Refunding of Prior Bonds . . . . .	41.7	—	385.3	105.6	—	532.6
5	Retirement of Short-Term Obligations . . . . .	1,570.2	1,719.0	1,691.0	1,572.0	1,639.0	8,191.3
6	Construction Fund . . . . .	1,570.2	1,719.0	1,691.0	1,572.0	1,639.0	8,191.3
7	Other(1) . . . . .	<u>153.5</u>	<u>180.1</u>	<u>176.7</u>	<u>162.5</u>	<u>170.5</u>	<u>843.2</u>
8	Total Transfers . . . . .	3,335.6	3,618.1	3,944.0	3,412.1	3,448.5	17,758.4
	Construction Fund						
9	Beginning Balance . . . . .	280.8	250.0	250.0	250.0	250.0	280.8
10	Transfer from Bond Proceeds . . .	<u>1,570.2</u>	<u>1,719.0</u>	<u>1,691.0</u>	<u>1,572.0</u>	<u>1,639.0</u>	<u>8,191.2</u>
11	Total Available . . . . .	1,851.0	1,969.0	1,941.0	1,822.0	1,889.0	8,472.0
12	Less: Total Requirements(2) . . .	<u>(1,601.0)</u>	<u>(1,719.0)</u>	<u>(1,691.0)</u>	<u>(1,572.0)</u>	<u>(1,639.0)</u>	<u>(8,222.0)</u>
13	Ending Balance . . . . .	<u>\$ 250.0</u>	<u>\$ 250.0</u>	<u>\$ 250.0</u>	<u>\$ 250.0</u>	<u>\$ 250.0</u>	<u>\$ 250.0</u>

Totals may not add due to rounding.

Source: Black & Veatch.

- (1) Includes issuance costs, Debt Service Reserve Fund requirements and capitalized interest.
- (2) Cash requirements reflect commitments from current and prior years.

The following table shows projected debt service requirements including payments on outstanding bonds and on future bonds to be issued in financing the CIP as of April 2003. See “CAPITAL IMPROVEMENT AND FINANCING PROGRAM—Debt Service Requirements.”

**Future Debt Service Requirements  
(Millions of Dollars)**

Line No.	Description	Bond Issue	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008
	First Resolution Debt Service							
1	Outstanding Bonds . . . . .		\$ 499.9	\$ 502.6	\$ 520.6	\$ 504.2	\$ 455.3	\$ 537.0
	Anticipated Future Bond Issues							
2	Fiscal Year 2003 Bonds . . . . .	560.0	1.0	46.2	30.1	30.2	30.3	30.4
3	Fiscal Year 2004 Bonds . . . . .	1,365.4	—	29.5	129.6	96.0	96.0	96.0
4	Fiscal Year 2005 Bonds . . . . .	1,599.1	—	—	39.8	166.3	123.7	123.7
5	Fiscal Year 2006 Bonds . . . . .	1,953.0	—	—	—	39.1	163.1	121.2
6	Fiscal Year 2007 Bonds . . . . .	1,540.0	—	—	—	—	35.7	149.1
7	Fiscal Year 2008 Bonds . . . . .	1,509.5	—	—	—	—	—	37.7
8	Cash defeasance . . . . .		—	—	(41.2)	(31.2)	(1.2)	(11.2)
9	Total First Resolution Debt Service . . . . .		\$ 500.9	\$ 578.3	\$ 678.9	\$ 804.6	\$ 902.9	\$1,083.9
	Subordinated Obligations							
10	Interest Payments on Commercial Paper Notes . . . . .		12.0	28.9	36.0	36.0	36.0	36.0
11	Outstanding Bonds . . . . .		220.5	240.3	243.9	246.1	245.4	248.4
	Anticipated Future Second Resolution Bonds							
12	Fiscal Year 2003 Bonds . . . . .	309.0	—	37.1	22.1	22.1	22.1	22.1
13	Fiscal Year 2004 Bonds . . . . .	400.0	—	9.5	39.6	29.4	29.4	29.4
14	Fiscal Year 2005 Bonds . . . . .	300.0	—	—	7.9	31.9	23.8	23.8
15	Fiscal Year 2006 Bonds . . . . .	300.0	—	—	—	7.9	31.9	23.8
16	Fiscal Year 2007 Bonds . . . . .	300.0	—	—	—	—	7.9	31.9
17	Fiscal Year 2008 Bonds . . . . .	300.0	—	—	—	—	—	7.9
18	Less: Current Capitalized Interest(1) . . . . .		(5.5)	(0.5)	—	—	—	—
19	Less: Future Capitalized Interest(2) . . . . .		—	(1.5)	(1.5)	(1.5)	(1.5)	(1.5)
20	Less: Current EFC Subsidy(3) . . . . .		(48.4)	(55.1)	(56.1)	(55.7)	(53.3)	(50.6)
21	Less: Future EFC Subsidy(4) . . . . .		—	(12.7)	(19.2)	(25.3)	(31.8)	(38.2)
22	Less: EFC Payments(5) . . . . .		(10.6)	(9.9)	(8.8)	(7.7)	(6.8)	(5.9)
23	Actual Debt Service on Subordinated Indebtedness . . . . .		\$ 168.0	\$ 236.1	\$ 263.9	\$ 283.2	\$ 303.1	\$ 327.1
24	Less: Interest Earnings-Subordinate Debt Service Fund . . . . .		(0.3)	(0.5)	(0.5)	(0.8)	(1.2)	(1.6)
25	Less: Carryforward Revenues(6) . . . . .		(167.7)	(159.1)	(101.7)	(48.5)	(7.2)	(8.5)
26	Net Debt Service on Subordinated Indebtedness . . . . .		\$ —	\$ 76.5	\$ 161.7	\$ 234.0	\$ 294.7	\$ 317.0
27	Total Debt Service Payable from Current Revenues (Line 9 + Line 26) . . . . .		\$ 500.9	\$ 654.8	\$ 840.6	\$1,038.6	\$1,197.6	\$1,400.9

- (1) Includes capitalized interest on outstanding subordinated bonds.
- (2) Includes capitalized interest on anticipated future subordinated bonds.
- (3) Includes the estimated EFC subsidy on outstanding subordinated bonds.
- (4) Includes the estimated EFC subsidy on anticipated future subordinated bonds.
- (5) Represents the anticipated transfer of surplus payments used to offset interest payments on Second Resolution Bonds.
- (6) \$77.8 million of Fiscal Year 2002 carryforward revenues is allocated to the defeasance of Authority bonds.

Debt service payments on anticipated future Bond issues reflect a 30-year term with level annual payments. The interest rates used in computing the anticipated debt service payments for future First Resolution fixed rate issues average 6.15% in Fiscal Year 2004 and 6.9% in each year thereafter. The interest rate used for currently outstanding and future variable rate issues is 3.24% per annum in Fiscal Year 2004 and 4.25% per annum through maturity. Actual interest rates in Fiscal Year 2004 to date, have been lower than projected. The actual fixed rate yield on bonds issued in Fiscal Year 2004 was approximately 5.17%, and variable rate yields as of January 31, 2004 have averaged approximately 1% per annum. The amount of long-term variable rate debt currently outstanding is approximately 13.5% of the Authority’s total debt outstanding and is expected to range between 15% and 20% in the future. Debt service payments on anticipated future Authority Second Resolution Bond issues assume that Authority Second Resolution Bonds continue to be issued to EFC and reflect a 30-year term with level annual payments through Fiscal Year 2008. The actual debt service requirements of the Authority will likely differ from the debt service requirements projected in the foregoing table.

The interest rates used in computing the anticipated debt service payments for future EFC bonds secured by Authority Second Resolution Bonds average 6.1% in Fiscal Year 2004 and 6.85% in each year thereafter. The actual fixed-rate yield on bonds issued in Fiscal Year 2004 was approximately 4.6%. The Capitalized Interest and EFC subsidy shown in the table include interest capitalized for one year on bonds sold to EFC and subsidies expected to be provided by EFC for these issues, respectively. It is also anticipated that Authority bond issues sold to EFC will continue to be structured so that the interest on such bonds is calculated net of the anticipated EFC subsidy.

### Debt Service Requirements

The following schedule sets forth the amount required during each Fiscal Year (ending June 30) shown below for the payment of the principal of and the interest (including the Accreted Value of all Capital Appreciation Bonds) on Outstanding Bonds issued under the First Resolution and the Second General Resolution assuming that Variable Rate Bonds bear interest at a fixed rate to their maturity of 3.24% per annum in Fiscal Year 2004 and 4.25% per annum through maturity. The schedule does not include debt service on any outstanding Commercial Paper Notes.

### Debt Service Requirements

Fiscal Year Ending June 30	Debt Service on Outstanding Bonds (1)(2)(3)	Fiscal 2004 Series B			Debt Service on Bonds including Fiscal 2004 Series B Bonds (1)(2)(3)	Debt Service on Outstanding Second Resolution Bonds (2)	Debt Service on Bonds including Fiscal 2004 Series B Bonds and Second Resolution Bonds (1)(2)(3)
		Principal	Interest	Total			
2004	\$ 489,567,504	\$ 5,665,000	\$ 4,013,370	\$ 9,678,370	\$ 499,245,874	\$ 180,773,658	\$ 680,019,532
2005	463,477,760	1,705,000	16,493,750	18,198,750	481,676,510	204,501,835	686,178,345
2006	469,101,926	1,745,000	16,459,650	18,204,650	487,306,576	212,474,007	699,780,583
2007	459,028,244	1,780,000	16,424,750	18,204,750	477,232,994	215,423,058	692,656,052
2008	531,061,014	—	16,384,700	16,384,700	547,445,714	222,080,032	769,525,746
2009	531,806,184	—	16,384,700	16,384,700	548,190,884	225,116,756	773,307,639
2010	540,614,691	—	16,384,700	16,384,700	556,999,391	232,723,187	789,722,578
2011	525,190,031	3,560,000	16,384,700	19,944,700	545,134,731	238,248,664	783,383,395
2012	497,203,790	31,640,000	16,286,800	47,926,800	545,130,590	243,179,073	788,309,662
2013	556,612,598	—	14,797,200	14,797,200	571,409,798	204,845,336	776,255,134
2014	519,256,186	52,045,000	14,797,200	66,842,200	586,098,386	190,872,032	776,970,418
2015	548,148,068	60,625,000	12,317,910	72,942,910	621,090,978	177,055,398	798,146,376
2016	597,781,402	13,940,000	9,319,510	23,259,510	621,040,912	177,299,062	798,339,974
2017	593,593,001	18,395,000	8,632,130	27,027,130	620,620,131	177,568,937	798,189,068
2018	564,003,276	56,865,000	7,714,443	64,579,443	628,582,718	174,164,727	802,747,446
2019	584,335,053	40,105,000	4,872,348	44,977,348	629,312,401	171,511,024	800,823,425
2020	629,802,807	—	2,892,728	2,892,728	632,695,534	162,224,931	794,920,465
2021	617,009,066	9,790,000	2,892,728	12,682,728	629,691,793	153,822,948	783,514,741
2022	606,753,293	20,855,000	2,426,988	23,281,988	630,035,281	151,203,526	781,238,807
2023	599,534,331	28,900,000	1,388,488	30,288,488	629,822,818	146,095,100	775,917,918
2024	634,692,200	—	—	—	634,692,200	107,498,474	742,190,674
2025	634,124,575	—	—	—	634,124,575	107,929,094	742,053,669
2026	635,158,203	—	—	—	635,158,203	97,913,188	733,071,391
2027	640,777,172	—	—	—	640,777,172	97,041,380	737,818,552
2028	578,562,497	—	—	—	578,562,497	87,927,206	666,489,703
2029	558,246,478	—	—	—	558,246,478	79,579,764	637,826,243
2030	578,942,935	—	—	—	578,942,935	65,234,049	644,176,983
2031	619,793,010	—	—	—	619,793,010	60,492,579	680,285,589
2032	629,192,841	—	—	—	629,192,841	33,560,565	662,753,406
2033	607,576,335	—	—	—	607,576,335	13,828,719	621,405,053
2034	479,328,710	—	—	—	479,328,710	—	479,328,710
2035	394,966,510	—	—	—	394,966,510	—	394,966,510
2036	9,391,172	—	—	—	9,391,172	—	9,391,172
2037	9,391,172	—	—	—	9,391,172	—	9,391,172
2038	109,391,172	—	—	—	109,391,172	—	109,391,172
2039	4,391,172	—	—	—	4,391,172	—	4,391,172
2040	4,391,172	—	—	—	4,391,172	—	4,391,172
2041	4,391,172	—	—	—	4,391,172	—	4,391,172
2042	4,391,172	—	—	—	4,391,172	—	4,391,172
Total	<u>\$18,060,979,894</u>	<u>\$347,615,000</u>	<u>\$217,268,790</u>	<u>\$564,883,790</u>	<u>\$18,625,863,684</u>	<u>\$4,612,188,308</u>	<u>\$23,238,051,992</u>

Totals may not add due to rounding. Debt service is not included for bonds that have been refunded and are no longer Outstanding.

- (1) Assumes that on the respective tender dates, the Crossover Bonds will be exchanged for the First Resolution Bonds and the proceeds of the respective series of Crossover Bonds will be applied to redeem certain Outstanding First Resolution Bonds.
- (2) Net of anticipated capitalized interest, subsidy and surplus payments from EFC.
- (3) Assumes that the maturities of Refundable Principal Installments will be amortized as provided in the definition of Adjusted Debt Service rather than paid in full at maturity.

## FINANCIAL OPERATIONS

The following tables present certain historical data relating to the System which have been derived from the books and records of the City, the Authority and the Board. For more information, see “INTRODUCTORY STATEMENT—Financial Projection Assumptions.”

### Revenues

The following table presents, on a cash basis, the System revenues received during Fiscal Year 1999, as derived from the supplemental schedule of cash receipts and disbursements and System revenues received during Fiscal Years 2000 through 2003, as derived from the accounting records utilized in preparation of the statement of cash flows, which accompany the annual financial statements for Fiscal Years 1999 through 2003.

#### System Revenues (Thousands of Dollars)

<u>Revenue Category</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>
Flat Rate—Water and Sewer Charges(1) . . .	\$ 466,837	\$ 454,887	\$ 490,181	\$ 513,894	\$ 530,200
Metered—Water and Sewer Charges(1) . . .	842,436	907,350	872,132	946,922	1,009,677
Meter—Upstate Customers . . . . .	14,252	18,994	18,552	21,102	22,790
Miscellaneous Revenues(2) . . . . .	51,136	49,950	53,452	70,482	73,633
Interest Penalty—Late Charges . . . . .	19,445	24,250	24,987	24,930	38,235
Interest Income . . . . .	85,872	74,467	85,724	95,201	97,351
Tax Lien Sale(3) . . . . .	25,912	7,449	40,129	20,152	0
Total . . . . .	<u>\$1,505,890</u>	<u>\$1,537,347</u>	<u>\$1,585,157</u>	<u>\$1,692,683</u>	<u>\$1,771,886</u>

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- (1) Includes both current payments and payments relating to accounts in arrears.
  - (2) Miscellaneous Revenues are primarily comprised of water and sewer connection and disconnection fees, repair fees, meter installation fees, water usage permits, special meter reading fees and subsidy payments from EFC.
  - (3) In connection with sales of liens on real property securing delinquent property taxes, the City Department of Finance also sold liens on such property securing delinquent water and sewer charges.

The table above records actual cash received by the System and does not reflect either accounts receivable or billing accruals. The System has consistently realized collections of cash revenues in amounts exceeding costs for debt service, current operations and required levels of coverage. This has been achieved while maintaining residential water and sewer service costs at a level which is below the average of comparable large cities.

The forecasted cash flows and anticipated future rate increases take into consideration the anticipated effects of new initiatives by the Board and DEP to enhance the efficiency of collection for water and sewer billings. It is assumed that some of these initiatives or others will gradually result in a 5% increase in the overall rate of cash collections during the forecast period, in addition to increases from higher rates. In the event that DEP is not as successful as anticipated in implementing the enhancement to current collection strategies, the actual increases in user rates in future years may be higher than the increases currently forecasted. For a more detailed discussion of billing and collection, including collection initiatives, see “RATES AND BILLINGS.”

**Expenses**

The following table presents System expenses for Fiscal Years 1999 through 2003 on an accrual basis which have been derived from the accounting records utilized in preparation of the annual financial statements for Fiscal Years 1999 through 2003. These expenses represent operation, maintenance and general expenses excluding the lease rental payment to the City and certain other items.

**System Expenses  
(Thousands of Dollars)**

<u>Expense Category</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>
Water(1)					
Personal Service(2) .....	\$100,010	\$118,598	\$120,797	\$129,292	\$135,627
Other Than Personal Service(3) .....	<u>159,516</u>	<u>146,331</u>	<u>165,068</u>	<u>181,034</u>	<u>176,913</u>
Total.....	259,526	264,929	285,865	310,326	312,540
Wastewater(1)					
Personal Service(2) .....	162,310	187,003	188,704	197,522	196,851
Other Than Personal Service(3) .....	<u>193,433</u>	<u>158,037</u>	<u>169,459</u>	<u>169,548</u>	<u>183,200</u>
Total.....	<u>355,743</u>	<u>345,040</u>	<u>358,163</u>	<u>367,070</u>	<u>380,051</u>
Sub-Total.....	615,269	609,969	644,028	677,396	692,591
Administrative and General(4).....	13,506	10,092	11,215	14,171	15,181
Indirect Expenses(5).....	<u>37,676</u>	<u>40,811</u>	<u>41,195</u>	<u>53,361</u>	<u>51,613</u>
Total System.....	<u>\$666,451</u>	<u>\$660,872</u>	<u>\$696,438</u>	<u>\$744,928</u>	<u>\$759,385</u>

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- (1) Certain historical, administrative and overhead costs of DEP were allocated to the water and sewer functions based upon the proportion of applicable personnel within DEP.
  - (2) Personal Service costs include salaries, fringe benefits and pension costs.
  - (3) Other Than Personal Service costs include real estate taxes paid to upstate communities for watershed properties, land-based sludge disposal costs and for electricity, chemicals and supply costs.
  - (4) Administrative and General costs include Authority and Water Board expenses.
  - (5) Indirect Expenses include City agency support, customer accounting, and judgments and claims costs.

## Projected Revenues

As indicated in the table below, user payments are projected as of April 2003 to increase from approximately \$1.6 billion in Fiscal Year 2004 to approximately \$2.3 billion in Fiscal Year 2008. Projected rate increases in future Fiscal Years provide the majority of the increase in user payments. In April 2003, it was anticipated that a rate increase of 6.5% would be effective July 1, 2003. An actual rate increase of 5.5% was implemented effective July 1, 2003 primarily due to higher than projected revenues and lower than projected interest costs. Upstate revenues, shown on Line 2 of the table, are projected to increase from approximately \$25.4 million in Fiscal Year 2004 to approximately \$33 million in Fiscal Year 2008. This revenue growth is due to expected increases in the cost of water supply services and that future revenue from these customers will more closely match the cost of providing service. Miscellaneous revenues, shown on Line 4 of the table, include fees from activities such as the review, inspection, and approval of System connections.

Nonoperating income consists of interest income on System funds, miscellaneous interest income, and other income. See "RATES AND BILLING—Accounts, Billing and Collection."

### Projected Revenues (Millions of Dollars)

<u>Line No.</u>	<u>Description</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>
	Operating Revenues					
1	User Payments . . . . .	\$1,569.8	\$1,731.2	\$1,898.3	\$2,094.2	\$2,307.2
2	Upstate Revenues . . . . .	<u>25.4</u>	<u>27.0</u>	<u>28.7</u>	<u>30.6</u>	<u>32.6</u>
3	Subtotal Service Revenue . . . . .	1,595.1	1,758.2	1,927.0	2,124.8	2,339.8
4	Miscellaneous Revenues . . . . .	<u>5.6</u>	<u>5.8</u>	<u>6.1</u>	<u>6.4</u>	<u>6.8</u>
5	Subtotal Operating Revenue . . . . .	<u>1,600.7</u>	<u>1,764.0</u>	<u>1,933.2</u>	<u>2,131.2</u>	<u>2,346.6</u>
	Nonoperating Revenues					
6	Interest Income on System Funds(1) . . . . .	66.2	65.6	79.7	93.1	110.5
7	Miscellaneous Interest Income(2) . . . . .	<u>25.0</u>	<u>25.0</u>	<u>25.0</u>	<u>25.0</u>	<u>25.0</u>
8	Subtotal Nonoperating Revenues . . . . .	<u>91.2</u>	<u>90.6</u>	<u>104.7</u>	<u>118.1</u>	<u>135.5</u>
9	Total Revenues . . . . .	1,691.9	1,854.6	2,037.9	2,249.3	2,482.1
10	EFC Subsidy and Surplus Payments(3) . . . . .	77.7	84.1	88.7	91.9	94.7
11	Additional Interest Earnings(4) . . . . .	<u>0.5</u>	<u>0.5</u>	<u>0.8</u>	<u>1.2</u>	<u>1.6</u>
12	Total System Revenues . . . . .	<u>\$1,770.1</u>	<u>\$1,939.2</u>	<u>\$2,127.3</u>	<u>\$2,342.4</u>	<u>\$2,578.4</u>

Figures are calculated on a cash basis.

Totals may not add due to rounding.

Source: Black & Veatch.

(1) Includes interest income on the Construction Fund, Debt Service Fund and the Debt Service Reserve Fund.

(2) Includes interest income on overdue accounts.

(3) Subsidy funds used as an offset to debt service on Subordinate Indebtedness.

(4) Includes interest earnings on the debt service fund of Subordinate Indebtedness.

## Projected Operating and Maintenance Expenses

The table set forth below shows, for Fiscal Years 2004 through 2008, the System's projected operation and maintenance expenses as of April 2003.

### Projected Operation and Maintenance Expense (Millions of Dollars)

<u>Line No.</u>	<u>Description</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>
1	Authority/Board Operations . . . . .	\$ 17.0	\$ 17.9	\$ 18.7	\$ 19.7	\$ 20.7
2	Authority Expense for the Defeasance of Debt . . . . .	—	—	—	—	—
	Water Operations					
3	Personal Services . . . . .	142.6	146.1	149.7	153.3	157.0
4	Other Than Personal Services . . . . .	186.9	211.3	217.0	223.7	230.7
5	Total Water Operations . . . . .	329.5	357.4	366.7	377.0	387.7
	Wastewater Operations					
6	Personal Services . . . . .	226.0	231.4	236.9	242.6	248.4
7	Other Than Personal Services . . . . .	178.4	199.1	204.9	210.9	217.1
8	Total Wastewater Operations . . . . .	404.4	430.5	441.8	453.5	465.5
9	Indirect Expenses . . . . .	12.9	12.9	12.9	12.9	12.9
10	Judgments and Claims . . . . .	8.0	8.0	8.0	8.0	8.0
11	Total Operating Expenses . . . . .	771.8	826.7	848.1	871.1	894.8
12	Less: Trust Account Withdrawals . . . . .	—	(20.0)	(25.0)	(10.0)	(35.6)
13	Net Operating Expenses . . . . .	<u>771.8</u>	<u>806.7</u>	<u>823.1</u>	<u>861.1</u>	<u>859.2</u>

Totals may not add due to rounding.  
 Figures are calculated on a cash basis.  
 Source: Black & Veatch.

Operation and Maintenance Expenses include administrative costs associated with the Authority and the Board, direct operating costs for the System, indirect operating costs of DEP, and other expenses and adjustments to annual operating expenses. Each of these is explained more fully below.

*The Authority/Board Operations.* Administrative expenses of the Authority and the Board, shown on Line 1 of the table above, include annual fees required by EFC in connection with the Authority's participation in the State Revolving Fund Program. These fees are projected to be \$7.4 million in Fiscal Year 2004 and are expected to increase as the outstanding principal of bonds issued to EFC increases. Other expenses of the Authority include fees related to adjustable rate bonds and commercial paper and the management of investments. The projected expenses for Fiscal Year 2003 also included \$100 million for the cash defeasance of debt. On June 25, 2003, the Authority defeased approximately \$145 million in Outstanding Bonds. The greater than expected cash defeasance was the result of additional cash available due to better than projected revenues and lower than projected interest costs. The Authority expects to defease approximately \$150 million in Outstanding Bonds in Fiscal Year 2004.

*Water Operations.* The operating costs of the Water System include direct operation and maintenance costs applicable to one or more functional areas of the Water System and the distribution system as well as certain indirect operating costs of the DEP which are allocated between the Water System and the Sewer System. The operating costs of the Water System are divided into personal services costs and other than personal services costs. Personal services costs include direct salary costs plus fringe benefit and pension costs.

Other than personal services costs include property taxes paid to upstate communities for watershed properties as well as chemicals, electricity, and other expenses.

All but a small percentage of the Water System functions by gravity so that electricity costs necessary to maintain normal water transmission and distribution are relatively small. In drought conditions, additional pumping is necessary for optimal distribution of water available from the System, thereby

causing increased electricity costs. The forecasted cash flows currently assume that water consumption levels will be constant, independent of any drought-related measures.

Personal services costs assume a 2.5% increase per year from Fiscal Years 2004 through 2008. Other than personal services costs are assumed to increase at an estimated rate of 3% per year for the forecast period.

In accordance with the watershed protection agreement, DEP will implement additional programs which will enhance the ability of the City and the communities located in the watershed area to protect the quality of the water supply. Such programs will include certain capital investments which are contained within the CIP. The forecasted operation and maintenance expenses for the Water System reflect the expected increase in operation and maintenance costs due to the Watershed Agreement.

*Wastewater Operations.* The operating costs of the Sewer System include direct operation and maintenance costs applicable to one or more functional areas of the Sewer System as well as certain indirect operating costs of DEP allocated to the Water System and the Sewer System. The operating costs of the Sewer System are also divided into personal services and other than personal services costs. Personal services costs include direct salary costs plus fringe benefits and pension costs.

Other than personal services costs include electricity for the water pollution control plants, pump stations and service yards, chemicals, and other expenses. Electricity, which represents a significant expense in operating the treatment plants and pump stations, is supplied primarily by the Power Authority of the State of New York. A major component of other than personal services cost is biosolids management. The annual costs of biosolids management are anticipated to remain relatively constant at approximately \$50 million per year for the next several years in accordance with the terms of current re-use contracts. Certain other cost adjustments are reflected in the forecasted cash flow as adjustments are made to specific operating programs based upon System needs.

*Other Expenses.* Other expenses of the System include indirect expenses and judgments and claims. Indirect expenses, shown on Line 9 of the table, reflect costs allocated to the System for support provided by various City agencies and departments. Services provided include budget preparation and review, cost and revenue accounting, billing and collection, and legal support. The method of allocating these costs to the System is based upon costs initially allocated to DEP and subsequently divided between those attributable to water and sewer and those costs associated with other activities of DEP. The costs allocated to DEP as a whole are derived from the total costs of City support agencies and departments and a formalized cost allocation plan which distributes the costs to affected departments and agencies. DEP's billing and collection expenses are included in the operation and maintenance costs of the Water System and the Wastewater System.

*Credits Against Operation and Maintenance Expense.* Pursuant to a consent decree (the "1989 Consent Decree") entered into in 1989 under the Marine Protection Research and Sanctuaries Act of 1972 ("MPRSA"), as amended by the Ocean Dumping Ban Act of 1988 (the "Ban Act"), DEP ceased the ocean disposal of sludge in June 1992. The Ban Act and the 1989 Consent Decree provide that 85% of the fees and penalties paid shall be deposited into a trust account and shall be available to reimburse the City for costs incurred for developing alternative biosolids management facilities. As of January 31, 2004, the value of the trust account was \$86.3 million. It is assumed that this value will increase with interest earnings at the rate of 2% per annum, until withdrawals are made. A portion of the balance of the fees and penalties was paid to United States Environmental Protection Agency ("USEPA") with the remainder divided equally between the New York State Water Pollution Control Revolving Fund and the New York State Clean Oceans Fund. It is anticipated that \$20 million in Fiscal Year 2005, \$25 million in Fiscal Year 2006, \$10 million in Fiscal Year 2007 and \$36 million in Fiscal Year 2008 will be available as an offset to operation and maintenance expenses.



## Projected Financial Operations

The following table shows a summary of the forecasted cash flows for the Authority as of April 2003 for Fiscal Year 2004 through Fiscal Year 2008. See “CAPITAL IMPROVEMENT AND FINANCING PROGRAM—Debt Service Requirements.” The projected rate increases described herein under “RATES AND BILLING—Rates” have been assumed in order to meet cash expenditure requirements to comply with debt service requirements pursuant to the Resolution and the Second Resolution. See “FINANCIAL OPERATIONS—Projected Revenues.” As shown on Line 30 of the table, positive net surpluses are maintained throughout the reporting period. Line 31 illustrates the coverage of First Resolution debt service by current revenues available for debt service. Line 32 illustrates the coverage of First Resolution and Second Resolution debt service by current revenues available for debt service.

### Forecasted Cash Flows (Dollars in Millions)

Line No.	Description	Fiscal Year 2004	Fiscal Year 2005	Fiscal Year 2006	Fiscal Year 2007	Fiscal Year 2008
	Operating Revenues					
1	Water and Sewer User Payments . . . . .	\$1,569.8	\$1,731.2	\$1,898.3	\$2,094.2	\$2,307.2
2	Upstate Revenue . . . . .	25.4	27.0	28.7	30.6	32.6
3	Miscellaneous Revenue . . . . .	5.6	5.8	6.1	6.4	6.8
	Other Revenues					
4	Interest on Funds . . . . .	66.2	65.6	79.7	93.1	110.5
5	Interest on Late Payments . . . . .	25.0	25.0	25.0	25.0	25.0
6	Current Revenues Available for Debt Service . .	1,691.9	1,854.6	2,037.9	2,249.3	2,482.1
	First Resolution Debt Service					
7	Outstanding Bonds . . . . .	502.6	520.6	504.2	455.3	537.0
8	Anticipated Future Bonds . . . . .	75.7	158.3	300.4	447.6	546.9
9	Total First Resolution Debt Service . . . . .	578.3	678.9	804.6	902.9	1,083.9
	Subordinated Obligations					
10	Interest Payments on Commercial Paper Notes .	28.9	36.0	36.0	36.0	36.0
11	Outstanding Second Resolution Bonds . . . . .	240.3	243.9	246.1	245.4	248.4
12	Anticipated Future Second Resolution Bonds . .	46.6	69.6	91.3	115.1	138.9
13	Less: EFC Subsidy and Capitalized Interest on Subordinated Bonds . . . . .	(79.7)	(85.6)	(90.2)	(93.4)	(96.2)
14	Actual Debt Service on Subordinated Indebtedness . . . . .	236.1	263.9	283.2	303.1	327.1
15	Less: Carryforward Revenues and Other Revenues . . . . .	(159.6)	(102.2)	(49.3)	(8.4)	(10.1)
16	Net Debt Service on Subordinated Indebtedness(1) . . . . .	76.5	161.7	234.0	294.7	317.0
17	Total Debt Service Payable from Current Revenues (Line 9 + Line 16) . . . . .	654.8	840.6	1,038.6	1,197.6	1,400.9
	Operating Expenses					
18	Authority/Board Operations . . . . .	17.0	17.9	18.7	19.7	20.7
19	Net Authority Expense for the Defeasance of Debt . . . . .	—	—	—	—	—
20	Water System . . . . .	329.5	357.4	366.7	377.0	387.7
21	Wastewater System . . . . .	404.4	430.5	441.8	453.5	465.5
22	Indirect Expense . . . . .	12.9	12.9	12.9	12.9	12.9
23	Judgments and Claims . . . . .	8.0	8.0	8.0	8.0	8.0
24	Total Operating Expenses . . . . .	771.8	826.7	848.1	871.1	894.8
25	Less: Trust Account Withdrawals . . . . .	—	(20.0)	(25.0)	(10.0)	(35.6)
26	Net Operating Expenses . . . . .	771.8	806.7	823.1	861.1	859.2
27	Rental Payment to the City of New York . . . . .	123.6	148.9	169.0	182.1	214.2
28	Cash Financed Capital Construction . . . . .	40.0	10.0	—	—	—
29	Total Expenses . . . . .	935.4	965.6	992.1	1,043.2	1,073.4
30	Net Surplus (Line 6 – Line 17 – Line 29) . . . . .	101.7	48.5	7.2	8.5	7.8
31	First Resolution Debt Service Coverage (Line 6/Line 9) . . . . .	2.93x	2.73x	2.53x	2.49x	2.29x
32	First and Second Resolution Debt Service Coverage (Line 6/Line 17) . . . . .	2.58x	2.21x	1.96x	1.88x	1.77x

Source: Black & Veatch.

Column subtotals and totals may reflect adjustments for rounding of amounts shown in individual line items.

(1) Includes estimated interest payments on Commercial Paper Notes.

## RATES AND BILLINGS

### Rates

The Board is responsible for setting rates in compliance with the Rate Covenant. See “SECURITY FOR THE BONDS—Rate Covenant.” The Board retains the firm of Black & Veatch for the purpose of conducting a detailed review of the structure of water and sewer rates. The Board considers the results of Black & Veatch rate studies in establishing its rates and charges for service.

The System’s rates and charges are largely exempt from federal and State regulation. Water rates, fees and charges for water supply are the responsibility of the Board and are not subject to further approval or regulation except for rates for upstate users. Currently approximately 1.5% of System Revenues are collected from such upstate users. Sewer charges are established by the Board as a percentage of water charges. Participation in the Construction Grants Program, however, requires the maintenance of sewer charges sufficient to defray costs of operation, maintenance and replacement. The Board, as a matter of policy, conforms with these requirements when setting sewer charges. The Board uses data compiled from meter readings for billings and to determine the effectiveness of City-mandated conservation measures.

The following table sets forth the changes in rates for water and sewer service since 1986:

### History of Water and Sewer Rate Increases

Effective Date	Change in Flat-Rate Water	Change in Metered Water	Metered Water Rate (per ccf)(1)	Change in Sewer
July 1, 1986	Increased 9.9%	Increased 9.9%	72.5¢	Remained at 60% of watercharge.
July 1, 1987	Increased 12%	Increased 12%	81¢	Increased to 70% of watercharge.
July 1, 1988	Increased from \$14.06 to \$26.40 per year for each additional family above the single family assumed in an individual flat-rate account.	No change	81¢	Increased to 75% of watercharge.
July 1, 1989	Increased from \$26.40 to \$41.86 per year for each additional family above the single family assumed in an individual flat-rate account. Remaining flat-rate charges increased by 7.8%.	Increased 7.8%	87¢	Increased to 88% of watercharge.
Jan. 1, 1990	Increased 9%	Increased 9%	95¢	Increased to 112% of watercharge.
July 1, 1991	Increased 6.4%	Increased 6.4%	\$1.01	Increased to 136% of watercharge.
July 1, 1992	No change	No change	\$1.01	Increased to 159% of watercharge.
July 1, 1993	No change	No change	\$1.01	No change.
July 1, 1994	No change	No change	\$1.01	No change.
July 1, 1995	Increased 5%	Increased 5%	\$1.06	No change.
July 1, 1996	Increased 6.5%	Increased 6.5%	\$1.13	No change.
July 1, 1997	Increased 6.5%	Increased 6.5%	\$1.20	No change.
July 1, 1998	Increased 4%	Increased 4%	\$1.25	No change.
July 1, 1999	Increased 4%	Increased 4%	\$1.30	No change.
July 1, 2000	Increased 1%	Increased 1%	\$1.31	No change.
July 1, 2001	Increased 3%	Increased 3%	\$1.35	No change.
July 1, 2002	Increased 6.5%	Increased 6.5%	\$1.44	No change.
July 1, 2003	Increased 5.5%	Increased 5.5%	\$1.52	No change.

(1) ccf: 100 cubic feet.

*Projected Rates.* Although the Board sets rates for an annual period, it may increase rates during such period, as required. As of April 2003, forecasted debt service, operating and other costs for the System indicated that the anticipated future rate increases to be set by the Board for water and sewer services combined were 6.5% in 2004 and 9.4% per year in Fiscal Years 2005 through 2008. Prior to setting rates for an annual period, the Board publicly notices a rate increase and conducts public hearings on that rate increase. For Fiscal Year 2004, the Board implemented a 5.5% rate increase effective July 1, 2003, which was 1% below the increase projected as of April 2003.

*Basic Sewer Charge.* For all properties connected to the Sewer System, or legally required to be connected after receiving proper notice, there is a charge imposed equal to a fixed percentage of the property’s water charge. Since July 1, 1992, the sewer charge has remained at 159% of the water charge.

*Sewer Allowances.* Certain commercial customers use water in their products and thus return less waste to the Sewer System than their water consumption might indicate. Upon application and approval, these commercial users are entitled to an effective rate reduction which reflects the proportion of water which is retained in their products or evaporated and not returned as sewage.

*Sewer-only Customer Charges.* In the case of premises which receive water service from alternative sources, a sewer charge is determined by DEP. For the current Fiscal Year, the sewer charge to such premises is equal to 159% of the dollar amount that would be charged for water usage if it were supplied by the Water System.

*Upstate Water Rates.* Rates for water supply service provided to municipalities and water districts located north of the City are established in accordance with the provisions of the Water Supply Act of 1905 (the “1905 Act”). The 1905 Act provides that such rates shall be based on the System’s actual cost of service. The sale of water and the rates and charges for these accounts are regulated by State law as well as by individual agreements between these communities and the City. Each contract provides for the metering of water sales to individual communities and the application of a specific charge per unit of metered volume. In most cases, per capita consumption in the upstate communities is less than that of customers within the City. In those instances where the community per capita consumption exceeds that of the City, the specified rate of charge for the excess is increased to match the rates and charges applied to retail service in the City. Water taken from either the Croton or Catskill/Delaware systems is currently charged at a rate of \$542.36 per million gallons for daily per capita amounts not in excess of daily per capita consumption within the City.

*Comparative Charges.* The following table presents comparative annual water and sewer charges in 24 large cities based upon a survey conducted by Black & Veatch. Using a ranking system where 1 represents the lowest rates, the City’s ranking relative to these cities is: for Single-Family Residential—10, for Commercial—12, and for Industrial—16.

**Comparative Annual Water and Sewer User Charges<sup>(1)</sup>**

<b>Single Family Residential</b>		<b>Commercial</b>		<b>Industrial</b>	
<b>City</b>	<b>Annual Charge</b>	<b>City</b>	<b>Annual Charge</b>	<b>City</b>	<b>Annual Charge</b>
Chicago <sup>(2)</sup> . . . . .	\$229	Dallas . . . . .	\$2,987	St. Louis . . . . .	\$241,120
St. Louis . . . . .	370	St. Louis . . . . .	3,032	Dallas . . . . .	257,491
Newark . . . . .	389	Chicago . . . . .	3,197	Newark . . . . .	269,644
Baltimore . . . . .	444	Indianapolis . . . . .	3,722	Indianapolis . . . . .	285,850
San Antonio . . . . .	464	Newark . . . . .	3,738	Chicago . . . . .	319,669
Detroit . . . . .	470	Baltimore . . . . .	3,818	Detroit . . . . .	321,893
Milwaukee . . . . .	473	San Antonio . . . . .	4,075	Milwaukee . . . . .	332,738
Indianapolis . . . . .	481	Milwaukee . . . . .	4,122	Baltimore . . . . .	334,882
Dallas . . . . .	487	Detroit . . . . .	4,214	San Antonio . . . . .	337,632
<b>New York . . . . .</b>	<b>499</b>	Columbus . . . . .	4,354	Philadelphia . . . . .	352,012
Columbus . . . . .	509	Honolulu . . . . .	4,752	New Orleans . . . . .	416,116
Houston . . . . .	583	<b>New York . . . . .</b>	<b>4,986</b>	Columbus . . . . .	423,686
Honolulu . . . . .	586	New Orleans . . . . .	5,019	San Jose . . . . .	464,418
Los Angeles . . . . .	587	Jacksonville . . . . .	5,381	Honolulu . . . . .	473,044
New Orleans . . . . .	595	San Jose . . . . .	5,389	Jacksonville . . . . .	486,881
Cleveland . . . . .	599	Los Angeles . . . . .	5,433	<b>New York . . . . .</b>	<b>498,610</b>
San Jose . . . . .	606	Philadelphia . . . . .	5,547	Los Angeles . . . . .	518,761
Jacksonville . . . . .	631	San Diego . . . . .	5,975	San Diego . . . . .	555,790
Washington, D.C. . . . .	649	Houston . . . . .	6,279	Houston . . . . .	618,975
San Francisco . . . . .	801	Cleveland . . . . .	6,325	Washington, D.C. . . . .	630,920
Philadelphia . . . . .	812	Washington, D.C. . . . .	6,329	Cleveland . . . . .	636,193
Atlanta . . . . .	829	Atlanta . . . . .	8,289	Atlanta . . . . .	828,877
San Diego . . . . .	856	Boston . . . . .	8,792	Boston . . . . .	916,060
Boston . . . . .	861	San Francisco . . . . .	9,388	San Francisco . . . . .	916,702
<b>Average . . . . .</b>	<b>\$575</b>	<b>Average . . . . .</b>	<b>\$5,214</b>	<b>Average . . . . .</b>	<b>\$476,582</b>

(1) User Charges are based upon information provided by the identified cities and standardized assumptions regarding water consumption, wastewater discharge, and other factors. Actual charges in each city will vary in accordance with local usage patterns. Some cities bill for sewer use on the basis of winter water consumption which could affect sewer billings if a customer’s use was not uniform throughout the year. Charges for all cities reflect rate schedules in effect in March 2003.

(2) In addition to the water and sewer user charge, a single family residence with a market value of \$100,000 pays \$158 per year in property taxes to the Metropolitan Water Reclamation District of Greater Chicago (March 2003).

## **Accounts, Billing and Collection**

The Bureau of Customer Services of DEP renders bills to customers of the System and collects payments of such bills. This bureau installs and reads meters, verifies meter accuracy, and maintains current information for those customers on the flat-rate system of billing described below.

The System has approximately 828,000 water and sewer accounts, nearly all of which are for water and sewer service. Approximately 81% of the System's water and sewer customers are solely residential. The remainder are primarily commercial and industrial users, with industrial users accounting for only a small portion of water and sewer usage.

Approximately 81,000 accounts, representing 10% of total accounts, are billed annually through the flat-rate system. These accounts are charged for water either on a per unit charge or through a computation which incorporates, among other factors, the width of the front of the building ("frontage"), the number of stories, the number of dwelling units, and the number of water-using fixtures (such as bathtubs, showers and toilets) in the building. The frontage rate is computed when the building is first constructed, and amended upon notice from the City Department of Buildings ("DOB") of building alterations or when a DEP inspector determines that the basis for charges is incorrect. Flat-rate annual bills are normally sent to customers prior to the start of each Fiscal Year and are due at the end of the first month of the Fiscal Year.

Approximately 747,000 accounts, representing 90% of total accounts, are billed on a metered basis. Meters are read and billed on a quarterly basis except meters for some larger accounts which are read and billed more frequently. Most meter readings are captured electronically through the use of hand-held computers and a universal probe. Data from meter readings are relayed to computers in field offices and transmitted to a centralized computer billing system on a daily basis. Some older meters, however, must be read manually. Metered accounts are billed quarterly and bills are sent out regularly throughout the year. DEP is now testing the use of water meters that can report consumption via telephone lines transmitting data to the billing system. Unlike flat-rate charges which were commonly paid through mortgage escrow accounts, metered charges are billed directly to customers which, among other factors, has required DEP to handle a substantially higher volume of customer account inquiries. Commercial accounts are required by the Board and the City to have meters installed for all water services. Substantially all of these accounts are in compliance with this requirement.

Since 1988, the basis for service charges for residential properties has been in a continuous process of transition from a frontage or flat-rate basis of annual billing to a meter-based billing system which relies on the actual measurement of usage. The Universal Metering program is designed to improve water conservation, water supply system management, and rate equity. The City has issued contracts for the installation of meters for the remaining unmetered accounts and is testing and replacing meters where necessary. Approximately 94% of all water and sewer accounts have meters installed. Starting in July 2000, unmetered properties which had not taken steps to install a meter were required to pay a surcharge doubling their annual water and sewer charge. A surcharge was levied on approximately 15,400 accounts in their January 31, 2004 bills.

Revenues from newly metered accounts may increase or decrease somewhat depending on how closely the flat-rate billing factors previously used compare to actual metered consumption for these accounts. Based upon recent experience, a one-time decrease in collections will occur for each account as it is metered due to the transition from billing in advance under flat rates to billing after consumption occurs. The one-time effect is taken into account in the forecasted revenues of the System.

Billing based on actual usage has affected the level of charges to certain large multiple-family residential buildings, in particular, those buildings with above-average population density and those with improperly maintained plumbing fixtures. The result is often a significant increase in charges to such buildings. In response to the needs of this segment of the customer base, the Board has adopted a transitional program whereby owners of multiple-family buildings that have had meters installed under the Universal Metering Program will continue to be billed on a flat-rate basis during the transition period.

The transitional program allows owners time to review their water usage, educate tenants regarding conservation, repair leaky plumbing, and install low-flow fixtures in order to reduce consumption and charges. There are approximately 28,650 accounts in the transitional program.

On May 11, 1993, the Board adopted a program that provides for a cap on the per-unit charge on multiple-family dwellings. The cap is set at approximately 150% of the average per-family unit charge. In order to be eligible for this program, building owners must submit to a water audit by DEP and take measures to eliminate leakage and waste.

On May 3, 2001, the Board adopted its Conservation Program for Multiple Family Residential Buildings which replaces the existing transitional program and meter billing cap program referred to above for residential buildings consisting of six or more dwelling units. It provides that owners of such buildings who replace or have replaced at least 70% of the toilet, sink and showerhead fixtures in such buildings with low-flow fixtures may elect to be billed on the basis of metered consumption or a fixed charge per dwelling unit per year. The program became effective July 1, 2001. To date, 342 applications for the program have been approved. The program is designed to be revenue neutral.

Certain institutions are exempt under State law from the payment of all or a portion of their water and sewer charges depending upon usage. These institutions include religious, certain educational and other charitable institutions as well as homes for the aged, hospitals and other non-profit or charitable corporations. For Fiscal Year 2002, metered accounts of such institutions which would be charged less than \$12,857 per year for water service are fully exempt from water and sewer charges, with a 50% exemption for those accounts ranging from \$12,857 to \$25,715 in annual water charges. The comparable thresholds for flat-rate accounts of these institutions are \$11,777 and \$23,554. There are approximately 4,000 accounts which are entirely or partially exempt from water and sewer charges.

DEP manages its account and billing information through its Customer Information System ("CIS"), which incorporates both frontage and metered accounts. DEP has identified weaknesses in the ability of the CIS to identify and report account errors and corrections on a comparable basis over time. In addition, DEP continues to issue a high percentage of estimated bills and continues to have difficulty in verifying the accuracy of a significant proportion of its overall receivable balances. DEP is working to reduce estimated bills and correct billing inaccuracies, which requires both computer analyses and an account-by-account review.

The Board and DEP have undertaken initiatives to enhance the collection of water and sewer billings. These initiatives include establishing a delinquent accounts unit for small to mid-size customers, outsourcing selected delinquency notification and collection functions to reputable collection or credit organizations, and hiring a consultant to assist in analyzing and improving collection of the accounts receivable balance. In addition, in 1999, the Board adopted a regulation authorizing DEP to terminate water and sewer services to customers because of nonpayment of assessed charges. Subject to certain notice requirements, service may be terminated if at least one delinquent charge has remained open and unpaid for at least two years, in the case of non-residential accounts and residential accounts with six or more units, or three years, in the case of residential accounts with one to five units. In May 2002, the Board approved modifications to the regulation to authorize the termination of service, subject to notice requirements, if at least one delinquent charge of at least \$1,000 has remained open and unpaid for at least one year or at least one delinquent charge of at least \$10,000 has remained open and unpaid for 90 days. The Commissioner of Finance of the City has also been authorized to sell liens on behalf of the Board securing unpaid water and sewer charges. Although such authorization expired on October 31, 2003, the Board is seeking renewed authorization from the City Council to sell such liens.

## THE SYSTEM

### Overview

DEP supplies water and sewer service to the Boroughs of the Bronx, Brooklyn, Manhattan, Queens, Staten Island, an area of over 300 square miles, and serves over eight million people. The City is also required by State law to sell water in counties where its water supply facilities are located and where it currently provides water to an additional approximately one million people. The Water System provides an average of approximately 1,250 mgd of water. Water consumption has decreased since 1990 when an average of approximately 1,500 mgd was provided by the Water System. The amount of water that can be safely drawn from a watershed during the worst period in the drought of record is the “Dependable Yield.” DEP has determined that the System could have furnished an average of 1,290 mgd during the drought of record in the mid-1960s. During periods of normal rainfall, watersheds supply more than the Dependable Yield. The Sewer System collects and treats an average of approximately 1,200 mgd of sewage during dry weather. Sewer service is provided to virtually the entire City, except for significant parts of the Borough of Staten Island, the Borough of Queens communities of Breezy Point and Douglaston, and the Borough of Brooklyn community of Seagate. Sewer service is also provided to certain upstate communities in System watershed areas. According to Metcalf & Eddy, the System is in adequate condition (the highest rating category; See “APPENDIX A—LETTER OF METCALF & EDDY, CONSULTING ENGINEERS.”)

For a discussion of the effects on the System of the World Trade Center attack, see “INTRODUCTORY STATEMENT—World Trade Center Attack.”

### The Water System

#### *History*

Early Manhattan settlers obtained water for domestic purposes from shallow privately owned wells. In 1677 the first public well was dug in front of the old fort at Bowling Green. In 1776, when the population reached approximately 22,000, a reservoir was constructed on the east side of Broadway between Pearl and White Streets. Water pumped from wells sunk near the Collect Pond, east of the reservoir, and from the pond itself, was distributed through hollow logs laid in the principal streets. In 1800 the Manhattan Company (now JPMorgan Chase) sank a well at Reade and Centre Streets, pumped water into a reservoir on Chambers Street and distributed it through wooden mains to a portion of the community. In 1830 a tank for fire protection was constructed by the City at 13th Street and Broadway and was filled from a well. The water was distributed through two 12-inch cast iron pipes. As the population of the City increased, the well water became polluted and supply was insufficient. The supply was supplemented by cisterns and water drawn from a few springs in upper Manhattan.

After exploring alternatives for increasing supply, the City decided to impound water from the Croton River, in what is now Westchester County, and to build an aqueduct to carry water from the Old Croton Reservoir to the City. This aqueduct, known today as the Old Croton Aqueduct, had a capacity of about 90 million gallons per day (mgd) and was placed in service in 1842. The distribution reservoirs were located in Manhattan at 42nd Street (discontinued in 1890) and in Central Park south of 86th Street (discontinued in 1925). New reservoirs were constructed to increase supply: Boyds Corner in 1873 and Middle Branch in 1878. In 1883 a commission was formed to build a second aqueduct from the Croton watershed as well as additional storage reservoirs. This aqueduct, known as the New Croton Aqueduct, was under construction from 1885 to 1893 and was placed in service in 1890, while still under construction.

Since 1842, there have been no significant interruptions of service.

In 1905 the Board of Water Supply was created by the State Legislature. Pursuant to the 1905 Act, the City may develop areas of the Catskill Mountains, located in the Hudson River Basin, and portions of the Delaware River Basin located to the west of the Catskill Mountains for water supply purposes. In return for these development rights, the 1905 Act requires the City to furnish, upon request, supplies of fresh water to municipalities and water districts in eight northern counties in which City water supply

facilities and watersheds are located. The City's obligations under the 1905 Act in this respect have now passed to the Board. The 1905 Act also governs the rates that may be levied for such water. An eligible municipality or district may draw water based on a formula computed as the local population multiplied by the daily per capita consumption in the City. The City is currently engaged in a long-term project to update and modernize various water supply agreements governing the furnishing of water to such municipalities and water districts.

After careful study, the City decided to develop the Catskill region as an additional water source. The Board of Water Supply proceeded to plan and construct facilities to impound the waters of the Esopus Creek, one of the four watersheds in the Catskills, and to deliver the water throughout the City. This project, to develop what is known as the Catskill System, included the Ashokan Reservoir and the Catskill Aqueduct and was completed in 1915. It was subsequently turned over to the City's Department of Water Supply, Gas and Electricity for operation and maintenance. The remaining development of the Catskill System, involving the construction of the Schoharie Reservoir and Shandaken Tunnel, was completed in 1928.

In 1927 the Board of Water Supply submitted a plan to the Board of Estimate and Apportionment for the development of the upper portion of the Rondout watershed and tributaries of the Delaware River within the State of New York. This project was approved in 1928. Work was subsequently delayed by an action brought by the State of New Jersey in the Supreme Court of the United States to enjoin the City and State of New York from using the waters of any Delaware River tributary. In May 1931 the Supreme Court of the United States upheld the right of the City to augment its water supply from the headwaters of the Delaware River. Construction of the Delaware System was begun in March 1937. The Delaware System was placed in service in stages: The Delaware Aqueduct was completed in 1944, Neversink Reservoir in 1950, Rondout Reservoir in 1951, Pepacton Reservoir in 1954 and Cannonsville Reservoir in 1967.

Water for the System is derived from three upstate reservoir systems (the Croton, Catskill and Delaware Systems) and a system of wells in Queens that were acquired as part of the City's acquisition of the Jamaica Water Supply Company ("Jamaica Water"). The three upstate water collection systems include 18 reservoirs and three controlled lakes with a total storage capacity of approximately 550 billion gallons. They were designed and built with various interconnections to increase flexibility by permitting exchange of water from one system to another. This feature mitigates localized droughts and takes advantage of excess water in any of the three watersheds.

The Water System is currently furnishing water to users in portions of four of the eight eligible northern counties. The Water System provides approximately 85% of the water used in Westchester County and approximately 7.5% of the water used in Putnam, Orange and Ulster Counties.

Approximately 95% of the total water supply is delivered to buildings by gravity. Only about 5% of the water is regularly pumped by DEP to maintain the desired pressure. As a result, operating costs are relatively insensitive to fluctuations in the cost of power. When drought conditions exist, additional pumping is required.

#### *Water Collection and Distribution*

The three main reservoir systems are the Croton, Catskill and Delaware Systems. See "New York City Water Supply System" map in Appendix G. In addition, approximately 1% of the City's daily water supply is provided by wells in Queens.

The following tables set forth the capacities and original in-service dates of the System's collecting and balancing reservoirs and distribution facilities based on the City records.

### Collecting Reservoirs

<u>Name</u>	<u>Available Capacity(1) (Billion Gallons)</u>	<u>Original In-Service Date</u>
<b>Croton</b>		
New Croton.....	19.0	1905
Croton Falls Main.....	14.2	1911
Cross River.....	10.3	1908
West Branch.....	10.1	1895
Titicus.....	7.2	1893
Amawalk.....	6.7	1897
East Branch.....	5.2	1891
Muscot.....	4.9	1905
Bog Brook.....	4.4	1892
Middle Branch.....	4.0	1878
Boys Corner.....	1.7	1873
Croton Falls Diverting.....	<u>0.9</u>	1911
Total.....	88.6	
<b>Catskill</b>		
Ashokan.....	122.9	1915
Schoharie.....	<u>17.6</u>	1926
Total.....	140.5	
<b>Delaware</b>		
Pepacton.....	140.2	1955
Cannonsville.....	95.7	1964
Rondout.....	49.6	1950
Neversink.....	<u>34.9</u>	1954
Total.....	<u>320.4</u>	
Total Available Capacity.....	<u><u>547.5</u></u>	

(1) Capacity above minimum operating level.



## Balancing Reservoirs and Distribution Facilities

<u>Name</u>	<u>Storage Capacity (billion gallons)</u>	<u>Original In-Service Date</u>
<b>Balancing Reservoirs</b>		
Kensico .....	30.6	1915
Hillview .....	<u>0.9</u>	1915
Total .....	31.5	
<b>Distribution Facilities</b>		
Central Park .....	1.0	1862
Jerome Park .....	0.8	1905
Ridgewood (basin no. 3).....	0.1	1875
Silver Lake (tanks) .....	<u>0.1</u>	1970
Total .....	<u>2.0</u>	
Total Storage Capacity .....	<u><u>33.5</u></u>	

The following table sets forth the Dependable Yield and storage capacity for each of the water supply systems.

### Water System Dependable Yield and Capacity

<u>System</u>	<u>Dependable Yield (mgd)</u>	<u>Storage Capacity(1) (billion gallons)</u>
Croton .....	240	86.6
Catskill.....	470	140.5
Delaware .....	580	320.4
Queens wells.....	<u>33</u>	<u>2.6</u>
Total.....	<u><u>1,323</u></u>	<u><u>550.1</u></u>

(1) Capacity above minimum operating level.

The Croton System normally provides approximately 10% of the City's daily water supply and can provide substantially more of the daily water supply during drought conditions. The Croton System consists of 12 reservoirs and three controlled lakes on the Croton River, its three branches and three other tributaries. The water in the Croton System flows from upstream reservoirs through natural streams to downstream reservoirs, terminating at the New Croton Reservoir. The watershed which supplies the Croton System has an area of 375 square miles. It lies almost entirely within the State, approximately 45 miles north of lower Manhattan, with a small portion in the State of Connecticut.

The Catskill System watersheds occupy sparsely populated areas in the central and eastern portions of the Catskill Mountains and normally provide approximately 40% of the City's daily water supply. Water in the Catskill System comes from the Esopus and Schoharie Creek watersheds, located approximately 100 miles north of lower Manhattan and 35 miles west of the Hudson River. The Catskill System is comprised of the Schoharie Reservoir (formed by the Gilboa Dam across Schoharie Creek) and Ashokan Reservoir (formed by the Olivebridge Dam across Esopus Creek) and the Catskill Aqueduct.

The Delaware System, located approximately 125 miles north of lower Manhattan, normally provides approximately 50% of the City's daily water supply. Three Delaware System reservoirs collect water from a sparsely populated region on the branches of the Delaware River: Cannonsville Reservoir (formed by the Cannonsville dam on the West Branch of the Delaware River); Pepacton Reservoir (formed by the Downsview Dam across the East Branch of the Delaware River); and Neversink Reservoir (formed by the Neversink Dam across the Neversink River, a tributary to the Delaware River).

Wells in Queens provide approximately 1% of the City's daily water supply. The wells could be used to provide more of the daily supply during drought conditions. Unlike the rest of the City's water supply, which is a surface and gravity-supplied system originating in a network of upstate reservoirs, well water is pumped from extensive underground aquifers. The acquisition of wells in Queens from Jamaica Water in 1996 represented the first new water supply source for the City since the 1960s when the Delaware surface water system initially came on line.

Current demand/flow projections show that if conservation programs, including metering, toilet replacement, hydrant locking, leak detection, and public information, remain effective there will be no immediate need for the City to find additional long-term water supply sources.

The System's water supply is transported through an extensive system of tunnels and aqueducts. See "New York City Water Tunnels" map in Appendix G. Croton System water is delivered from the New Croton Reservoir by the New Croton Aqueduct to the Jerome Park Reservoir in The Bronx. From Jerome Park Reservoir and from direct connections to the New Croton Aqueduct, trunk mains carry water to the service area. The Catskill and Delaware Aqueducts convey water from Ashokan Reservoir and Rondout Reservoir to Kensico Reservoir and then to Hillview Reservoir in Yonkers. Both Kensico and Hillview Reservoirs serve as balancing reservoirs. Water from the Catskill and Delaware Systems is mixed in the Kensico Reservoir, and is conveyed to Hillview Reservoir where water enters Tunnels 1, 2 and 3. Trunk mains carry water from tunnel shafts and from the distribution facilities (Jerome Park and Hillview Reservoirs and Silver Lake Tanks) to the service area.

DEP regularly assesses the condition and integrity of the System's tunnels and aqueducts to determine the extent and effect of water loss. In particular, DEP is focusing on an assessment of the condition of the Rondout-West Branch Tunnel, which comprises a portion of the Delaware Aqueduct. The Rondout-West Branch Tunnel carries water 45 miles from the Delaware System under the Hudson River and into West Branch Reservoir. It has a capacity of 900 mgd and normally contributes 50% of the City's water supply. It is unique in that it has the highest pressures and the highest velocities in the Water System. In addition, a portion of the tunnel crosses a fractured rock formation, which is potentially subject to greater stress than the deep rock tunnels located in the City. Since the early 1990s, DEP has monitored the condition of the Rondout-West Branch Tunnel. As a result of DEP's flow tests, visual observations and other analyses conducted over the last five years, it has been determined that between approximately 15 mgd and approximately 36 mgd of water is being lost from the tunnel and is surfacing in the form of springs or seeps in the area. This amounts to a loss of approximately 4% of the daily volume of water provided by the tunnel under peak flow conditions. DEP has initiated the engineering work to determine the nature and extent of repairs which may be necessary to remedy the water loss. DEP has also determined that the situation in the tunnel and amount of water loss is stable and that, in the opinion of the professional engineering firm retained by DEP in conjunction with that investigation, there is no immediate risk of failure of the tunnel. DEP intends to make the necessary repairs. The costs to perform such repairs could be substantial depending on the nature of the required repair. To perform the repair work, the tunnel may have to be shut down and de-watered. During any such period, it will be necessary for the City to increase reliance on its other water supplies, and to implement more stringent measures to encourage conservation and decrease demand. If it is necessary to shut down and de-water the tunnel, DEP believes that water service at normal volume could be provided for a period of two to four months depending upon time of year, rainfall, and reservoir storage levels, and approximately one billion gallons per day could be provided by other parts of the Water System for a longer period under normal rainfall conditions. However, under an extended shutdown of this tunnel, water quality in the remaining reservoirs could potentially suffer as storage volumes are drawn down. In general, the Delaware System continues to demonstrate a high degree of reliability after 55 years of continuous service. Nevertheless, DEP considers it prudent to conduct regular tunnel and aqueduct inspections and surveys to detect any problems that might arise so that corrective actions can be taken if needed.

*Tunnel 1.* From Hillview Reservoir, water from the Catskill and Delaware Systems is delivered into the City by a circular, cement-lined, pressurized, bedrock tunnel that narrows in diameter from 15 to 11 feet. Tunnel 1 is 18 miles in length and extends south from Hillview Reservoir through the West Bronx to Manhattan and Brooklyn. Tunnel 1 is 200 to 750 feet underground and thus avoids interference with

streets, buildings, subways, sewers, pipes and other underground infrastructure. These depths are necessary to ensure substantial rock covering necessary to withstand the bursting pressure of the water inside and to ensure watertightness. Tunnel 1 has a capacity of approximately 1,000 mgd. Shafts placed along the tunnel connect with surface mains which deliver water to the distribution system.

*Tunnel 2.* The second tunnel also delivers Catskill and Delaware System water from Hillview Reservoir. It is a circular, cement-lined, pressurized, bedrock tunnel, 200 to 800 feet below the street surface and 15 to 17 feet in diameter. Tunnel 2 extends south from Hillview Reservoir, east of Tunnel 1, through the Bronx, under the East River at Rikers Island, through Queens and Brooklyn, and connects with Tunnel 1 in Brooklyn. Tunnel 2 has a capacity of more than 1,000 mgd and is 20 miles in length. Shafts placed along the tunnel connect with surface mains which deliver water to the distribution system.

*Richmond Tunnel.* Connecting to Tunnel 2 in Brooklyn is the ten-foot diameter, five-mile long Richmond Tunnel, which was completed in 1970 and carries water 900 feet beneath Upper New York Bay to Staten Island. The Richmond Tunnel, the Richmond Distribution Chamber, the Richmond Aqueduct and the underground Silver Lake Tanks were designed to improve the water supply facilities of Staten Island. The underground storage tanks (among the world's largest) have a combined capacity of 100 million gallons and replaced the Silver Lake Reservoir (now Silver Lake).

*Tunnel 3.* A new water tunnel, Tunnel 3, connecting the reservoir system to the City is presently under construction to increase capacity to meet a growing demand in the eastern and southern areas of the City, permit inspection and rehabilitation of Tunnels 1 and 2, and provide water delivery alternatives to the City in the event of disruption in Tunnel 1 or 2. Tunnel 3 is being built in four stages. Stage I commenced operation in July 1998. It follows a 13-mile route which extends south from Hillview Reservoir in Yonkers under Central Park Reservoir in Manhattan, and east under the East River and Roosevelt Island to Long Island City in Queens. Stage II is currently under construction and is expected to be completed in 2012. It will extend from the end of Stage I to supply Queens, Brooklyn and the Richmond Tunnel and from the valve chamber at Central Park into lower Manhattan. Upon completion, and with the installation of additional surface mains, Stage II will enable the system to maintain full service even if Tunnel 1 or 2 was shut down. The Stage III project is now referred to as the Kensico-City Tunnel (the "Kensico Tunnel"). Stage IV is intended to deliver additional water to the eastern parts of the Bronx and Queens. It would extend southeast from the northern terminus of Stage I in the Bronx to Queens and then southwest to interconnect with the Queens portion of Stage II.

*Kensico-City Tunnel.* The Kensico-City Tunnel will extend from the Kensico Reservoir to the interconnecting chamber of Tunnel 3, Stage I, south of Hillview Reservoir. \$1.7 billion is included for the project in the CIP.

The water distribution system consists of a grid network of over 6,200 miles of pipe, as well as valves, fire hydrants, distribution facilities, gatehouses, pump stations, and maintenance and repair yards. Some pipe was installed before 1870 and approximately 6.5% is over 100 years old. Approximately 2,000 miles of pipe are unlined cast iron laid before 1930. Pipe laid between 1930 and 1969 is cement-lined cast iron and comprises about 2,300 miles of the distribution system. Pipe laid after 1970 is cement-lined ductile iron and comprises about 1,900 miles of the distribution system. The CIP provides for the programmatic replacement of water mains in accordance with certain established criteria. These criteria were reviewed and confirmed by the U.S. Army Corps of Engineers in its independent study of the City's distribution system completed in November 1988.

Various facilities provide storage to meet the hourly fluctuations in demand for water throughout the City, as well as any sudden increase in draft that might arise from fire or other emergencies. With the exception of some communities in the outlying areas of the City which may experience low pressure service during peak hours in summer months, the water distribution system provides generally excellent service.

#### *Drought Response Measures*

From time to time the Water System experiences drought conditions caused by significantly below-normal precipitation in the watershed areas. A Drought Watch (as defined herein) was declared in

late December 2001, a Drought Warning (as defined herein) was declared in late January 2002 and a Drought Emergency (Stage I) (as defined herein) was declared in March 2002. In November 2002, the City downgraded the Drought Emergency to a Drought Watch and in January 2003 the Drought Watch was lifted. As of February 25, 2004, the System's reservoirs contained approximately 92.3% of capacity. Normal levels at this time of year would be approximately 83.2% of capacity.

The Water System relies upon a surface water supply, and is sensitive to major fluctuations in precipitation. Throughout even the worst droughts, the Water System has continued to supply sufficient amounts of water to the City. To ensure adequate water supply during drought conditions, DEP, in conjunction with other City, State and interstate agencies, maintains a Drought Management Plan. The Drought Management Plan defines various drought phases that trigger specific management and operational action. Three defined phases are: "Drought Watch," "Drought Warning," and "Drought Emergency." A Drought Emergency is further subdivided in four stages based on the projected severity of the drought and provides increasingly stringent and restrictive measures.

A Drought Watch is declared when there is less than a 50% probability, based on the existing record since 1927, that either the Catskill or Delaware reservoir system will be filled by the following June 1. This phase initiates the pumping of water from the Croton System. In addition, during this phase a public awareness program begins and users, including upstate communities taking water from the System, are requested to initiate conservation measures. NYSDOH, NYSDEC, and the Delaware River Basin Commission (the "DRBC") are advised of the Water System's status, and discussions are held with City agencies concerning their prospective participation in the event of a declaration of a Drought Warning.

A Drought Warning is declared when there is less than a 33% probability that either the Catskill or Delaware reservoir system will fill by June 1. All previous efforts are continued or expanded and additional programs are initiated, including the coordination of specific water saving measures by other City agencies.

A Drought Emergency is declared when it becomes necessary to reduce consumption by imposing even more stringent measures. In addition to the imposition of restrictions, DEP may enhance existing System management and public awareness programs, expand its inspection force and perform additional leak and waste surveys in public and private buildings. DEP may also require communities outside of the City that are served by the System to adopt similar conservation measures. During several drought emergencies, DEP has operated the Chelsea Pump Station which can draw up to 100 mgd from the Hudson River. However, DEP has committed not to use the Chelsea Pump Station in its planning for future emergencies.

### *Governmental Regulation*

The System is subject to federal, State, interstate and municipal regulation. At the federal level regulatory jurisdiction is vested in USEPA; at the State level in NYSDEC and NYSDOH; at the interstate level in the DRBC and the Interstate Environmental Commission and at the municipal level in DEP, NYCDOH, DOB and the Department of Business Services and to a limited degree, in municipalities and districts located in eight counties north of the City. Water quality standards are enforced within the watershed areas north of the City through a network of overlapping governmental jurisdictions. Participating in that network, among others, are NYSDEC and NYSDOH, county, municipal and district police, engineers and inspectors; and City personnel from DEP. The various jurisdictions maintain physical security, take water samples, monitor the use of herbicides, insecticides and fertilizers, and generally oversee the physical condition of, activity on and the operation of water supply lands and facilities. Portions of the overall legislative and regulatory framework governing the watersheds may be found in the City's Administrative Code, Health Code and Water Supply Regulations. Regulatory enforcement within City limits is almost exclusively accomplished through City personnel. Provisions incorporating and augmenting the substance of the federal Safe Drinking Water Act ("SDWA"), related regulations and the Sanitary Code, are contained in the Health Code, Water Supply Regulations and the City's Building and Building Construction Codes. These provisions are enforced by personnel from DEP, NYCDOH and DOB.

*Croton Filtration.* Because of the quality of the System's water and the long periods of retention in the reservoirs, it has not been necessary to filter water from the System to reduce the bacterial content and the turbidity. The only treatment procedures routinely employed by DEP are screening, detention, disinfection, flouridation, and the addition of caustic soda and phosphoric acid for corrosion control. Additions of copper sulfate for algae control and alum for turbidity control are made only when needed. This level of treatment proved to be more than sufficient to maintain water quality standards throughout the entire Water System. However, new water treatment standards led to a 1992 stipulation with NYSDOH which provided for the construction of a full scale water treatment facility to filter Croton System water. The stipulation has been superceded by a 1998 federal court consent decree (the "Croton Filter Consent Decree"). If the City fails to meet certain milestones set out in the Croton Filter Consent Decree it may be required to pay penalties to the State and federal governments.

In December 1998, after an extensive study of several alternative sites, DEP identified the Mosholu Golf Course in the Bronx as the City's preferred site for the full-scale water treatment facility to filter Croton System water. The selected Mosholu Golf Course site lies within the boundaries of Van Cortlandt Park, a mapped public park. Actions brought against the City resulted in a February 2001 New York Court of Appeals decision that the construction and operation of a Croton water treatment facility at this site would constitute an alienation of parkland by the City, requiring State legislative approval. Following the Court of Appeals decision, USEPA, the State and the City negotiated a supplement to the Croton Filter Consent Decree (the "First Supplement") which requires the City to simultaneously prepare preliminary designs for a Croton filtration facility at two alternate sites: a site in Bronx County, located alongside the Harlem River in the vicinity of Fordham Road, and a site in Westchester County, located on City-owned property in the Town of Mount Pleasant. The First Supplement sets forth a series of milestones, with associated stipulated penalties. The total estimated cost of the Westchester County facility, the more expensive facility, is approximately \$1.4 billion, with estimated costs of approximately \$1.4 billion provided for in the CIP. The First Supplement further required the City to identify its preferred site by April 30, 2003.

On April 30, 2003, the City asked the United States Attorney for the Southern District of New York for a 30-day extension of the April 30, 2003 milestone because of further developments including the City's introduction of alienation legislation to the State legislature to allow the Croton facility to be built at the Mosholu Golf Course site. The City requested an additional 30-day extension on May 30, 2003. On June 3, 2003 and June 5, 2003, the United States and the State, respectively, demanded the payment of penalties by the City for failure to meet the April 30, 2003 milestone for the selection of a preferred site. On June 20, 2003, the State legislature passed the proposed alienation legislation and on July 22, 2003 the governor signed the bill into law. The authorization to construct, install, operate and maintain a Croton filtration facility at the Mosholu Golf Course site is subject to certain conditions including that the City enter into a Memorandum of Understanding with the leaders of the State legislature, for ratification by the City Council. The Memorandum of Understanding will provide for the identification of projects for the development of other parklands in the Bronx, the provision of approximately \$200 million for such projects (which is expected to be financed by the issuance of bonds by the Authority) and the completion by the City of a supplemental environmental impact statement on the proposed facility at the Mosholu Golf Course site. As a result of the passage of the bill, the City is negotiating with USEPA and the State the terms of a second supplement to the Croton Filter Consent Decree (the "Second Supplement") that will supersede the First Supplement. The Second Supplement will provide for consideration of siting the Croton filtration facility at the three potential sites, including the Harlem River site (by 2012), the Westchester County site (by 2010) and the Mosholu Golf Course site (by 2011). As part of those discussions, the parties are also negotiating what penalty will be paid by the City for having missed the April 30, 2003 milestone.

In the second quarter of 2003, the Croton System exceeded the water quality standard for haloacetic acids, a disinfection by-product regulated by USEPA. On June 19, 2003, USEPA issued an administrative order requiring DEP to inform consumers about the violation and to propose feasible and cost effective measures to reduce haloacetic acid levels until the Croton filtration plant is completed. DEP distributed

the required public notice to Croton System consumers on July 15, 2003 and submitted the required evaluation of potential interim measures to USEPA and NYSDOH on August 4, 2003. DEP is conducting additional analyses to determine which measures will be most efficacious and cost-effective.

*Watershed Protection/Catskill, Delaware Filtration.* Pursuant to the SDWA, USEPA has promulgated nationwide drinking water regulations which specify the maximum level of harmful contaminants allowed in drinking water and which govern the construction, operation, and maintenance of the System. USEPA has also promulgated filtration treatment regulations, known as the federal Surface Water Treatment Rule (“SWTR”), that prescribe guidelines concerning studies to be performed, programs to be implemented, timetables to be met and any other actions necessary to insure compliance with the regulations’ terms. Enforcement of SDWA and its related regulations, except for the SWTR, was delegated by USEPA to the State. USEPA has delegated primary enforcement responsibility for the SWTR to NYSDOH for all systems in the State other than the Catskill and Delaware Systems. With respect to the Catskill and Delaware systems, the City believes that under the SWTR promulgated by the USEPA it will continue to be able to meet the criteria for non-filtered supplies.

On January 21, 1997, the City and the State executed a Memorandum of Agreement with the communities in the Catskill, Delaware and Croton watersheds, USEPA and several environmental groups (the “Watershed Memorandum of Agreement”). The Watershed Memorandum of Agreement supplemented the City’s existing watershed protection program with approximately \$400 million in additional funding. This funding, at least \$290 million of which is expected to be provided through the issuance of Authority bonds, consists of \$350 million for economic-environmental partnership programs with upstate communities which include a water quality investment program, a regional economic development fund and a regional advisory forum for water quality initiatives and watershed concerns. As provided under the Watershed Memorandum of Agreement, the State has issued a land acquisition permit to the City to acquire water quality sensitive land in the watershed and has approved the City’s revised rules and regulations governing certain aspects of land use in the watershed. The State also promulgated the same regulations under state law procedures in July 1998.

Since 1993, USEPA has issued filtration avoidance determinations (“FADs”) pursuant to which the City is not required to filter water from the Catskill and Delaware Systems. If the City were to have to filter water from the Catskill and Delaware Systems, current estimates of the construction costs to provide for such filtration are from \$3 billion to \$4 billion. On November 26, 2002, USEPA announced the issuance of a new FAD which supersedes previous determinations and will remain in effect until further determination is made, now scheduled for April 2007 (the “2002 FAD”). The 2002 FAD requires that the City take certain actions over the next five years to protect the Catskill and Delaware water supplies and justify the continuation of filtration avoidance. These actions include the continuation and enhancement of certain environmental and economic partnership programs established under the Watershed Memorandum of Agreement, and the creation of new programs. The 2002 FAD requires, among other things, continuation of the program for repair and rehabilitation of certain watershed septic systems, construction of an ultraviolet treatment facility (the “UV facility”) to be operable by August 2009, development of a new Community Wastewater Management Program, the continuation of the Stormwater Retrofit Program, and continuation of the Stream Management Program. Approximately \$588 million has been included in the CIP for the UV facility. In addition, the 2002 FAD requires upgrades to approximately 25 non-City owned wastewater treatment plants by varying dates, the latest of which is November 15, 2004 and the connection of certain other existing plants to new plants to be constructed under the New Infrastructure Program by the first half of 2005. Capital costs associated with the 2002 FAD, excluding the UV facility, are estimated to be approximately \$221 million, and are included in the CIP.

In addition, the 2002 FAD continues the requirement that the City solicit property from owners of 355,050 acres of land in the watershed and actually acquire (with certain limited exceptions) title to or conservation easements on any land used to satisfy the solicitation goal where the owner accepts the City’s purchase price. In particular, the City must continue to aggressively pursue additional land acquisition in the Kensico Reservoir basin. To be eligible for acquisition, land must satisfy specified natural features and minimum acreage criteria. The Watershed Memorandum of Agreement required the City to set aside \$250 million for land acquisition, with an option to increase the funding by up to \$50 million

("Supplemental Land Funds"). The 2002 FAD requires the City to confer with USEPA and NYSDOH biannually commencing in January 2004, on the need for allocating all or a portion of the Supplemental Land Funds. As required, the City met with USEPA and NYSDOH in January 2004, and as a result USEPA has directed the City to allocate an additional \$7 million to its watershed land acquisition program, for the purpose of acquiring agricultural easements on farm properties in the watershed. The City will confer with USEPA and NYSDOH again in January 2006, regarding the need to supplement the acquisition program with the remaining \$43 million in Supplemental Land Funds. Pursuant to the Watershed Memorandum of Agreement, in 1997 NYSDEC issued a land acquisition permit to the City that had a term of 10 years with an option to extend for five years. The 2002 FAD requires the exercise of the option for the five years which would extend the permit to 2012. To date, the City has either acquired, or has contracts or option agreements to acquire, title to or conservation easements on approximately 53,000 acres of land in the Catskill and Delaware watersheds with an aggregate value of approximately \$135 million

*USEPA Investigation/Regulations.* On August 23, 2001, DEP resolved a criminal investigation by USEPA and the United States Attorney's Office in the Southern District of New York concerning the presence of mercury, PCBs and lead at several DEP facilities in the watershed. Under the resolution, DEP pled guilty to a felony violation of the federal Clean Water Act and a misdemeanor violation of the federal Toxic Substances Control Act and paid a fine of \$50,000. DEP also accepted oversight of elements of the water supply and sewer system by a Court-appointed monitor and has been placed on probation, both for a term of three years, extendable by the Court for up to two additional years. The monitor delivers regular reports on DEP's compliance with applicable standards. The Clean Water Act violation is based on the discharge of water containing low levels of mercury from a DEP facility in Sullivan County. The Toxic Substances Control Act violation is based on DEP's use of flow control equipment which contains PCBs in other than a totally enclosed manner at a facility in Westchester County. The conditions which gave rise to the violations have not had any detectable impact on water quality and the City's water supply has been, and continues to be, safe and wholesome. The federal government, NYSDOH and DEP have all indicated that the water supply remains safe with respect to mercury, PCBs and lead. DEP has been and continues to be engaged in programs to remediate mercury, PCBs, lead, and other constituents of concern from the affected facilities. DEP's operation and management of the Water System will not materially change as a result of the plea.

From time to time, the United States Attorney's Office has requested additional information from DEP concerning the System, and has issued subpoenas for additional documents. DEP is cooperating with that office and is providing information and documents in response to such requests and subpoenas.

DEP has historically monitored key locations in its distribution system for over 40 individual water quality parameters, including lead. Through 1998 DEP data indicated that lead was absent from both the water supply and distribution systems. Beginning in January 1999 tap water samples revealed that, although some lead was present, the City was in compliance with State lead standards. Recent USEPA regulations require water suppliers to monitor for lead and copper that may have leached into the water from service lines or interior building plumbing. To minimize this occurrence the City began the addition of corrosion control chemicals to the Water System. This addition promotes the formation of a protective coating inside pipes and plumbing thereby reducing the leaching of metals.

The System has six laboratories that monitor water quality, employing approximately 250 microbiologists, engineers, chemists, hydrologists and limnologists. Over 65,000 samples per year are collected and 800,000 analyses are performed annually. Routine checks are made for more than 60 different substances, including heavy metals and trace organics. The monitoring program meets or exceeds federal and State requirements and has the capability to meet potentially more stringent requirements.

*Hillview Reservoir.* In March 1996, DEP entered into an Administrative Order with NYSDOH which required, among other things, that the City install or construct a cover for the Hillview Reservoir to reduce the possibility of E. coli bacteria entering the Water System. The Administrative Order was modified in July 1997 and March 1999. As modified, it requires that the City complete installation or construction of the selected cover for Hillview Reservoir by December 31, 2005.

Over the past three years, DEP has conducted studies and has held discussions with NYSDOH to evaluate other strategies, including more aggressive waterfowl control, to protect the Hillview Reservoir. Although DEP believes that certain other strategies hold promise, DEP was advised by NYSDOH, in August 2001, that the Administrative Order will not be modified in this respect and that the City must cover Hillview Reservoir in accordance with the terms of the Order. DEP has renewed discussions with NYSDOH on modifications to the Administrative Order based on its overall water supply plan and possible scheduling conflicts with other water supply projects. While these discussions are proceeding, NYSDOH is requiring DEP to pay stipulated penalties into an escrow account as set forth in the Administrative Order. The estimated cost of a Hillview Reservoir cover is approximately \$400 million which is not included in the CIP. However, DEP has provided \$234 million in the CIP to upgrade Hillview Reservoir facilities to implement certain alternative strategies including aggressive water fowl control, increased security and other facility modifications.

*Consumer Confidence Report.* The SDWA requires that utilities prepare and distribute to their consumers a brief annual water quality report, referred to as the Consumer Confidence Report (the “CCR”). The City’s 2002 CCR covering the calendar year 2002, the most recent such report, noted that the Croton System experienced seven violations of the color standard established under the Sanitary Code, and water from the wells in Queens experienced one violation of such standard. In the Croton System, the monthly average standard for turbidity was exceeded in January and August 2002. The Croton filtration project is intended, among other things, to address the issue of color violations in Croton System water. The Catskill and Delaware System experienced two violations of the iron standard and one violation of the manganese standard, both of which generally contribute to color violations. While the CCR further noted that the City’s source water contains virtually no lead, tap water may contain lead due to releases of lead from internal household plumbing and fixtures.

*Delaware System.* The conditions under which the System’s Pepacton, Neversink and Cannonsville Reservoirs may be operated are set forth under the terms of a 1954 decree of the Supreme Court of the United States (the “1954 Decree”). It allows the System to divert 800 mgd of water from the Delaware River Basin for use by the Water System. At the same time, the System is required to release, from the three reservoirs into the tributaries of the Delaware River, quantities of water sufficient to maintain flows of 1,750 cubic feet per second in the main branch of the Delaware River at Montague, New Jersey. In addition, the System must meet the State-mandated conservation releases and flow requirements in various tributaries contained in numerous deeds and condemnation decrees. Enforcement of the 1954 Decree is under the jurisdiction of a River Master appointed by the Supreme Court of the United States. The City and State, and the governments of New Jersey, Pennsylvania and Delaware are named parties to the 1954 Decree.

The DRBC was created in 1961 as a result of the Delaware River Basin Compact among the federal government, the State, and the states of New Jersey, Pennsylvania and Delaware. It has jurisdiction over water resources and is responsible for development, planning and coordination and protection of the interstate areas served by the Delaware River and its tributaries. Although not a participant in the Delaware River Basin Compact, the City functions as an advisor to the State in DRBC proceedings and assumes a major role both as a party to the 1954 Decree and as the owner and operator of the three largest reservoirs subject to DRBC jurisdiction.

In 1982, as a result of conditions during the drought of record in the mid-1960s, the drought of 1981, and the inability of the System’s Pepacton, Neversink and Cannonsville Reservoirs to satisfy all of the requirements of the 1954 Decree during those drought periods, a set of Interstate Water Management Recommendations (the “Good Faith Agreement”) was submitted to DRBC. Executed by all of the parties to the 1954 Decree, the Good Faith Agreement sets forth a series of recommendations, including various levels of diversions and releases necessary during normal hydrological conditions and during periods of drought. The Good Faith Agreement was also followed during the 1985, 1989 and 2002 droughts.

For more information regarding litigation relating to the Water System, see “LITIGATION.”



## **The Sewer System**

The Sewer System is comprised of the sewage collection system and the water pollution control facilities. See “New York City Drainage Areas and Water Pollution Control Plants” map in Appendix G.

### *History*

Systematic collection of sewage and building of sewers began in the City as early as 1696. Major portions of the Sewer System in lower and central Manhattan were begun in the early 1830s and completed by 1870. The oldest sewer now in service was built in 1851. The oldest components of the Sewer System, located in Manhattan and Brooklyn, are constructed mostly of brick, clay and cement. The other Boroughs have newer sewers made primarily of vitreous clay and concrete. Historically, waste collection and disposal was a matter of local jurisdiction. Upon consolidation of the City in 1898, Presidents of the five Boroughs were given responsibility for sewage collection and disposal in their respective Boroughs. A Commissioner of Borough Works was established in each Borough for planning, constructing and administering its sewer system. This local responsibility for sewage collection existed until the mid-1960s.

Although water pollution control did not become a major issue until recent years, it has been a concern of local conservationists and public officials for over a century. The first water pollution control facility in the City was opened in 1886, when a small plant was constructed on Coney Island to protect the bathing beaches. In 1904, a Sanitary Commission was established and charged with developing a master plan for water pollution control in the City. Although the Sanitary Commission completed its task in 1910, water pollution control plant construction did not receive serious attention until 1929, when the City established a department to construct water pollution control facilities under the jurisdiction of the Department of Sanitation. In the 1930's this function was transferred to the Department of Public Works. In 1931, a plant construction program was begun to construct a system of water pollution control plants and associated facilities to control and treat all sewage produced within the City. The first of these plants, Coney Island, opened in 1935. Three more large plants, Wards Island, Tallmans Island and Bowery Bay, were placed in operation before the end of the 1930's. During the 1940's two additional plants, Jamaica and 26th Ward, were opened. The post-war years witnessed an intensified construction effort and, by 1967, 12 major treatment plants were in operation treating about 1,000 mgd at an average removal efficiency of about 65%. At that time most other urban areas were providing only about 35% removal efficiency.

The City Charter of 1963 consolidated the Borough sewer organizations into a City-wide department under the Department of Public Works. In 1968, various municipal services were consolidated into a single agency known as the Environmental Protection Administration, which included responsibility for sanitation and water and air quality resources. Within the Environmental Protection Administration, the Department of Water Resources had jurisdiction over the Bureaus of Water Supply and Water Pollution Control. These Bureaus were responsible for water supply and sewage collection and treatment. In 1977, water supply, sewage collection and treatment, and air quality monitoring responsibilities were combined into DEP.

### *Sewage Collection and Treatment*

The Sewer System's plants treat approximately 1,200 mgd of dry-weather sewage, virtually all of the dry-weather sewage generated in the City. The Sewer System is divided into 14 drainage areas corresponding to the 14 water pollution control plants and includes over 6,600 miles of sewer pipes of varying size which are classified as one of three types: sanitary, storm or combined. Sanitary sewers accommodate household and industrial waste. Storm sewers carry rainwater and surface water runoff. Combined sewers carry both types of waste. Approximately 70% of the City's sewers are of the combined type. In addition to the sewage pipes, the Sewer System includes catch basins and seepage basins to prevent flooding and sewer backups.

The Sewer System is comprised of a number of sewer facilities built to varying standards. Different materials and methods of construction were used resulting in different life cycles. Approximately 4,000

miles or two-thirds of the City’s sewer pipe is made of vitreous clay. Significant mileage of sewer pipe is composed of other building materials including cement, reinforced concrete, iron and brick. Some pipe in the collection system was installed before 1870, and about 16.7% of all sewer pipe in the collection system is over 100 years old.

The facilities related to the treatment of sewage include water pollution control plants, a combined sewer overflow treatment plant, wastewater pump stations, laboratories, sludge dewatering facilities and inner-harbor vessels which transport sludge between facilities. Sludge is a by-product of the sewage treatment process. Sludge that is treated through the sewage treatment process (or “biosolids”) is acceptable for land-based beneficial use.

Issues of both water supply volume and consequent sewage treatment volume are raised from time to time in connection with the System. Measures to increase the supply of water available to the System and to increase the sewage treatment capacity of the various water pollution control plants in the System are either being constructed under the CIP or are under continuing review for feasibility and cost effectiveness. However, the immediate approach to both the issues of supply and treatment capacity is conservation, through voluntary changes in user behavior, through education and the effect of actual use charges based on metered water usage, leak detection and repair and increased use of newly designed low-flow water use fixtures such as toilets.

The following table describes water pollution control plants currently in service.

**Water Pollution Control Facilities**

<u>Plants in Service</u>	<u>Capacity (mgd)</u>	<u>Year of Completion</u>	<u>Completion of Upgrading to Full Secondary Treatment or Reconstruction</u>
Newtown Creek.....	310	1967	2007
Wards Island.....	275	1937	1979
Hunts Point.....	200	1952	1978
Bowery Bay.....	150	1939	1978
Owls Head.....	120	1952	1995
Coney Island.....	110	1935	1994
Jamaica.....	100	1943	1978
26th Ward(1).....	85	1944	1979
Tallmans Island.....	80	1939	1978
Port Richmond.....	60	1953	1979
Rockaway.....	45	1952	1978
Oakwood Beach.....	40	1956	1979
North River.....	170	1986	1991
Red Hook.....	60	1987	1987
Total System-wide Capacity.....	<u>1,805</u>		

(1) There is a storm-overflow retention facility at Spring Creek, which is connected to the 26th Ward Plant.

The Sewer System’s water pollution control pump stations convey wastewater to the water pollution control plants. When gravity flow becomes uneconomical or not feasible for engineering reasons, pump stations lift the flow so that it can again flow by gravity. In some locations, pump stations utilize pressure piping called force mains to direct the flow of wastewater to the plants. The CIP includes an ongoing program to reconstruct and refurbish pump stations.

Sewer regulators and tide gates control flow in the System. Recent inspections of the regulator system have found it to be structurally adequate, but many portions are in need of mechanical reconstruction. A detailed evaluation of the regulator and tide gate system has been completed and funds have been provided in the CIP for mechanical refurbishment of these facilities.

During periods of heavy rainfall a combination of stormwater and sewage bypasses treatment and is released into the City's waterways via combined sewer overflows. The combined sewer overflow abatement program provides for studies, design and construction of facilities to address this issue.

DEP has awarded contracts for the beneficial use of 100% of its biosolids which commenced in July 1998. These current contracts include: thermally drying the biosolids into fertilizer pellets at a facility located in the Bronx; chemical reaction pelletization in Arkansas; direct land application in Colorado and Virginia; and lime stabilization in Colorado and New Jersey. The City's financial plan includes \$54 million in Fiscal Year 2003 for contracts with private vendors to manage biosolids.

#### *Governmental Regulation*

Under the Clean Water Act, USEPA oversees compliance with federal environmental laws, regulations and guidelines concerning sewage. Included in that regulatory framework is the National Pollutant Discharge Elimination System ("NPDES") Permit Program and the issuance of water pollution control plant operating permits. As authorized by the Clean Water Act, administration of the permit program has been delegated to the State.

Pursuant to the Water Quality Act of 1987, as a condition for receipt of federal funds the State must establish a revolving fund to provide a source for loans to local entities for the construction of publicly-owned wastewater treatment facilities. Initial funding for a revolving fund program is provided from federal capitalization grants and state matching funds. The State has designated EFC to be the administrator of such funds.

*Full Secondary Treatment Requirements.* Thirteen of the System's 14 in-City water pollution control plants have been upgraded to meet the full secondary treatment requirements of the Clean Water Act. The remaining plant, Newtown Creek, is in the process of being upgraded to meet federal requirements.

*SPDES.* Over the past several years, NYSDEC has notified the City of alleged violations of the SPDES permits for the City's water pollution control plants as a result of corrective and preventive maintenance at a level below that which NYSDEC believes is required by the permits. These alleged violations have been settled through a series of administrative consent orders. In addition, DEP hired a consultant to gather relevant data to enable DEP to determine the appropriate level of corrective and preventive maintenance for its water pollution control plants. This study included a review of the practices of other utilities in connection with corrective and preventive maintenance. Based on this study, DEP has implemented pilot studies at various water pollution control plants in an attempt to change its practices and priorities relating to plant maintenance.

On July 18, 2002, NYSDEC publicly noticed a proposal to modify the existing SPDES permits for the 14 in-City water pollution control plants operated and maintained by DEP. The SPDES permits for these facilities were issued in 1988 and, although administratively renewed from time to time, have not been significantly changed since such date. NYSDEC's proposed modifications, if ultimately adopted, could increase costs for operating and maintaining the plants. On February 28, 2003, NYSDEC issued modified SPDES permits for all 14 plants. Although these permits address some of the concerns noted by DEP, the permits continue to include effluent limits and requirements for nitrogen removal based on the 10 and 15 year target nitrogen waste load allocations set out in the Total Maximum Daily Load ("TMDL") for dissolved oxygen in Long Island Sound (see "—Harbor and Waterway Protection"). Among other things, DEP objects to the inclusion of such limits and requirements because they are inconsistent with the limits and requirements of the Administrative Consent Order (as defined below) entered into with NYSDEC governing nitrogen discharges from the Upper East River water pollution control plant and because they would extend well beyond the 5-year life of the SPDES permits. DEP has requested an adjudicatory hearing before an administrative law judge on the modified permits. In January 2004, the administrative law judge denied DEP's request for an adjudicatory hearing. However, the administrative law judge has asked the parties to submit briefs addressing the inconsistencies between the permits and the Administrative Consent Order. This briefing is ongoing.

The System includes eight City-owned upstate water pollution control plants to prevent untreated sewage from being released into the watersheds. To enhance watershed protection, DEP completed

upgrades to seven of these facilities. The CIP includes funds to upgrade the eighth facility. DEP, through the City's Law Department, takes legal action pursuant to the Federal Clean Water Act to compel certain owners and operators of non-City owned water pollution control plants in the watersheds to comply with SPDES permits. In addition, DEP, together with the City Law Department, takes legal action to ensure that new developments are appropriately designed to be environmentally protective, in accordance with the Clean Water Act.

Over the past several years, NYSDEC and DEP have resolved various alleged permit violations at the System's 14 in-City water pollution control plants by entering into "omnibus" consent orders. These administrative orders typically detail the alleged violations for a specified period of time and set forth remedial actions related to such violations. The most recent such consent order (the "Omnibus VI Consent Order") covers alleged violations from January 1, 2000 through December 31, 2001, including alleged effluent, operating and bypass violations at a number of plants.

The City is also a party to litigation in which the petitioners seek to require the City to obtain a SPDES permit to operate the Shandaken Tunnel. See "Litigation." On February 18, 2004, NYSDEC publicly noticed a draft SPDES permit for the Shandaken Tunnel which, if issued in its current form, would among other things set limits on flow, phosphorus, turbidity and temperature of water being discharged from the Shandaken Tunnel and require that the City take additional measures to reduce the amount of turbidity in water collected in the Schoharie Reservoir. The limits contained in the draft permit would, in certain circumstances, impact the City's ability to operate the Shandaken Tunnel, and the requirements for additional measures to reduce turbidity would involve substantial expenditures which are only partially included in the CIP. DEP is reviewing the draft permit to determine the extent of its impact on operation of the Shandaken Tunnel and, if revisions are deemed necessary, will seek to have the draft permit revised through administrative hearings before NYSDEC.

*Combined Sewer Overflows.* The System is also required to develop programs to reduce pollution from combined sewer overflows and to eliminate excess infiltration and inflow into the Sewer System from ground and storm water. In June 1992, DEP entered into a consent order with the State (the "CSO Consent Order") establishing various deadlines through 2006 for the construction of nine combined sewer overflow projects, which may include storage tanks. The CIP includes approximately \$733 million for such combined sewer overflow projects. Certain of the CSO Consent Order interim deadlines have not been met. Failure to meet certain milestones in the CSO Consent Order could result in the imposition of monetary penalties. In December 2003, NYSDEC proposed revisions to the CSO Consent Order. These revisions would, among other things, require the payment of a substantial penalty for missed milestones under the CSO Consent Order as well as establishing revised milestones for these projects which suffered delays. If these milestones were incorporated into a revised, CSO Consent Order, these milestones would require DEP to proceed with projects which are not fully funded in the CIP and/or which extend beyond the end of the CIP. The estimated additional cost of meeting these milestones is \$500 million. Negotiations of these revisions are ongoing. Consistent with USEPA guidelines, the City is exploring alternative approaches to combined sewer overflow problems that focus on cost-effective means of protecting water quality.

*Harbor and Waterway Protection.* According to the most recent Harbor Survey issued by DEP, water quality in New York Harbor and surrounding rivers has shown continuing signs of overall improvement. The Harbor Survey is an ongoing monitoring effort of the City's waterways that has been done since 1909. The Survey monitors over a dozen water quality parameters at 37 sampling stations within New York Harbor and its tributaries. A key parameter of the overall health of aquatic systems is dissolved oxygen ("DO"). The Harbor Survey has found DO levels in most parts of the harbor at historic highs, although river-bottom DOs are periodically below acceptable concentrations. Over the past decade, compliance with New York State total and fecal coliform standards continues to be measured at the highest levels recorded by the Harbor Survey. Many local waterways, which were unfishable just 20 years ago, now meet the coliform bathing standards. The NYCDOH's wet-weather advisories for most public beaches (i.e. no swimming within 48 hours of a heavy rain) were lifted in June 1993. These water quality improvements are primarily a response to: continued water pollution control plant construction and upgrades; abatement and surveillance of illegal discharges; and increased capture of wet-weather flows.

Beginning in April 2004, the City health code for bathing beaches will begin utilizing a standard based on enterococcus, rather than coliform, which is regarded as a more precise indicator of water quality. DEP's Harbor Survey has begun a monitoring program for enterococcus and will assist the NYCDOH in its beach assessments.

As part of a cooperative effort to further improve water quality in the City's waterways, USEPA, along with the States of New York and New Jersey, recently released a Comprehensive Conservation Management Plan for the New York-New Jersey Harbor and the waters of the New York Bight. This Plan, developed under the aegis of the federal Harbor Estuary Program, builds on many of the City's ongoing programs such as water pollution control plant upgrades, controlling and capturing wet weather flows and reducing floatable debris. Under the Plan, the City will continue to promote improved water quality through, among other things, its efforts to eliminate combined sewer overflows, encourage water conservation, enhance surveillance of industrial discharges, and install sewers in areas of the City where they are not yet available. All of the capital commitments to be undertaken by the City pursuant to the Plan are already included in the CIP.

The Long Island Sound Study ("LISS") is a joint federal-state-local (the states being New York and Connecticut) program to identify the Long Island Sound's major environmental problems and develop a plan to manage those problems. USEPA is the lead federal agency involved in LISS. Hypoxia, or low levels of dissolved oxygen, has emerged as the issue of greatest concern in Long Island Sound. Hypoxia is the result of a chemical chain reaction that begins with high levels of nutrients, largely nitrogen. In addition to natural sources, other nutrient sources include effluent from water pollution control plants, stormwater run-off carrying lawn and agricultural fertilizer, organic materials, and air-deposited nitrate substances. As a result of the first and second phases of the LISS, the City agreed to limits in its SPDES permits for nitrogen discharges from its four Upper East River water pollution control plants. The construction required to meet these limits is complete and the City is meeting its current nitrogen discharge limits. In addition, the City has also entered into an Administrative Order of Consent with NYSDEC (the "Administrative Consent Order") which requires DEP to upgrade five water pollution control plants that discharge into the Upper East River or Jamaica Bay, respectively, to meet future more stringent nitrogen discharge limits. The CIP provides approximately \$2 billion for the upgrade of these five plants, including the implementation of a biological nutrient removal ("BNR") program to further reduce nitrogen levels in order to meet the Administrative Consent Order requirements. During construction, the Administrative Consent Order establishes less stringent nitrogen discharge limits than currently allowed by the City's SPDES permits for these plants. Separately, more stringent nitrogen discharge limits will likely be imposed as a result of a TMDL analysis for Long Island Sound. The TMDL was jointly prepared by the States of New York and Connecticut and approved by the USEPA in April 2001. The TMDL proposes the achievement of the dissolved oxygen standard in the Long Island Sound through the increased control of nitrogen from point sources, including certain of DEP's water pollution control plants, as well as through the control of other sources. DEP has proposed to the NYSDEC and USEPA that the Facility Plan be modified to incorporate findings from the ongoing research to alleviate some over-conservatism in designs and make the program more cost-effective while still complying with nitrogen limits and construction deadlines specified in the Administrative Consent Order. DEP's revised program places greater emphasis on research findings, application of new technologies, and efficient management of resources. Early modeling results show that the revised program can provide an equal reduction in nitrogen levels to those anticipated by the original program. The independent Nitrogen Technical Advisory Committee, a blue ribbon panel of experts in the field, has endorsed the revised program. Discussions with NYSDEC and USEPA have been initiated concerning these proposed changes and their impact on the Administrative Consent Order as well as the recently issued modified SPDES permits (see "—SPDES").

By letter dated May 9, 2003, NYSDEC advised DEP that it had not agreed to any modification of the Administrative Consent Order, that DEP must comply with the provisions of the Administrative Consent Order as written, and that NYSDEC will enforce violations of the Administrative Consent Order, including the imposition of stipulated penalties. NYSDEC and DEP continue to discuss the issue of

revising the Facility Plan. To date, NYSDEC has not imposed stipulated penalties. DEP intends to continue its discussions with NYSDEC with the goal of demonstrating that its modified program achieves the aims of the Administrative Consent Order while also achieving cost savings.

For more information on litigation relating to the Sewer System, see “LITIGATION.”

## **ECONOMIC AND DEMOGRAPHIC INFORMATION**

This section presents information regarding certain economic and demographic information about the City. All information is presented on a calendar year basis unless otherwise indicated. The data set forth are the latest available. Sources of information are indicated in the text or immediately following the charts and tables. Although the Authority considers the sources to be reliable, the Authority has made no independent verification of the information provided by non-city sources and does not warrant its accuracy.

### **New York City Economy**

The City has a highly diversified economic base, with a substantial volume of business activity in the service, wholesale and retail trade and manufacturing industries, and is the location of many securities, banking, law, accounting, new media and advertising firms.

The City is a major seaport and focal point for international business. Many of the major corporations headquartered in the City are multinational in scope and have extensive foreign operations. Numerous foreign-owned companies in the United States are also headquartered in the City. These firms, which have increased substantially in number over the past decade, are found in all sectors of the City's economy, but are concentrated in trade, manufacturing sales offices, tourism and finance. The City is the location of the headquarters of the United Nations, and several affiliated organizations maintain their principal offices in the City. A large diplomatic community exists in the City to staff missions to the United Nations and the foreign consulates.

Economic activity in the City has experienced periods of growth and recession and can be expected to experience periods of growth and recession in the future. The City experienced a recession in the early 1970s through the middle of that decade, followed by a period of expansion in the late 1970s through the late 1980s. The City fell into recession again in the early 1990s which was followed by an expansion that lasted until 2001. The City Financial Plan assumes that the economic decline that began in 2001 as a result of the September 11 attack, a national recession and a downturn in the securities industry has largely ended. Although the job market outlook remains sluggish, the City Financial Plan assumes a moderate recovery of the City's economy in calendar year 2004, which gains momentum in 2005.

### **Personal Income**

Total personal income for City residents, unadjusted for the effects of inflation and the differential in living costs, has steadily increased from 1991 to 2001 (the most recent year for which City personal income data are available). From 1991 to 2001, personal income in the City averaged 5.2% growth compared to 5.5% for the nation. Based on estimates by the Office of Management and Budget of the City, after falling in 2002, total personal income is projected to increase in 2003 and 2004. The following table sets forth information regarding personal income in the City from 1991 to 2001.

### Personal Income in New York City(1)

Year	Total NYC Personal Income (\$ billions)	Per Capita Personal Income NYC	Per Capita Personal Income U.S.	Per Capita NYC as a Percent of U.S.
1991	\$186.8	\$25,334	\$19,923	127.2%
1992	199.7	26,875	20,870	128.8
1993	202.9	27,025	21,356	126.5
1994	208.7	27,556	22,176	124.3
1995	221.9	29,071	23,078	126.0
1996	236.7	30,738	24,176	127.1
1997	245.3	31,558	25,334	124.6
1998	263.6	33,549	26,880	124.8
1999	277.0	34,854	27,933	124.8
2000	302.4	37,715	29,842	126.4
2001	311.5	38,643	30,511	126.7

Sources: U.S. Department of Commerce, Bureau of Economic Analysis and the Bureau of the Census Data as of February 17, 2004.

(1) In current dollars. Personal Income is based on the place of residence and is measured from income which includes wages and salaries, other labor income, proprietors' income, personal dividend income, personal interest income, rental income of persons and transfer payments.

### Employment Trends

The City is a leading center for the banking and securities industry, life insurance, communications, publishing, fashion design and retail fields. From 1989 to 1992, the City lost approximately 9% of its employment base. From 1993 to 2001, the City experienced significant private sector job growth with the addition of approximately 423,000 new private sector jobs (an average growth rate of approximately 2%). In 2002 and 2003, average annual employment in the City fell by 117,400 and 47,000 jobs, respectively. In 2004, average annual employment in the City is projected by the Office of Management and Budget of the City to increase. As of December 2003, total employment in the City was approximately 3,581,500 compared to approximately 3,598,500 in December 2002, a decline of approximately 0.5%.

The table below shows the distribution of employment from 1993 to 2003.

### New York City Employment Distribution

	Average Annual Employment (in thousands)										
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
<b>Goods Producing Sectors</b>											
Construction	85	88	90	91	93	101	112	120	122	116	117
Manufacturing	219	212	208	200	201	196	187	177	156	140	130
<b>Service Producing Sectors</b>											
Trade Transportation and Utilities	528	526	533	533	538	542	556	570	557	534	526
Information	152	152	154	159	163	166	173	187	200	177	164
Financial Activities	465	472	467	464	468	477	481	489	474	446	436
Professional and Business Services	425	437	445	468	494	525	553	587	582	546	533
Education and Health Services	516	536	552	565	576	589	606	620	627	645	660
Leisure and Hospitality	194	201	208	217	228	236	244	257	260	254	257
Other Services	120	121	123	125	129	134	142	147	149	149	146
<b>Total Private</b>	<b>2,704</b>	<b>2,744</b>	<b>2,779</b>	<b>2,823</b>	<b>2,890</b>	<b>2,966</b>	<b>3,053</b>	<b>3,154</b>	<b>3,127</b>	<b>3,006</b>	<b>2,971</b>
<b>Government</b>	<b>588</b>	<b>578</b>	<b>560</b>	<b>546</b>	<b>552</b>	<b>561</b>	<b>567</b>	<b>569</b>	<b>565</b>	<b>568</b>	<b>556</b>
<b>Total</b>	<b>3,291</b>	<b>3,322</b>	<b>3,339</b>	<b>3,369</b>	<b>3,442</b>	<b>3,528</b>	<b>3,621</b>	<b>3,723</b>	<b>3,692</b>	<b>3,575</b>	<b>3,528</b>

Note: Totals may not add due to rounding.

Source: U.S. Department of Labor, Bureau of Labor Statistics Data are presented using the North American Industry Classification System ("NAICS").



## Sectoral Distribution of Employment and Earnings

In 2001, the City's service producing sectors provided approximately 2.8 million jobs and accounted for approximately 77% of total employment. Figures on the sectoral distribution of employment in the City from 1980 to 2000 reflect a significant shift to the service producing sectors and a shrinking manufacturing base relative to the nation.

The structural shift to the service producing sectors affects the total earnings as well as the average wage per employee because employee compensation in certain of those sectors, such as financial activities and professional and business services, tends to be considerably higher than in most other sectors. Moreover, average wage rates in these sectors are significantly higher in the City than in the nation. In the City in 2001, the employment share for the financial activities and professional and business services sectors was approximately 29% while the earnings share for that same sector was approximately 50%. In the nation, those same service producing sectors accounted for only approximately 18% of employment and 24% of earnings in 2001. Due to the earnings distribution in the City, sudden or large shocks in the financial markets may have a disproportionately adverse effect on the City relative to the nation.

The City's and the nation's employment and earnings by sector for 2001 are set forth in the following table.

### Sectoral Distribution of Employment and Earnings in 2001(1)

	<u>Employment</u>		<u>Earnings(2)</u>	
	<u>NYC</u>	<u>U.S.</u>	<u>NYC</u>	<u>U.S.</u>
<b>Goods Producing Sectors</b>				
Mining . . . . .	0.0%	0.5%	0.1%	0.8%
Construction . . . . .	3.3	5.2	3.0	6.3
Manufacturing . . . . .	<u>4.2</u>	<u>12.5</u>	<u>2.5</u>	<u>13.4</u>
<b>Total Goods Producing</b> . . . . .	7.5	18.1	5.6	20.6
<b>Service Producing Sectors</b>				
Trade, Transportation and Utilities . . . . .	15.1	19.7	8.5	16.5
Information . . . . .	5.4	2.8	8.2	4.6
Financial Activities . . . . .	12.8	5.9	31.6	9.3
Professional and Business Services . . . . .	15.8	12.5	18.5	15.4
Education and Health Services . . . . .	17.0	11.9	9.4	10.1
Leisure & Hospitality . . . . .	7.0	9.1	4.2	4.4
Other Services . . . . .	<u>4.0</u>	<u>4.0</u>	<u>2.1</u>	<u>2.9</u>
<b>Total Service Producing</b> . . . . .	77.2	65.9	82.5	63.0
<b>Total Private Sector</b> . . . . .	84.7	84.0	89.9	84.0
<b>Government(3)</b> . . . . .	15.3	16.0	10.1	16.0

Note: Data may not add due to rounding or restrictions on reporting earnings data. Data are presented using NAICS.

Sources: The two primary sources are the U.S. Department of Labor, Bureau of Labor Statistics and the U.S. Department of Commerce, Bureau of Economic Analysis.

- (1) The sectoral distributions are obtained by dividing each industry's employment or earnings by total non-agricultural employment or earnings.
- (2) Includes the sum of wage and salary disbursements, other labor income and proprietor's income. The latest information available is 2001 data.
- (3) Excludes military establishments.

The comparison of employment and earnings in 1980 and 2000 set forth below is presented using the industry classification system which was in use until the adoption of NAICS in the late 1990's. Though NAICS has been implemented for most government industry statistical reporting, most historical earnings data have not been converted. Furthermore, it is not possible to compare data from the two classification

systems except in the general categorization of government, private and total employment. The table below reflects the overall increase in the service producing sectors and the declining manufacturing base in the City from 1980 to 2000.

The City's and the nation's employment and earnings by industry are set forth in the following table.

**Sectoral Distribution of Employment and Earnings(1)**

Sector	Employment				Earnings(2)			
	1980		2000		1980		2000	
	NYC	U.S.	NYC	U.S.	NYC	U.S.	NYC	U.S.
<b>Private Sector:</b>								
Non-Manufacturing:								
Services .....	27.0%	19.8%	39.1%	30.7%	25.9%	18.5%	32.1%	29.5%
Wholesale and Retail Trade .....	18.6	22.5	16.8	23.0	15.0	16.6	9.1	15.0
Finance, Insurance and Real Estate .....	13.6	5.7	13.2	5.7	17.8	5.9	34.2	9.5
Transportation and Public Utilities .....	7.8	5.7	5.7	5.3	10.1	7.5	5.2	6.9
Contract Construction .....	2.3	4.8	3.3	5.1	2.6	6.3	2.8	6.0
Mining .....	0.0	1.1	0.0	0.4	0.3	2.1	0.0	0.9
Total Non-Manufacturing .....	69.3	59.6	78.1	70.3	71.7	56.9	83.4	67.7
Manufacturing:								
Durable .....	4.4	13.4	1.6	8.4	3.6	15.7	1.2	10.0
Non-Durable .....	10.6	9.0	4.9	5.6	9.4	8.8	4.8	5.9
Total Manufacturing .....	15.0	22.4	6.5	14.0	13.0	24.5	6.0	15.9
<b>Total Private Sector .....</b>	<b>84.3</b>	<b>82.0</b>	<b>84.7</b>	<b>84.3</b>	<b>85.1</b>	<b>81.9</b>	<b>89.8</b>	<b>84.3</b>
<b>Government(3) .....</b>	<b>15.7</b>	<b>18.0</b>	<b>15.3</b>	<b>15.7</b>	<b>14.9</b>	<b>18.1</b>	<b>10.2</b>	<b>15.7</b>

Note: Totals may not add due to rounding. Data are presented using the Standard Industrial Classification System.  
Sources: The two primary sources of employment and earnings information are U.S. Department of Labor, Bureau of Labor Statistics, and U.S. Department of Commerce, Bureau of Economic Analysis.

- (1) The sectoral distributions are obtained by dividing each industry's employment or earnings by total non-agricultural employment or earnings.
- (2) Includes the sum of wage and salary disbursements, other labor income, and proprietors' income. The latest information available for the City is 2000 data.
- (3) Excludes military establishments.

**Population**

The City has been the most populous city in the United States since 1790. The City's population is almost as large as the combined population of Los Angeles, Chicago and Houston, the three next most populous cities in the nation.

The following table provides information concerning the City's population.

**Population of New York City**

<u>Year</u>	<u>Population Total</u>
1970 .....	7,895,563
1980 .....	7,071,639
1990 .....	7,322,564
2000 .....	8,008,278

Note: Figures do not include an undetermined number of undocumented aliens.  
Source: U.S. Department of Commerce, Bureau of the Census.

**Housing**

In 1999, the housing stock in the City consisted of approximately 3,039,000 housing units, excluding certain special types of units primarily in institutions such as hospitals and universities. The 1999 housing inventory represented an increase of approximately 44,000 units, or 1.5%, since 1996 and an increase of approximately 62,000 units, or 2.1% since 1993. The 1999 Housing and Vacancy Survey indicates that rental housing units predominate in the City. Of all occupied housing units in 1999, approximately 34% were conventional home-ownership units, cooperatives or condominiums and approximately 66% were rental units. The following table presents trends in the housing inventory in the City.

**Housing Inventory In New York City  
(In Thousands)**

<u>Ownership/Occupancy Status</u>	<u>1981</u>	<u>1984</u>	<u>1987</u>	<u>1991</u>	<u>1993</u>	<u>1996</u>	<u>1999</u>
Total Housing Units . . . . .	2,792	2,803	2,840	2,981	2,977	2,995	3,039
Owner Units . . . . .	755	807	837	858	825	858	932
Owner-Occupied . . . . .	746	795	817	829	805	834	915
Vacant for Sale . . . . .	9	12	19	29	20	24	17
Rental Units . . . . .	1,976	1,940	1,932	2,028	2,040	2,027	2,018
Renter-Occupied . . . . .	1,934	1,901	1,884	1,952	1,970	1,946	1,953
Vacant for Rent . . . . .	42	40	47	77	70	81	64
Vacant Not Available for Sale or Rent(1) . . . . .	62	56	72	94	111	110	89

Note: Details may not add up to totals due to rounding.  
 Sources: U.S. Bureau of the Census, 1981, 1984, 1987, 1991, 1993, 1996 and 1999 New York City Housing and Vacancy Surveys.  
 (1) Vacant units that are dilapidated, intended for seasonal use, held for occasional use, held for maintenance purposes or other reasons.

**LITIGATION**

There is no action, suit, proceeding or investigation, at law or in equity, before or by any court, public board or body pending or, to the best knowledge of the Authority, threatened against or affecting the Authority to restrain or enjoin the issuance, sale or delivery of the Fiscal 2004 B Bonds or in any way contesting or affecting the validity of the Fiscal 2004 B Bonds or any proceedings of the Authority, the Board or the City taken with respect to the issuance or sale of the Fiscal 2004 B Bonds or with respect to the Resolution or the pledge or application of any money or security provided for the payment of the Fiscal 2004 B Bonds or the existence or powers of the Authority or the Board.

Pursuant to the Lease and the Agreement, the City has agreed, subject to certain conditions, to indemnify the Authority and the Board against any and all liability in connection with any act done or omitted in the exercise of their powers which is taken or omitted in good faith in pursuance of their purposes under the Act. The City, however, is entitled to reimbursement by the Board for the amount of any judgment or settlement paid by the City (and not otherwise reimbursed from any other source) arising out of a tort or contract claim to the extent that the City’s liability therefor is related to the operation, maintenance and improvement of the System provided, however, that the Board is not required to reimburse the City in any one year for tort claims in excess of 5% of the Revenues of the Board for such Fiscal Year.

There are numerous claims seeking damages and injunctive and other relief against the City related to the System. Except as noted below, these claims represent routine litigation incidental to the performance of the City’s governmental functions in connection with the operation, maintenance and improvement of the System. The City has paid an average of approximately \$3.5 million per year from Fiscal Years 1995 through 2003 in satisfaction of tort claims relating to the operation of the System. Approximately \$2.1 million of such claims allege property damage and approximately \$1.3 million of these claims allege personal injury. Contract claims on water supply, sewer and water pollution control projects arise in varying amounts based on alleged change orders and related matters. While the probable outcome of these actions cannot be determined at this time, contract claims are expected to be funded

through the CIP, which may be revised from time to time to accommodate such claims as well as other changes therein. The ultimate outcome of the proceeding described below is not currently predictable, and unfavorable determinations therein could result in substantial expenditures.

In March 2000, several fishing and sporting groups filed a lawsuit against the City and DEP in the United States District Court for the Northern District of New York, claiming that DEP's operation of the Shandaken Tunnel violated the Clean Water Act. Because water discharged from the tunnel into the Esopus Creek is frequently turbid, plaintiffs alleged that the discharge of turbid water amounts to the addition of a pollutant to the creek from a point source, requiring a SPDES permit. Although the City's motion to dismiss was granted in October 2000 by the District Court, on October 23, 2001 the Second Circuit reversed and held that the Clean Water Act requires SPDES permits for discharges caused when one water body is artificially diverted into a second water body. In late May 2002, the District Court granted the plaintiffs' motion for summary judgment on the issue of liability. In February 2003, after a bench trial on the issues of remedies and penalties, the District Court determined that it was reasonable for the City to believe that a SPDES permit was not required for the operation of the Shandaken Tunnel prior to the Second Circuit decision in October 2001. The Court also determined that given the need to secure the safety of the water supply system after the events of September 11, 2001, the City's delay in filing an application for a SPDES permit until December 2002 did not evidence a lack of good faith. Nonetheless, the Court imposed approximately \$5.7 million in statutory penalties on the City for operating the Shandaken Tunnel without a SPDES permit from June 22, 2002 to December 30, 2002, the date of the City's application for a SPDES permit. Apart from directing the City to pursue the permit, the Court ordered no specific remedy. For information on the SPDES permit, see "THE SYSTEM—The Sewer System—Governmental Regulation—SPDES." The City has appealed the District Court's decision on penalties to the Second Circuit. That appeal is on hold until the United States Supreme Court issues a decision in *South Florida Water Management District v. Miccosukee*, a case from the 11th Circuit that raises the same issue as the Shandaken litigation concerning the need for a SPDES permit for governmental diversions of untreated water. The City submitted an amicus brief in *Miccosukee* and oral argument on the case was heard by the Supreme Court on January 14, 2004. A decision is expected in the Spring of 2004.

#### **APPROVAL OF LEGAL PROCEEDINGS**

The issuance of the Fiscal 2004 B Bonds is subject to the approval of legality by Nixon Peabody LLP, New York, New York, Bond Counsel. Certain legal matters will be passed upon for the City and the Board by the City's Corporation Counsel. Certain legal matters will be passed upon for the Underwriters by Willkie Farr & Gallagher LLP, New York, New York.

#### **FINANCIAL ADVISORS**

Lamont Financial Services Corporation and Ramirez & Co., Inc. have served as financial advisors to the Authority with respect to the sale of the Fiscal 2004 B Bonds.

#### **FURTHER INFORMATION**

The references herein to and summaries of federal, State and local laws, including but not limited to the Code, the Constitution and laws of the State, the Act, the 1905 Act, the Clean Water Act, the SDWA, the Ban Act, the MPRSA, and documents, agreements and court decisions, including but not limited to the Lease, the Agreement, the Resolution and the Second Resolution are summaries of certain provisions thereof. Such summaries do not purport to be complete and are qualified in their entirety by reference to such acts, laws, documents, agreements or decisions. Copies of the Lease, the Agreement, the Resolution and the Second Resolution are available for inspection during normal business hours at the office of the Authority.

Any statements in this Official Statement involving matters of opinion, whether or not expressly so stated, are intended as such and not as representations of fact. Neither this Official Statement nor any statement which may have been made orally or in writing shall be construed as a contract or as a part of a contract with the original purchasers or any holders of the Fiscal 2004 B Bonds.

## **CONTINUING DISCLOSURE UNDER SEC RULE 15c2-12**

To the extent that Rule 15c2-12 (the “Rule”) of the Securities and Exchange Commission (“SEC”) under the Securities and Exchange Act of 1934, as amended (the “1934 Act”), requires the respective Underwriters to determine, as a condition to purchasing the Fiscal 2004 B Bonds, that the Authority will covenant to the effect of the provisions here summarized (the “Undertaking”), and the Rule as so applied is authorized by a federal law that as so construed is within the powers of Congress, the Authority agrees with the record and beneficial owners from time to time of the Fiscal 2004 B Bonds (“Bondholders”) that it will:

(1) within 240 days after the end of the 2004 Fiscal Year and each subsequent Fiscal Year, deliver to each nationally recognized municipal securities information repository and to any New York State information depository, core financial information and operating data for the prior Fiscal Year, including (i) the System’s audited financial statements, prepared in accordance with generally accepted accounting principles in effect from time to time, and (ii) material historical financial and operating data concerning the System and the Revenues of the System generally of the type included in this Official Statement under the captions “CAPITAL IMPROVEMENT AND FINANCING PROGRAM,” “FINANCIAL OPERATIONS,” “RATES AND BILLING” and “THE SYSTEM;”

(2) provide in a timely manner, to each nationally recognized municipal securities information repository or to the Municipal Securities Rulemaking Board, and to any New York State information depository, notice of any of the following events with respect to the Fiscal 2004 B Bonds, if material:

- (a) principal and interest payment delinquencies;
- (b) non-payment related defaults;
- (c) in the case of credit enhancement that is provided in connection with the issuance of the Fiscal 2004 B Bonds, unscheduled draws on such credit enhancement reflecting financial difficulties and substitution of credit providers, or their failure to perform;
- (d) unscheduled draws on debt service reserves reflecting financial difficulties;
- (e) adverse opinions or events affecting the exclusion from gross income for federal income tax purposes of interest on the Fiscal 2004 B Bonds;
- (f) modifications to rights of security holders;
- (g) bond calls;
- (h) defeasances;
- (i) release, substitution, or sale of property securing repayment of the securities;
- (j) rating changes; and

(3) provide in a timely manner, to each nationally recognized municipal securities information repository or to the Municipal Securities Rulemaking Board, and to any New York State information depository, notice of any failure by the Authority to comply with clause (1), above.

The Authority expects to provide the information described in clause (1) above by delivering its first bond official statement that includes its financial statements for the preceding fiscal year.

Currently, there is no New York State information depository and the nationally recognized municipal securities information repositories are: Bloomberg Municipal Repository, 100 Business Park Drive, Skillman, New Jersey 08558; Standard & Poor’s J.J. Kenny Repository, 55 Water Street, 45th Floor, New York, New York 10041; FT Interactive Data, 100 William Street, New York, NY 10038, Attn: NRMSIR and DPC Data Inc., One Executive Drive, Fort Lee, New Jersey 07024.

No Bondholder may institute any suit, action or proceeding at law or in equity (“Proceeding”) for the enforcement of the Undertaking or for any remedy for breach thereof, unless such Bondholder has filed with the Authority evidence of ownership and a written notice of and request to cure such breach, and

the Authority has not complied within a reasonable time; provided, however, that any Proceeding challenging the adequacy of any information provided pursuant to paragraphs (1) and (2) above may be brought only by the Trustee or the holders of a majority in aggregate principal amount of the Bonds affected thereby which at the time are Outstanding. All Proceedings may be instituted only as specified herein, in the federal or State courts located in the Borough of Manhattan, State and City of New York, and for the equal benefit of all holders of the Outstanding Bonds benefited by the same or a substantially similar covenant. No remedy may be sought or granted other than specific performance of the covenant at issue.

Any amendment to the Undertaking will take effect only if:

(a) the amendment is 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 Authority or the Board, or type of business conducted; the Undertaking, as amended, would have complied with the requirements of the Rule at the time of sale of the Bonds to the Underwriters, after taking into account any amendments or interpretations of the Rule, as well as any change in circumstances; and the amendment does not materially impair the interests of Bondholders, as determined by parties unaffiliated with the Authority (such as, but without limitation, the Authority's financial advisor or bond counsel) and the annual financial information containing (if applicable) the amended operating data or financial information will explain, in narrative form, the reasons for the amendment and the "impact" (as that word is used in the letter from the staff of the SEC to the National Association of Bond Lawyers dated June 23, 1995) of the change in the type of operating data or financial information being provided; or

(b) all or any part of the Rule, as interpreted by the staff of the SEC at the date of the Undertaking, ceases to be in effect for any reason, and the Authority elects that the Undertaking will be deemed terminated or amended (as the case may be) accordingly.

For purposes of the Undertaking, a beneficial owner of a security includes any person who, directly or indirectly, through any contract, arrangement, understanding, relationship, or otherwise has or shares investment power which includes the power to dispose, or to direct the disposition of, such security, subject to certain exceptions, as set forth in the Undertaking. Any assertion of beneficial ownership must be filed, with full documentary support, as part of the written request to the Authority described above.

## **INVESTMENTS**

The Authority invests moneys available in the Debt Service Reserve Fund, Debt Service Fund, Construction Fund and the Revenue Fund. Investments are made pursuant to restrictions contained in the Resolutions and the Authority's Investment Guidelines as adopted and modified from time to time by the Authority's Board of Directors. In conjunction with the annual audit of the financial statements of the System, the independent auditors are required to provide to the Authority's Board of Directors an Investment Compliance letter confirming compliance with both the Authority's Investment Guidelines and with Investment Guidelines of Public Authorities of the State Comptroller of New York. Twice annual valuation of the Debt Service Reserve Fund and annual valuation of all other funds is at the lower of amortized cost or market value. For other investment restrictions, see "APPENDIX C—GLOSSARY AND SUMMARY OF CERTAIN DOCUMENTS." The Authority's primary objective in investment of its available funds is preservation of principal. The Authority is not legally authorized to enter into reverse repurchase agreements. The Authority does not make leveraged investments.

## **RATINGS**

Fitch, Inc. has rated the Fiscal 2004 B Bonds "AA". Moody's Investors Service, Inc. has rated the Fiscal 2004 B Bonds "Aa2". Standard & Poor's Ratings Services has rated the Fiscal 2004 B Bonds "AA". These ratings do not reflect any bond insurance relating to any portion of the Fiscal 2004 B Bonds.

Concurrently with the issuance of the Fiscal 2004 B Bonds, Financial Security Assurance Inc. will issue its Municipal Bond Insurance Policy for the Fiscal 2004 B Bonds maturing in the years 2014 and 2015, and the Fiscal 2004 B Bonds maturing in the year 2023 bearing interest at the rate of 5% per annum

(the “FSA Insured Bonds”). Fitch, Inc. is expected to rate the FSA Insured Bonds “AAA”. Moody’s Investors Service, Inc. is expected to rate the FSA Insured Bonds “Aaa”. Standard & Poor’s Ratings Services is expected to rate the FSA Insured Bonds “AAA”. Such ratings reflect only the views of the respective rating agencies, from which an explanation of the significance of such ratings may be obtained. There is no assurance that any or all of such ratings will continue for any given period of time or that any or all will not be revised downward or withdrawn entirely. Any such downward revision or withdrawal could have an adverse effect on the market price of the Fiscal 2004 B Bonds.

### **UNDERWRITING**

The Underwriters have jointly and severally agreed, subject to certain conditions, to purchase the Fiscal 2004 B Bonds from the Authority at an aggregate price which is \$1,987,036.22 less than the initial offering price thereof. The obligations of the Underwriters are subject to certain conditions precedent, and the Underwriters will be obligated to purchase all of the Fiscal 2004 B Bonds if any of the Fiscal 2004 B Bonds are purchased. The Fiscal 2004 B Bonds may be offered and sold to certain dealers (including dealers depositing the Fiscal 2004 B Bonds into investment trusts) and others at prices lower than such public offering price and such public offering price may be changed, from time to time, by the Underwriters. The Underwriters have designated UBS Financial Services Inc. as their Representative.

### **VERIFICATION OF MATHEMATICAL CALCULATIONS**

McGladrey & Pullen, LLP, a professional firm specializing in rebate and verification calculations, has verified the accuracy of (i) the arithmetical and mathematical computations concerning the adequacy of the cash and Defeasance Obligations, including investment earnings thereon, if any, to be deposited with the Escrow Trustee together with other funds available or scheduled to be available for such purpose, to meet the anticipated redemption price, and interest on the Refunded Bonds and (ii) the mathematical computations of the yield on the Fiscal 2004 B Bonds. Such verification of the arithmetical accuracy of the mathematical computations is based upon information and assumptions supplied by the Authority.

### **LEGALITY FOR INVESTMENT AND DEPOSIT**

Under the Act, the Fiscal 2004 B Bonds are securities in which all public officials and bodies of the State and all municipalities, all insurance companies and associations and other persons carrying on an insurance business, all banks, bankers, trust companies, savings banks and savings associations, including savings and loan associations, investment companies and other persons carrying on a banking business, and administrators, guardians, executors, trustees and other fiduciaries and all others persons whatsoever, who are now and may hereafter be authorized to invest in the Fiscal 2004 B Bonds or obligations of the State, may properly and legally invest funds including capital in their control or belonging to them in such Fiscal 2004 B Bonds. The Act further provides that the Fiscal 2004 B Bonds are securities which may be deposited with and may be received by all public officers and bodies of the State and all municipalities for any purposes for which the deposit of bonds or other obligations of the State is or may hereafter be authorized.

### **FINANCIAL STATEMENTS AND INDEPENDENT AUDITOR**

The financial statements of the New York City Water and Sewer System as of and for the years ended June 30, 2002 and June 30, 2003 (the “Audited System Financial Statements”) included in Appendix D to this Official Statement have been audited by KPMG LLP, independent certified public accountants, to the extent and for the periods indicated in their report thereon.

### **ENGINEERING FEASIBILITY REPORT AND FORECASTED CASH FLOWS**

Certain information contained in this Official Statement under the captions “CAPITAL IMPROVEMENT AND FINANCING PROGRAM—Capital Improvement Program,” “THE SYSTEM—The Water System,” “THE SYSTEM—The Sewer System” has been reviewed and independently evaluated by Metcalf & Eddy which has provided the opinion letter set forth in Appendix A confirming such information. Metcalf & Eddy also serves as a consulting engineer to DEP on capital projects relating to the System. As a result of occasional, routine litigation initiated by third parties arising from such projects, Metcalf & Eddy and the City have from time to time been either co-parties or adverse parties in such litigation.

Certain financial forecasts contained in this Official Statement in the tables titled “Sources and Uses of Capital Funds” under the caption “CAPITAL IMPROVEMENT AND FINANCING PROGRAM” and “Expenses,” “Projected Revenues,” “Projected System Expense” and “Forecasted Cash Flows” under the caption “FINANCIAL OPERATIONS” have been examined by Black & Veatch, to the extent and for the periods indicated in those tables. The conclusions of Black & Veatch with respect to the reasonableness of the forecasts are set forth in an opinion letter attached hereto as Appendix B. Black & Veatch has provided consulting services including feasibility studies, rate studies and organizational analyses to numerous clients in the water and wastewater industry, including over 100 medium and large jurisdictions.

## **TAX EXEMPTION**

### **General**

The Internal Revenue Code of 1986 (the “Code”) imposes certain requirements which must be met subsequent to the issuance and delivery of the Fiscal 2004 B Bonds for interest thereon to be and remain excluded from gross income for Federal income tax purposes. Noncompliance with such requirements could cause the interest on the Fiscal 2004 B Bonds to be included in gross income for Federal income tax purposes retroactive to the date of issue of the Fiscal 2004 B Bonds, as applicable. The Authority has covenanted in the Supplemental Resolution authorizing issuance of the Fiscal 2004 B to comply with applicable requirements of the Code in order to maintain the exclusion of the interest on the Fiscal 2004 B Bonds, as applicable, from gross income for Federal income tax purposes pursuant to Section 103 of the Code.

In the opinion of Nixon Peabody LLP, Bond Counsel to the Authority, under existing law, and assuming compliance with the aforementioned covenants, interest on the Fiscal 2004 B Bonds is excluded from gross income for Federal income tax purposes. Under Section 103 of the Code and is not treated as a preference item in calculating the alternative minimum tax imposed under the Code with respect to individuals and corporations. Interest on the Fiscal 2004 B Bonds is, however, included in the adjusted current earnings of certain corporations for purposes of computing the alternative minimum tax imposed on such corporations.

Bond Counsel is also of the opinion that the interest on the Fiscal 2004 B Bonds is exempt, under existing law, from personal income tax of the State of New York and its political subdivisions, including The City of New York.

### **Original Issue Discount**

The difference between the principal amounts of the Fiscal 2004 B Bonds maturing on June 15, 2011, June 15, 2012 and bearing interest at the rate of 3% per annum, June 15, 2015 and bearing interest at the rate of 3½% per annum, June 15, 2017 and bearing interest at the rate of 3¾% per annum, June 15, 2019 and bearing interest at the rate of 3.90% per annum, June 15, 2022 and bearing interest at the rate of 4.15% per annum, and June 15, 2023 and bearing interest at the rate of 4¼% per annum (collectively, 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 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 Discount Bonds. Further, the original issue discount accrues actuarially on a constant interest rate basis over the term of the Discount Bond and the basis of such Discount Bond acquired at the initial offering price by its initial purchaser will be increased by the amount of the accrued original issue discount. The accrual of original issue discount may be taken into account as an increase in the amount of tax-exempt income for purposes of determining various other tax consequences of owning Discount Bonds, even though there will not be a corresponding cash payment.

### **Original Issue Premium**

The Fiscal 2004 B Bonds maturing on June 15, 2004 through June 15, 2007, inclusive, June 15, 2012 and bearing interest at the rate of 5% per annum, June 15, 2014 and bearing interest at the rate of 5% per annum, June 15, 2015 and bearing interest at the rate of 5% per annum, June 15, 2016 and bearing interest



at the rate of 5% per annum, June 15, 2017 and bearing interest at the rate of 5% per annum, June 15, 2018, June 15, 2019 and bearing interest at the rate of 5% per annum, June 15, 2021 and bearing interest at 5% per annum, June 15, 2022 and bearing interest at 5% per annum, and June 15, 2023 and bearing interest at the rate of 5% per annum (collectively, 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 term of each Premium Bond based on the purchaser’s yield to maturity (or, in the case of Premium Bonds callable prior to their maturity, over the period to the call date, based on the purchaser’s yield to the call date and giving effect to any call premium). 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 Fiscal 2004 B Bonds.

### **Certain Other Federal Tax Information**

*General.* The following is a discussion of certain additional tax matters under existing statutes. It does not purport to deal with all aspects of Federal taxation that may be relevant to particular investors. Prospective investors, particularly those who may be subject to special rules, are advised to consult their own tax advisors regarding the Federal tax consequences of owning and disposing of the Fiscal 2004 B Bonds, as well as any tax consequences arising under the laws of any state or other taxing jurisdiction.

*Social Security and Railroad Retirement Payments.* The Code provides that interest on tax-exempt obligations is included in the calculation of modified adjusted gross income in determining whether a portion of Social Security or railroad retirement benefits received are to be included in taxable income.

*Branch Profits Tax.* The Code provides that interest on tax-exempt obligations is included in effectively connected earnings and profits for purposes of computing the branch profits tax on certain foreign corporations doing business in the United States.

*Borrowed Funds.* The Code provides that interest paid (or deemed paid) on borrowed funds used during a tax year to purchase or carry tax-exempt obligations is not deductible. In addition, under rules used by the Internal Revenue Service for determining when borrowed funds are considered used for the purpose of purchasing or carrying particular assets, the purchase of obligations may be considered to have been made with borrowed funds even though the borrowed funds are not directly traceable to the purchase of such obligations.

*Property and Casualty Insurance Companies.* The Code contains provisions relating to property and casualty insurance companies whereunder the amount of certain loss deductions otherwise allowed is reduced (in certain cases below zero) by a specified percentage of, among other things, interest on tax-exempt obligations acquired after August 7, 1986, other than certain “qualified” obligations. The Fiscal 2004 B Bonds are not “qualified” obligations for this purpose.

*S Corporations.* The Code imposes a tax on excess net passive income of certain S corporations that have subchapter C earnings and profits. Interest on tax-exempt obligations must be included in passive investment income for purposes of this tax.

*Earned Income Credit.* For any taxable year beginning after December 31, 1995, the Code denies the earned income credit to persons otherwise eligible for it if the aggregate amount of disqualified income of the taxpayer for the taxable year exceeds \$2,200, subject to adjustment for inflation for taxable years beginning after December 31, 1996. Interest on the Bonds will constitute disqualified income for this purpose.

*Changes in Federal Tax Law and Post Issuance Events.* From time to time proposals are introduced in Congress that, if enacted into law, could have an adverse impact on the potential benefits of the exclusion from gross income for Federal income tax purposes of the interest on the Fiscal 2004 B Bonds, and thus on the economic value of the Fiscal 2004 B Bonds. This could result from reductions in Federal

income tax rates, changes in the structure of the Federal income tax rates, changes in the structure of the Federal income tax or its replacement with another type of tax, repeal of the exclusion of the interest on the Fiscal 2004 B Bonds from gross income for such purposes, or otherwise. It is not possible to predict whether any legislation having an adverse impact on the tax treatment of holders of the Fiscal 2003 B Bonds may be proposed or enacted.

Bond Counsel has not undertaken to advise in the future whether any events after the date of issuance of the Fiscal 2004 B Bonds may affect the tax status of interest on the Fiscal 2004 B Bonds or the tax consequences of the ownership of the Fiscal 2004 B Bonds, or the interest thereon, if any action is taken with respect to the Fiscal 2004 B Bonds or the proceeds thereof upon the advice or approval of other counsel.

#### **CERTAIN LEGAL OPINIONS**

At the request of the Authority, Bond Counsel reviewed issues related to the effects on the Board and the Authority of a case under Title 11 of the United States Bankruptcy Code (the “Bankruptcy Code”) in which the City is a debtor. Specifically, Bond Counsel considered whether a court, exercising reasonable judgment after full consideration of all relevant factors, would (i) hold that the Revenues derived from operation of the System would be property of the bankruptcy estate of the City, (ii) hold that the rights of the Board to the Revenues and the interest of the Authority in the Revenues would be subject to a stay, by operation of Section 922(a) of the Bankruptcy Code or (iii) order the substantive consolidation of the assets of either or both the Board and the Authority with those of the City. Based upon its review of the Act, the Lease, the Agreement, the Resolution and such other matters of law and fact as it considered relevant, and recognizing that there is no definitive judicial authority confirming the correctness of its analysis, Bond Counsel has rendered to the Authority its opinion that a court, in the circumstances described above, (i) would not hold that the Revenues would be property of the City or that the Board’s right to and the Authority’s interest in the Revenues would be subject to a stay by operation of Section 922(a) of the Bankruptcy Code, and (ii) would not order the substantive consolidation of the assets and liabilities of either the Board or the Authority with those of the City.

Bond Counsel is also of the opinion that, under current law, in a case under the Bankruptcy Code in which the City is a debtor (i) should the City elect to assume the Lease, the Lease would continue pursuant to its terms and (ii) should the City elect to reject the Lease, the Board may elect to retain its rights under the Lease and remain in possession and enjoy the use of the System and the right to the Revenues derived therefrom for the unexpired balance of the term of the Lease.

The Bankruptcy Code provides that in order for a municipality to be a Chapter 9 debtor it must be specifically authorized by State law to be a debtor under Chapter 9 of the Bankruptcy Code. Bond Counsel is of the opinion that under current law, the Authority and the Board do not qualify to be debtors under the Bankruptcy Code.

Bond Counsel has not rendered an opinion, however, as to any preliminary or temporary stay, injunction or order which a bankruptcy court might issue pursuant to its powers under 11 U.S.C. §§ 105 or 362 to preserve the status quo pending consideration of the substantive legal issues discussed above. Moreover, the opinions expressed above have inherent limitations because of the pervasive equity powers of bankruptcy courts as they relate to the business and creditor relationships leading up to the bankruptcy as well as generally the overriding goal of reorganization to which other legal rights and policies may be subordinated, the potential relevance to the exercise of judicial discretion of future-arising facts and circumstances, and the nature of the bankruptcy process; and are based on an analysis of existing laws, regulations, rulings and court decisions. Such opinions may be adversely affected by actions taken or events occurring, including a change in law, regulation or ruling (or in the application or official interpretation of any law, regulation or ruling) after the date of this Official Statement. Bond Counsel has not undertaken to determine, or to inform any person, whether such actions are taken or such events occur and has no obligation to update this section in light of such actions or events.

**NEW YORK CITY MUNICIPAL WATER  
FINANCE AUTHORITY**

By: /s/ Alan L. Anders  
Alan L. Anders  
Executive Director

**LETTER OF  
METCALF & EDDY OF NEW YORK, INC.,  
CONSULTING ENGINEERS**

February 26, 2004

Mr. Alan L. Anders  
Executive Director  
New York City Municipal Water Finance Authority

Subject: New York City Municipal Water Finance Authority  
Water and Sewer System Revenue Bonds,  
Fiscal 2004 Series B

Dear Mr. Anders:

We hereby submit the opinion of Metcalf & Eddy of New York, Inc. (“Metcalf & Eddy”) on the Engineering Feasibility of the Water and Sewer System serving The City of New York (the “City”). Capitalized terms used herein and not otherwise defined have the meanings ascribed to such terms in the Official Statement.

Based on the information set forth in this Official Statement, our experience and our analyses during the preparation of the 1983 feasibility study, the methodology described below and subject to the reliances and assumptions made throughout this letter, Metcalf & Eddy concludes that overall the water and sewer system (the “System”) serving the City continues to be operated in a professional and prudent manner. Further, Metcalf & Eddy is of the opinion that:

- The condition of the System continues to receive the highest rating of our three rating categories (adequate).
- The expense allocations for Fiscal Year 2004 are adequate for the continued reliable operation of the System.
- The Capital Improvement Program (the “CIP”) is responsive to the long-term operating requirements of the service area.
- Staffing levels of the System are adequate for proper operation and maintenance.

Metcalf & Eddy hereby consents to the inclusion of those opinions and conclusions attributed to it in the Official Statement.

### **Purpose and Scope**

This letter has been prepared to document the results of analyses carried out during the period of August 1983 to the present by personnel of Metcalf & Eddy in connection with the issuance of the Water and Sewer System Revenue Bonds, Fiscal 2004 Series B by the New York City Municipal Water Finance Authority (the “Authority”). Certain studies and analyses were performed in anticipation of the creation of the Authority and were used in developing the information in the Official Statement under the captions: “CAPITAL IMPROVEMENT AND FINANCING PROGRAM—Capital Improvement Program,” “THE SYSTEM—The Water System” and “THE SYSTEM—The Sewer System.” The following sets forth a brief outline of the major tasks addressed:

- An overview of the System’s service area and major facilities, including a general assessment of the capacity and condition of existing water, wastewater and drainage facilities and a review of recently completed improvements.
- An analysis of the CIP for the period 2004-2013 and the funding needed to carry out the CIP and ongoing capital contracts commenced prior to the CIP.
- An analysis of the management of the System and its current and anticipated operating programs.

Since 1983 Metcalf & Eddy has provided engineering services related to the City’s Water and Wastewater Operations Evaluation Study. During this period Metcalf & Eddy has performed an evaluation of the condition of the System, independently reviewed the capital plans for water and wastewater programs, and jointly with the rate consultant reviewed the operating programs of the New York City Department of Environmental Protection (“DEP”). Ten topics were addressed in this effort as listed below.

- Present Condition of Physical Facilities
- Remaining Useful Life of Facilities
- Reliability of Utility Systems
- Operation and Maintenance Programs
- Current Utility Use
- Maximum Existing Capacity
- Needs for Routine Maintenance, Upgrading and Expansion
- Evaluation of the Impact of Legal Mandates
- Overview of Present Capital Improvement Program
- Safety Practices and Potential for Catastrophe

### **Methodology**

Interviews with staff members of the Authority and the City were conducted, current engineering and financial reports, System operating data and other documents were reviewed and major facilities were inspected. Audited financial statements of the City and data supplied by the Authority were also reviewed to identify historical costs and revenues. The evaluation of current needs and future conditions was made by analyzing historical data, assessing the effectiveness of current City maintenance programs, reviewing the plans of key outside agencies, and taking into account current trends and the anticipated impact of the CIP.

The physical condition of the facilities was rated by Metcalf & Eddy. A uniform rating system, standard among engineering firms providing similar services, was established consisting of three rating categories—adequate, marginal, and inadequate as described below:

- Adequate: Shows no signs of deterioration, meets design intent, and requires only routine maintenance to meet or exceed expected useful life.
- Marginal: Facility is functional but does not meet design intent, and requires non-routine maintenance or capital replacement to restore to adequate condition.
- Inadequate: Facility does not provide functional operation, and requires major reconstruction to restore to adequate condition.

### **The Consulting Engineer**

Metcalf & Eddy has served the City as consulting engineers for over 90 years in capacities dealing with water supply, water distribution, sewage collection, and wastewater treatment. Metcalf & Eddy is one of the largest consulting engineering firms and is recognized in the United States and internationally as a leader in services to the water and wastewater industry.

We have no responsibility to update this letter or the information provided in the Official Statement for the captioned sections described above for events and circumstances occurring after the date of this letter.

Very truly yours,



JAMES ANDERSON  
*President*  
Metcalf & Eddy of New York, Inc.

**LETTER OF BLACK & VEATCH NEW YORK LLP,  
RATE CONSULTANTS**



# BLACK & VEATCH

295 Madison Avenue  
Suite 1801  
New York, New York 10017  
Tel: 212-973-1339  
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Black & Veatch New York LLP

February 26, 2004

Mr. Alan L. Anders, Executive Director  
New York City Municipal Water Finance Authority

Re: New York City Municipal Water Finance Authority  
Water and Sewer System Revenue Bonds, Fiscal 2004 Series B

Dear Mr. Anders:

The purpose of this letter is to summarize the conclusions of our independent analysis of the financial forecast of the Authority (the "Forecasted Cash Flows") for Fiscal Years 2004 through 2009 (the "Reporting Period") in connection with the issuance by the New York City Municipal Water Finance Authority (the "Authority") of the Authority's \$347,615,000 Water and Sewer System Revenue Bonds, Fiscal 2004 Series B (the "Series B Bonds"). Proceeds from the Series B Bonds are expected to be used: (i) to refund a portion of the Authority's outstanding Water and Sewer System Revenue Bonds and (ii) to pay certain costs of issuance. In conducting our analysis we have prepared the following tables which are included in this Official Statement under the headings "Capital Improvement and Financing Program" and "Financial Operations."

- Sources and Uses of Capital Funds
- Future Debt Service Requirements
- Projected Revenues
- Projected System Expense
- Forecasted Cash Flows

The forecast includes provisions for the financing of improvements to The City of New York (the "City") Water and Sewer System (the "System") as reflected in the Capital Improvement Program (the "CIP") for the Reporting Period. The Forecasted Cash Flows set forth the ability of the System to meet the operating costs, working capital needs and other financial requirements of the System, including the debt service requirements associated with the Outstanding Bonds issued under the Authority's General Revenue Bond Resolution (the "Resolution") and obligations issued under the Authority's Second General Resolution (the "Second Resolution") and additional Bonds and Second Resolution Bonds whose issuance by the Authority during the six years ending June 30, 2009 is anticipated.

Revenues pledged to secure the Authority's Bonds are to be derived from the following sources: (i) all Revenues, (ii) all moneys or securities in any of the Funds and Accounts, and (iii) all other monies and securities to be received, held or set aside by the Authority or by any Fiduciary pursuant to the Resolution. The term "Revenues", as defined by the Resolution, includes, but is not limited to, all rents, fees, charges and other income and receipts derived by the New York City Water Board (the "Board") from users of the System, and certain investment proceeds received by the Board.

Moneys pledged to secure bonds issued under the Second Resolution are to be derived from: (i) all available amounts on deposit in the Subordinated Indebtedness Fund established under the Resolution and (ii) all moneys or securities in any of the funds and accounts established under the Second Resolution, except the Arbitrage Rebate Fund and the Debt Service Reserve Fund.

The Forecasted Cash Flows summarize the anticipated financial operations of the Authority for the Reporting Period. We have reviewed, to the extent practicable, the Authority's books, records, financial

reports, and statistical data, and have conducted such other investigations and analyses as deemed necessary to assemble and analyze the forecast of revenues, revenue requirements, and debt service coverage for the Reporting Period. We have performed various financial tests and analyses necessary to support our findings and conclusions. The Authority uses a fiscal year ending June 30, and all references in this Official Statement to a fiscal year (“Fiscal Year”) relate to the 12 month period ending June 30 of the year shown.

Proposed improvements and additions to the System under the CIP for the Reporting Period were independently evaluated and confirmed by Metcalf & Eddy of New York, Inc. (“Metcalf & Eddy”). The Forecasted Cash Flows rely upon the conclusions of Metcalf & Eddy regarding the level of planned capital improvement expenditures required during the Reporting Period to maintain the System in good working order.

Based upon our studies, we offer the following opinions and conclusions:

1. It is our opinion that Revenues (including projected revenue increases resulting from anticipated future rate increases to be implemented by the Board), as set forth in the Forecasted Cash Flows, are currently and will be sufficient to meet the following requirements during the Reporting Period:

a. One hundred and fifteen percent (115%) of the principal of and interest on all Bonds issued under the Resolution, as the same shall become due and payable, for which such Revenues are pledged;

b. One hundred percent (100%) of the principal of and interest on bonds issued under the Second Resolution and other subordinate obligations payable from Revenues;

c. One hundred percent (100%) of all expenses of operation, maintenance, and repair of the water and wastewater system; and

d. One hundred percent (100%) of other Required Deposits as required by the Resolution.

In addition, revenues are adequate to make all payments to the City.

2. In the analysis of the forecast of future operations summarized in this Official Statement, Black & Veatch has reviewed certain assumptions with respect to conditions, events and circumstances which may occur in the future. We believe that these assumptions are reasonable and attainable, although actual results may differ from those forecast as influenced by the conditions, events and circumstances which actually occur.

3. In our opinion, the water and wastewater rates, fees, and charges of the Board, including projected increases, compare favorably to the rates and charges of other major cities and are reasonable.

We appreciate the opportunity to be of service to the Authority in this important matter.

Very truly yours,

A handwritten signature in black ink that reads "Edward J. Markon". The signature is written in a cursive, slightly slanted style.

**BLACK & VEATCH NEW YORK LLP**



**GLOSSARY AND SUMMARY OF CERTAIN DOCUMENTS**

## GLOSSARY AND SUMMARY OF CERTAIN DOCUMENTS

## GLOSSARY

Set forth below are definitions of certain terms contained in the Agreement, the Lease and the Resolution and not otherwise defined in this Official Statement.

**Adjusted Aggregate Debt Service:** For any Fiscal Year and as of any date of calculation is the sum of the Adjusted Debt Service for all Series of Bonds Outstanding during such Fiscal Year.

**Adjusted Debt Service:** For any Fiscal Year, as of any date of calculation and with respect to any Series of Bonds, is the Debt Service for such Fiscal Year for such Series except that, if any Refundable Principal Installment of such Series of Bonds is included in Debt Service for such Fiscal Year, Adjusted Debt Service shall mean Debt Service determined as if each such Refundable Principal Installment had been payable over a period extending from the due date of such Refundable Principal Installment through the last date on which such Series of Bonds could have been stated to mature under the Act as in effect on the date of issuance of such Series, in installments which would have required equal annual payments of Principal Installments and interest over such period. Interest deemed payable in any Fiscal Year after the actual due date of any Refundable Principal Installment of any Series of Bonds shall be calculated at the actual interest cost payable on the Bonds of such Series (using the actuarial method of calculation).

**Aggregate Debt Service:** For any Fiscal Year, as of any date of calculation, the sum of the Debt Service for all Bonds Outstanding during such Fiscal Year.

**Authority Expenses:** All reasonable or necessary current expenses of the Authority, including all salaries, administrative, general, commercial, engineering, advertising, public notice, auditing and legal expenses, insurance and surety bond premiums, fees paid to banks, insurance companies or other financial institutions for the issuance of Credit Facilities, consultants' fees and charges, payment to pension, retirement, health and hospitalization funds, costs of public hearings, ordinary and current rentals of equipment and other property, lease payments for real property or interests therein, expenses, liabilities and compensation of any Fiduciary and all other expenses necessary, incidental or convenient for the efficient operation of the Authority.

**Authorized Newspaper:** The Bond Buyer or any other newspaper of general circulation printed in the English language and customarily published at least once a day for at least five days (other than legal holidays) in each calendar week in the Borough of Manhattan, City and State of New York, designated by the Authority.

**Authorized Representative:** In the case of both the Authority and the Board, their respective Chairman or Executive Director, or such other person or persons so designated by resolution of the Authority or the Board, as the case may be, and in the case of the City, the Mayor, unless a different City official is designated to perform the act or sign the document in question.

**Bond or Bonds:** For purposes of the Agreement and the Resolution (and as used in this Official Statement unless the context otherwise requires), the bonds, notes or other evidences of indebtedness issued by the Authority under and pursuant to the Act and the Resolution, including Parity Bond Anticipation Notes and Parity Reimbursement Obligations; but shall not mean Subordinated Indebtedness or other Bond Anticipation Notes or Reimbursement Obligations; and for purposes of the Lease, means any bonds, notes or other evidences of indebtedness for borrowed money issued by the Authority.

**Bond Counsel's Opinion:** An opinion signed by an attorney or firm of attorneys of nationally recognized standing in the field of law relating to revenue bonds of municipalities and public agencies, selected by the Authority and satisfactory to the Trustee.

**Bond Payment Date:** June 15 and December 15 of each year; provided, however, that if any such day is not a Business Day, then the Bond Payment Date shall be the next succeeding Business Day.

**Business Day:** Any day which is not a Saturday, Sunday or a day on which the New York Stock Exchange, banking institutions chartered by the State or the United States of America or the Note Trustee are legally authorized to close in the City.

**Cash Flow Requirement:** For each Fiscal Year and as of any date of certification, the amount, certified by the Authority to the Trustee and the Board equal to the difference between (A) the sum of (i) the estimated Aggregate Debt Service for such Fiscal Year, (ii) the Projected Debt Service for such Fiscal Year, (iii) the estimated Authority Expenses for such Fiscal Year, and (iv) the other Required Deposits estimated for such Fiscal Year and (B) (i) if the certification is made prior to the commencement of the Fiscal Year, the amount anticipated by the Authority as of such date of certification to be held by the Trustee, as of the first day of such Fiscal Year, in the Revenue Fund and (ii) if the certification is made after the commencement of such Fiscal Year, the amount which had been anticipated pursuant to (B) (i) above.

**Consulting Engineer:** Metcalf & Eddy of New York, Inc. or such other independent engineer or engineering firm of recognized standing selected by the Authority and satisfactory to the Board.

**Corporation:** The New York State Environmental Facilities Corporation and any successor entity which may succeed to its rights and duties respecting the State Revolving Fund.

**Cost or Costs of a Water Project:** The cost of construction, as such term is defined in the Act, including, without limiting the generality of the foregoing, the erection, alteration, improvement, increase, enlargement or rehabilitation of the System or a Water Project, the inspection and supervision thereof, the engineering, architectural, legal, fiscal, economic and environmental investigations and studies, designs, surveys, plans, specifications, procedures and other actions incidental thereto; the cost of the acquisition of all Property; the cost of demolishing, removing or relocating any buildings or structures on lands so acquired (including the cost of acquiring any lands to which such buildings or structures may be moved or relocated); the cost of all systems, facilities, machinery, appurtenances, equipment, financing charges and interest prior to, during and after construction (if not paid or provided for from revenues or other sources); the cost of engineering and architectural surveys, plans and specifications; the cost of consultants' and legal services; the cost of lease guarantee or bond insurance; other expenses necessary, reasonably related or incidental to the construction of such Water Project and the financing of the construction thereof, including the cost of Credit Facilities, the amounts authorized in the Resolution to be paid into any reserve or other special fund from the proceeds of Bonds and the financing or the placing of any Water Project in operation, including reimbursement to any governmental entity or any other person for expenditures that would be Costs of such Water Project and all claims arising from any of the foregoing.

**Counterparty:** An entity whose senior long term debt obligations, or whose obligations under an Interest Rate Exchange Agreement are guaranteed by a financial institution whose senior long term debt obligations, have a rating (at the time the subject Interest Rate Exchange Agreement is entered into) of Aa or better by Moody's Investors Service and AA or better by Standard & Poor's Ratings Group.

**Credit Facility:** A letter of credit, revolving credit agreement, standby purchase agreement, surety bond, insurance policy or similar obligation, arrangement or instrument issued by a bank, insurance company or other financial institution which provides for payment of all or a portion of the Principal Installments or interest due on any Series of Bonds or provides funds for the purchase of such Bonds or portions thereof.

**Debt Service:** For any Fiscal Year or part thereof, as of any date of calculation and with respect to any Series, means an amount equal to the sum of (a) interest payable during such Fiscal Year or part thereof on Bonds of such Series, except to the extent that such interest is to be paid from amounts representing Capitalized Interest and (b) the Principal Installments of the Bonds of such Series payable during such Fiscal Year or part thereof. Such interest and Principal Installments for such Series shall be calculated on the assumption that (x) no Bonds of such Series Outstanding at the date of calculation will cease to be Outstanding except by reason of the payment thereof upon stated maturity or upon mandatory redemption by application of Sinking Fund Installments and (y) Variable Rate Bonds will bear

interest at the greater of (A) the rate or rates which were assumed by the Authority in the Authority Budget for such Fiscal Year to be borne by Variable Rate Bonds during such Fiscal Year or (B) the actual rate or rates borne during such Fiscal Year on Variable Rate Bonds Outstanding during the 12 calendar months preceding the date of calculation.

**Debt Service Reserve Requirement:** As of any date of calculation, and for any Fiscal Year, the amount equal to the maximum Adjusted Aggregate Debt Service in the current or any future Fiscal Year on all Bonds Outstanding; provided, however, that, if (i) the payment of the Principal Installments of or interest on any Series of Bonds or portion thereof is secured by a Special Credit Facility, (ii) the payment of the Tender Option Price of any Option Bond of a Series is secured by a Special Credit Facility or (iii) the Authority has determined in a Supplemental Resolution authorizing the issuance of a Series of Bonds that such Series of Bonds will not be secured by the Common Account in the Debt Service Reserve Fund, the Supplemental Resolution authorizing such Series may specify the Debt Service Reserve Requirement, if any, for the Bonds of such Series.

**DEC:** The New York State Department of Environmental Conservation and any successor entity which may succeed to its rights and duties respecting the State Revolving Fund.

**Defeasance Obligations:** (A) any non-callable bonds or other obligations which as to principal and interest constitute direct obligations of, or are guaranteed by the United States of America, including obligations of any agency thereof or corporation which has been or may hereafter be created pursuant to an Act of Congress as an agency or instrumentality of the United States of America to the extent unconditionally guaranteed by the United States of America or (B) any other non-callable receipt, certificate or other evidence of an ownership interest in obligations or in specified portions thereof (which may consist of specified portions of the interest thereon) of the character described in subclause (A); provided, however, that, when used in connection with any Bond authorized to be issued by a Supplemental Resolution adopted on or after June 1, 2001, such term also means: (C) a non-callable obligation of the United States of America which has been stripped by the United States Department of the Treasury itself or by any Federal Reserve Bank (not including "CATS," "TIGRS" and "TRS" unless the Authority obtains Rating Confirmation with respect to the Bonds to be defeased); (D) the interest component of REFCORP bonds for which separate payment of principal and interest is made by request of the Federal Reserve Bank of New York in book-entry form; (E) an obligation of any state or territory of the United States of America, any political subdivision of any state or territory of the United States of America, or any agency, authority, public benefit corporation or instrumentality of such state, territory or political subdivision (i) the interest on which is excludable from gross income under Section 103 of the Code, (ii) that, at the time an investment therein is made or such obligation is deposited in any fund or account established pursuant to the Resolution, is rated in the highest rating category of the Rating Agencies, (iii) that is not subject to redemption prior to maturity other than at the option of the holder thereof or either (1) has irrevocably been called for redemption or (2) as to which irrevocable instructions have been given to call such obligation on a stated future date and (iv) the timely payment of the principal or redemption price thereof and interest thereon is fully secured by a fund consisting only of cash or obligations described in clauses (A), (B), (C), (D), (E) and (F), which fund may be applied only to the payment of principal, interest and redemption premium, if any, on the obligation secured thereby; and (F) a non-callable note, bond, debenture, mortgage or other evidence of indebtedness that, at the time acquired, is (i) issued or guaranteed by the Federal National Mortgage Association, the Federal Home Loan Mortgage Corporation, the Student Loan Marketing Association, the Federal Farm Credit System or any other instrumentality of the United States of America and (ii) rated in the highest rating category of the Rating Agencies; provided, further, that the term "Defeasance Obligations" shall not mean any interest in a unit investment trust or a mutual fund.

**Financial Guaranties:** (i) Irrevocable, unconditional and unexpired letters of credit issued by banking institutions the senior long-term debt obligations of which (or the holding company of any such banking institution) have (at the time of issue of such letter of credit) a rating of Aa2 or better by Moody's Investors Service and AA or better by Standard & Poor's Ratings Group; or (ii) an irrevocable and unconditional policy or policies of insurance in full force and effect issued by municipal bond insurers the obligations insured by which are eligible for a rating of Aa or better by Moody's Investors Service and AA

or better by Standard & Poor's Ratings Group; in each case providing for the payment of sums for the payment of Principal Installments of an interest on Bonds in the manner provided in the Resolution; and providing further that any Financial Guaranty of the type described in (i) above must be drawn upon, on a date which is at least thirty (30) days prior to the expiration date of such Financial Guaranty, in an amount equal to the deficiency which would exist if the Financial Guaranty expired, unless a substitute Financial Guaranty is acquired prior to such expiration date as provided in a related Supplemental Resolution.

**Fiscal Year:** The twelve-month period commencing on July 1 of each year; provided, however, that the Authority, the Board and the City may agree on a different twelve-month period as the Fiscal Year and in such event the dates set forth in the Agreement, the Lease and the Resolution shall be adjusted accordingly.

**Government Obligation:** A direct obligation of the United States of America, an obligation the principal of, and interest on which are guaranteed as to full and timely payment by the United States of America, an obligation (other than an obligation subject to variation in principal repayment) to which the full faith and credit of the United States of America are pledged, an obligation of a federal agency guaranteed as to full and timely payment by the United States of America and approved by the Authority, and a certificate or other instrument which evidences the ownership of, or the right to receive all or a portion of the payment of, the principal of or interest on, direct obligations of the United States of America.

**Interest Rate Exchange Agreement:** Any financial arrangement (i) that is entered into by the Authority with an entity that is a Counterparty at the time the arrangement is entered into; (ii) which provides that the Authority shall pay to such entity an amount based on the principal amount of a Series of Bonds, and that such entity shall pay to the Authority an amount based on the principal amount of such Series of Bonds, in each case computed in accordance with a formula set forth in such agreement, or that one shall pay to the other any net amount due under such arrangement; (iii) which has been designated in writing to the Trustee by an Authorized Representative of the Authority as an Interest Rate Exchange Agreement with respect to a Series of Bonds and (iv) which, in the opinion of Bond Counsel, will not adversely affect the exclusion of interest on Bonds from gross income for the purposes of federal income taxation.

**Investment Securities:** Include any of the following securities, if and to the extent the same are at the time legal investments by the Authority of the funds to be invested therein and conform to the policies set forth in any investment guidelines adopted by the Authority and in effect at the time of the making of such investment:

(i) direct obligations of, or obligations guaranteed as to principal and interest by, the State or direct obligations of any agency or public authority thereof, provided such obligations are rated, at the time of purchase, in one of the two highest rating categories by each Rating Agency then maintaining a rating on Outstanding Bonds;

(ii) (A) any bonds or other obligations which as to principal and interest constitute direct obligations of, or are guaranteed by the United States of America, including obligations of any agency thereof or corporation which has been or may hereafter be created pursuant to an Act of Congress as an agency or instrumentality of the United States of America to the extent unconditionally guaranteed by the United States of America or (B) any other receipt, certificate or other evidence of an ownership interest in obligations or in specified portions thereof (which may consist of specified portions of the interest thereon) of the character described in subclause (A) of this clause (ii);

(iii) obligations of any agency, subdivision, department, division or instrumentality of the United States of America; or obligations fully guaranteed as to interest and principal by any agency, subdivision, department, division or instrumentality of the United States of America;

(iv) banker's acceptances or certificates of deposit issued by a commercial bank (A) whose long-term debt obligations are rated by each Rating Agency then maintaining a rating on the

Outstanding Bonds at least equal to the rating on Outstanding Bonds that are not insured or otherwise secured by a Credit Facility or a Special Credit Facility, (B) that has its principal place of business within the State and (C) that has capital and surplus of more than \$100,000,000;

(v) corporate securities, including commercial paper and fixed income obligations, which are, at the time of purchase, rated by each Rating Agency then maintaining a rating on Outstanding Bonds in its highest rating category for comparable types of obligations;

(vi) repurchase agreements collateralized by securities described in clauses (ii) or (iii) above with any registered broker/dealer or with any domestic commercial bank whose long-term debt obligations are rated “investment grade” by each Rating Agency then maintaining a rating on Outstanding Bonds, provided that (1) a specific written repurchase agreement governs the transaction, (2) the securities are held, free and clear of any lien, by the Trustee or an independent third party acting solely as agent for the Trustee, and such third party is (a) a Federal Reserve Bank, or (b) 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 \$25 million, 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, (3) the repurchase agreement has a term of thirty days or less, or the Trustee will value the collateral securities no less frequently than monthly and will liquidate the collateral securities if any deficiency in the required collateral percentage is not restored within five business days of such valuation, (4) the fair market value of the collateral securities in relation to the amount of the repurchase obligation, including principal and interest, is equal to at least 102% and (5) the repurchase agreement meets the guidelines then applicable to such investments of each Rating Agency then maintaining a rating on Outstanding Bonds;

(vii) investment agreements or guaranteed investment contracts with any financial institution whose senior long term debt obligations, or whose obligations under such an investment agreement or guaranteed investment contract, are guaranteed by a financial institution whose senior long term debt obligations, have a rating (at the time such agreement or contract is entered into) in one of the two highest rating categories for comparable types of obligations by each Rating Agency then maintaining a rating on the Bonds;

(viii) money market funds rated in the highest rating category for comparable types of obligations by each Rating Agency then maintaining a rating on the Bonds; and

(ix) municipal obligations, the payment of principal and redemption price, if any, and interest on which is irrevocably secured by obligations of the type referred to in clauses (i), (ii) or (iii) above and which obligations have been deposited in an escrow arrangement which is irrevocably pledged to the payment of such municipal obligations and which municipal obligations are rated in the highest rating category for comparable types of obligations by each Rating Agency then maintaining a rating on the Bonds.

**Leased Property:** The real and personal property and other rights therein leased by the City to the Board pursuant to Article II of the Lease.

**Local Water Fund:** The special trust fund by that name established by the Act in the custody of the Board into which all Revenues are required to be deposited promptly upon receipt thereof by the Board.

**Minimum Monthly Balance:** For each Series of Bonds Outstanding, the monthly amount calculated in accordance with Section 4.3(a) of the Agreement. See “Summary of Certain Documents—Summary of the Agreement—Minimum Monthly Balance” in this Appendix C.

**O&M Reserve Fund Requirement:** For each Fiscal Year, the amount equal to one-sixth ( $\frac{1}{6}$ ) of the Operating Expenses as set forth in the Annual Budget.

**Operating Expenses:** All reasonable or necessary current expenses of maintaining, repairing, operating and managing the System net of governmental operating aid, including: all salaries; administrative, general, commercial, architectural, engineering, advertising, public notice, auditing, billing, collection, enforcement and legal expenses; insurance and surety bond premiums; consultants’ fees;

payments to pension, retirement, health and hospitalization funds; taxes; payments in lieu of taxes; costs of public hearings; ordinary and current rentals of equipment or other property; hydrant rentals; lease payments for real property or interests therein (excluding certain amounts paid by the Board to the City pursuant to the Lease); depository expenses; reasonable reserves for maintenance and repair and all other expenses necessary, incidental or convenient for the efficient operation of the System; but only to the extent properly attributable to the Board or the System and payable by the Board to the City pursuant to the Lease and, except for certain administrative expenses of the Board, payable by the Board to the City pursuant to the Lease.

**Option Bonds:** Bonds which by their terms may be tendered by and at the option of the owner thereof for payment by the Authority prior to the stated maturity thereof, or the maturates of which may be extended by and at the option of the owner thereof.

**Outstanding:** As of any date, all Bonds theretofore or thereupon being authenticated and delivered under the Resolution except:

- (a) any Bonds canceled by the Trustee at or prior to such date;
- (b) any Bond (or portion thereof) for the payment or redemption of which there shall be set aside and held in trust under the Resolution either:
  - (i) moneys in an amount sufficient to pay when due the Principal Installments or Redemption Price thereof, together with all accrued interest,
  - (ii) Defeasance Obligations in such principal amounts, of such maturities, bearing such interest and otherwise having such terms and qualifications, as are necessary to provide moneys (whether as principal or interest) in an amount sufficient to pay when due the Principal Installments or Redemption Price thereof, together with all accrued interest, or
  - (iii) any combination of (i) and (ii) above,

and, if such Bond or portion thereof is to be redeemed, for which notice of redemption has been given as provided in Article VI of the Resolution or provision satisfactory to the Trustee has been made for the giving of such notice;

- (c) any Bond in lieu of or in substitution for which other Bonds have been authenticated and delivered; and
- (d) any Bond deemed to have been paid as provided in Section 1201(b) of the Resolution.

**Parity Bond Anticipation Notes:** Bond Anticipation Notes the interest on which is payable from and secured by a pledge of, and a lien on, a parity with all other Bonds.

**Permitted Encumbrances:** When used with reference to the System, (i) any and all liens, encumbrances, security interests or other defects in or clouds on title existing on the Effective Date, (ii) the Lease, (iii) easements, rights of way and exceptions which do not materially impair the operation or maintenance of the Leased Property or the Revenues therefrom, (iv) mechanics', materialmen's, warehousemen's and other similar liens, as permitted by law and liens for taxes at the time not delinquent or being contested and (v) agreements for the sale and leaseback of elements of the System.

**Principal Installment:** As of any date of calculation and with respect to any Series, so long as any Bonds thereof are Outstanding, (i) the principal amount of Bonds (including (x) any amount designated in, or determined pursuant to, the applicable Supplemental Resolution, as the "principal amount" with respect to any Bonds which do not pay full current interest for all or any part of their term) (y) the Tender Option Price of any Option Bonds which may be tendered for purchase or payment prior to the stated maturity thereof in accordance with the terms of the Supplemental Resolution authorizing such Option Bonds, unless such amount is secured by a Credit Facility which is not in default and (z) the principal amount of any Parity Reimbursement Obligations of such Series due (or so tendered for payment) on a certain future date for which no Sinking Fund Installments have been established, or (ii) the unsatisfied balance of any Sinking Fund Installments due on a certain future date for Bonds of such Series, or (iii) if

such future dates coincide as to different Bonds of such Series, the sum of such principal amount of Bonds and of such unsatisfied balance of Sinking Fund Installments due on such future date. "Principal Installment" does not include the principal of Parity Bond Anticipation Notes.

**Project Financing Agreement:** Any Project Financing Agreement to be entered into among the Authority, the City, DEC and the Corporation pursuant to the State Revolving Fund Act.

**Projected Debt Service:** For any Fiscal Year or part thereof means, as of any date of calculation and with respect to any Projected Series of Bonds, an amount, certified by the Authority to the Trustee and the Board, as provided in the Agreement, equal to the Debt Service estimated by the Authority to be payable during such Fiscal Year on such Projected Series.

**Projected Series of Bonds:** Any Series of Bonds described in an Authority Budget as anticipated to be issued in the Fiscal Year to which such Authority Budget relates.

**Rate Consultant:** The independent accountant or firm of independent accountants, or a management consultant or firm of management consultants, or independent engineer or firm of independent engineers, having, in any case, a recognized standing in the field of water and sewer system consulting selected by the Authority and satisfactory to the Board. The Rate Consultant may be the same firm as the Consulting Engineer.

**Rating Agencies:** Moody's Investors Service and Standard & Poor's Ratings Group and their respective successors and assigns.

**Rating Confirmation:** A written confirmation of each Rating Agency to the effect that the rating assigned to each of the Bonds rated by such Rating Agency will remain unchanged and will not be withdrawn, suspended or reduced as a consequence of some act or occurrence.

**Redemption Price:** When used with respect to a Bond or portion thereof, the principal amount thereof plus the applicable premium, if any, payable upon either optional or mandatory redemption thereof pursuant to the Resolution.

**Refundable Principal Installment:** Any Principal Installment for any Series of Bonds which the Authority intends to pay with moneys which are not Revenues, provided that such intent shall have been expressed in the Supplemental Resolution authorizing such Series of Bonds and provided further that such Principal Installment shall be a Refundable Principal Installment only through the date of the Authority Budget adopted during the Fiscal Year immediately preceding the Fiscal Year in which such Principal Installment comes due unless the Authority has delivered to the Trustee a certificate of an Authorized Representative that it has made provision for the payment of such Principal Installment from a source other than Revenues.

**Refunding Bond:** Any Bond authenticated and delivered on original issuance pursuant to Section 206 or Section 207 of the Resolution for the purpose of refunding any Outstanding Bonds or thereafter authenticated and delivered in lieu of or substitution for such Bond pursuant to the Resolution.

**Reimbursement Obligation:** The obligation of the Authority described in the Resolution to directly reimburse the issuer of a Credit Facility for amounts paid by such issuer thereunder, whether or not such obligation to so reimburse is evidenced by a promissory note or other similar instrument.

**Required Deposits:** For any Fiscal Year, amounts, if any, payable into the Authority Expense Fund, the Debt Service Reserve Fund and the Subordinated Indebtedness Fund but only to the extent such payments are required to be made from Revenues pursuant to the Resolution.

**Revenues:** (a) All the rents, fees, charges, payments and other income and receipts derived by the Board from users of the System, together with all operating aid therefor from any governmental entity, federal, State or local, to the Board, (b) investment proceeds and proceeds of insurance received by the Board (other than the proceeds of insurance with respect to the damage or destruction of all or any portion of the System), (c) Subsidy Payments derived by the Authority, (d) amounts derived by the Authority from a Counterparty pursuant to an Interest Rate Exchange Agreement, and (e) investment proceeds derived from amounts on deposit in the Funds and Accounts established hereunder that are



deposited or retained in the Revenue Fund or the Local Water Fund, and but shall not include (w) amounts required to be refunded because of billing or payment errors, (x) any amount attributable to any of the foregoing sources described in clause (a) which (i) is expressly excluded by the Agreement or the Lease, or (ii) is derived from a use of the System not directly related to the supply, treatment and distribution of water to the consumers thereof or the collection, disposal or treatment of sewage, (y) any amount from any governmental entity, federal, State or local, in aid of or for or with respect to the Costs of Water Projects, other than Subsidy Payments, or (z)(i) fines (excluding interest on late payments which shall constitute Revenues), (ii) amounts from the use of water to generate electricity, (iii) amounts from the State as a result of mandatory water discharges from reservoirs or (iv) amounts from the granting of easements, licenses, rights-of-way or other interests in the real property constituting a part of the System.

**Special Credit Facility:** With respect to any Series of Bonds or portion thereof, a Credit Facility (a) which provides funds for (i) the direct payment of the Principal Installments of and interest on such Bonds when due or (ii) the payment of the Principal Installments of and interest on such Bonds in the event amounts otherwise pledged to the payment thereof are not available when due or (iii) the payment of the Tender Option Price of any Option Bond which may be tendered to the Authority for purchase or payment in accordance with the Supplemental Resolution authorizing such Option Bond (in any case, regardless of whether such Credit Facility provides funds for any other purpose) and (b) which (i) requires the Authority to directly reimburse the issuer of such Credit Facility for amounts paid thereunder and (ii) provides that such obligation is a Parity Reimbursement Obligation.

**State:** The State of New York.

**State Revolving Fund:** The New York State Water Pollution Control Revolving Fund established pursuant to the State Revolving Fund Act.

**State Revolving Fund Act:** Chapter 565 of the laws of New York of 1989, as amended.

**Subordinated Indebtedness:** Any bond, note or other evidence issued by the Authority in furtherance of its corporate purposes under the Act and payable from the Subordinated Indebtedness Fund.

**Subsidy Payments:** Amounts payable to the Authority from any governmental entity, federal, State or local, in connection with Bonds of the Authority.

**Supplemental Resolution:** A resolution of the Authority authorizing the issuance of a Series of Bonds or otherwise amending or supplementing the Resolution.

**System:** The Water System and the Sewerage System, collectively, as such terms are defined in the Act.

**Tender Option Price:** With respect to any Option Bond tendered for purchase or payment, an amount equal to the principal amount thereof plus interest accrued and unpaid thereon from the immediately preceding Bond Payment Date to the date of such tender.

**Trustee:** The trustee appointed by the Authority pursuant to the General Resolution, and any successors thereto.

**Variable Rate Bond:** As of any date of determination, any Bond on which the interest rate borne thereby may vary during any part of its remaining term.

**Water Project:** Any sewerage facility, water facility or water and sewerage facility, as the case may be, including the planning, development, financing or construction thereof.

### **Summary of Certain Documents**

The following are brief summaries of certain provisions of the Agreement, the Lease and the General Resolution. These summaries do not purport to be complete and are subject in all respects to the provisions of, and are qualified in their entirety by, reference to the respective documents to which they relate.

## Summary of the Agreement

**Financing of Water Projects.** The Authority agrees to use its best efforts to finance all or a part of the Cost of all Water Projects described in Appendix A to the Agreement. In consideration for the Authority's issuance of the Bonds, the Board gives, grants, conveys and transfers to the Authority all of its right, title and interest in the Revenues, including without limitation, all of its rights to collect and receive said Revenues subject only to provisions of the Act, the Agreement and the Resolution permitting the application of said Revenues to the purposes therein set forth. The Board itself incurs no indebtedness under the terms of the Agreement, Lease, Resolution or any other document executed in connection therewith. (*Sections 2.1, 2.2 and 2.4*)

**Transfer of Funds.** The Authority shall deposit the proceeds of each Series of Bonds with the Trustee in accordance with the provisions of the Resolution and the Supplemental Resolution authorizing such Series; provided, however, that the portion of the proceeds designated to pay the Costs of any Water Project shall be held only in the Construction Fund established pursuant to the Resolution.

The Authority shall authorize payment of such Costs in the manner set forth in the Resolution once evidence thereof is provided in a Certificate signed by an Authorized Representative of the Board or City, as the case may be. Neither the Authority nor the Trustee shall be required to provide funds to pay the Costs of Water Projects from any source other than the Construction Fund, and neither the Authority nor the Trustee shall pay to the City from such Fund any amount in excess of that set aside for the purposes thereof, or for the Projects listed in Appendix A to the Agreement. (*Sections 3.1 and 3.2*)

**Local Water Fund.** The Board shall deposit all Revenues, as promptly as practicable after receipt, into the Local Water Fund. There shall also be deposited in the Local Water Fund all amounts received by the Board from the Trustee pursuant to the Resolution. (*Section 4.1*)

**Establishment of Certain Funds and Application of Revenues in Local Water Fund.** The Board shall establish two special funds (in addition to the Local Water Fund) to be held by the Board at a Depository: the Board Expense Fund and the Operation and Maintenance Reserve Fund, with the General Account therein. The Board shall hold such funds as trust funds and the amounts on deposit shall only be applied for the purposes provided in the Agreement.

Beginning on the first day of each month in each Fiscal Year, the Board is required to apply the Revenues in the Local Water Fund, *first*, to the Trustee for deposit in the Revenue Fund until the amount on deposit in the Revenue Fund equals the Minimum Monthly Balance for such month and the Trustee shall have received the amounts, if any, required to be deposited in the Authority Expense Fund, the Debt Service Reserve Fund and the Subordinated Indebtedness Fund for such month. Thereafter, in such month from the balance remaining in the Local Water Fund, the Board is required, after making provision for Board Expenses, to pay to the City  $\frac{1}{12}$ th of the operating expenses for such Fiscal Year. After making such payments, any amounts remaining in the Local Water Fund in each month are applied daily (i) to satisfy the Cash Flow Requirement (if the required payments to the City for Operating Expenses have been made), (ii) to satisfy required payments to the City for Operating Expenses (if the Cash Flow Requirement has been satisfied) or (iii) proportionately, to the Trustee for deposit in the Revenue Fund and to the City for the payment of Operating Expenses, until the total of all amounts deposited in the Revenue Fund during such Fiscal Year equals the Cash Flow Requirement and all Operating Expenses required to be paid shall have been paid. Thereafter, as long as the amount on deposit in the Revenue Fund in each month is equal to the Minimum Monthly Balance and the Cash Flow Requirement continues to be met, all such amounts in the Local Water Fund shall be paid as follows: *first*, to the Authority until the total of the amounts so paid equals the principal of and interest on any bonds, notes or other obligations of the Authority (other than Bonds, Bond Anticipation Notes, and Subordinated Indebtedness) payable within the then current Fiscal Year, together with all other amounts necessary to make the required deposits to the reserve and other funds and amounts established for such bonds, notes or other obligations; *second*, to the City until the amounts so paid are equal to the rental payment for such Fiscal Year and the unsatisfied balance, if any, of the rental payment for any prior Fiscal Year; and, *third*, to the Operation and Maintenance Reserve Fund, until the amount therein on deposit is equal to the O&M Reserve Requirement for such Fiscal Year. Any amounts remaining in the Local Water Fund on the last day of each Fiscal Year shall be paid to the General Account in the Operation and Maintenance Reserve Fund. (*Section 4.2*)

**Minimum Monthly Balance.** The Minimum Monthly Balance shall be calculated as of the first day of the month and shall be equal to the sum of:

(i) For each Series of Bonds which is Outstanding during the current Fiscal Year, an amount equal to the product obtained by multiplying (a) the difference between (1) the amount of interest due or projected to be due on the next succeeding Bond Payment Date for such and (2) the amount, if any, held in the applicable subaccount for such Series in the Capitalized Interest Account in the Debt Service Fund by (b) a fraction, the numerator of which is the number of full months since the end of the month preceding the last Bond Payment Date for such Series (or, with respect to the first Bond Payment Date for such Series, the number of full months since the last day of the month preceding the date of issuance of such Series) and the denominator of which is the number of months between Bond Payment Dates minus one (or, with respect to the first Bond Payment Date for a Series, the number of months between the last day of the month preceding the date of issuance of such Series and the first Bond Payment Date minus one); provided, however, that if this formula would produce (A) a fraction greater than one, then the fraction shall be equal to one, or (B) a denominator less than one, then the fraction shall be equal to one; plus

(ii) For each Series of Bonds which is Outstanding during the current Fiscal Year, an amount equal to the Principal Installment due or projected to be due on the next succeeding Bond Payment Date for such Series which falls within twelve months or less on which a Principal Installment is due, multiplied by a fraction, the numerator of which is the number of full months since the last day of the month preceding the last Bond Payment Date on which a Principal Installment was due (or, with respect to the first such Bond Payment Date, twelve minus the number of full months to the first Bond Payment Date on which a Principal Installment is due), and the denominator of which is eleven; provided, however, that if this formula would produce a fraction greater than one, then the fraction shall be equal to one. (*Section 4.3*)

**Deposits to Operation and Maintenance Reserve Fund.** There shall be deposited to the Operation and Maintenance Reserve Fund in each Fiscal Year from the sources described below the amount required, if any, so that the amounts on deposit therein satisfy the O&M Reserve Fund Requirement for the ensuing Fiscal Year.

Deposits to the Operation and Maintenance Reserve Fund may be made from the proceeds of the sale of Bonds of the Authority, from the Local Water Fund, or from any other moneys lawfully available therefor, subject to the following limitations:

(i) The maximum deposit to the Operation and Maintenance Reserve Fund from the proceeds of Bonds of the Authority, as of any time of calculation, may not exceed the O&M Reserve Fund Requirement then in effect, reduced by the cumulative sum of prior deposits thereto from proceeds of Bonds of the Authority.

(ii) Deposits to the Operation and Maintenance Reserve Fund from the Local Water Fund shall be subject to the priorities established in Section 4.2 of the Agreement.

(iii) If there shall be a deficit in the Operation and Maintenance Reserve Fund on May 1 of any Fiscal Year, and if as of such May 1 the Board does not project that available Revenues will at least equal the O&M Reserve Requirement for such Fiscal Year by June 30 of such Fiscal Year, then the Board shall include in its Annual Budget for the ensuing Fiscal Year an amount sufficient, together with other amounts available therefor, to at least equal the O&M Reserve Fund Requirement for the ensuing Fiscal Year.

If on July 1 of any Fiscal Year the amount on deposit in the Operation and Maintenance Reserve Fund is less than the O&M Reserve Fund Requirement, such deficit shall (subject to paragraph (i) above) be made up from the proceeds of the sale of Bonds issued during such Fiscal Year; provided, however, if, prior to May 1 of such Fiscal Year such deficit has not been made up from Bond proceeds, the Board shall include the amount of such deficit in its Annual Budget for the ensuing Fiscal Year and the amounts necessary to restore such deficit shall be deposited in the Operation and Maintenance Reserve Fund.

Amounts required to be deposited in the General Account shall be held separate and apart from other amounts held in the Operation and Maintenance Reserve Fund and applied as described below. (Section 4.4)

**Application of Moneys in the Operation and Maintenance Reserve Fund.** If on the first day of any month the Board has not paid to the City an amount equal to the product of (i) the amount required to be paid for Operating Expenses pursuant to Section 8.1 of the Lease, multiplied by (ii) a fraction the numerator of which is the number of months which have commenced during such Fiscal Year, and the denominator of which is 12, the Board shall withdraw from the Operation and Maintenance Reserve Fund and pay to the City, on demand, an amount equal to  $\frac{1}{12}$  of the amount so required to be paid pursuant to Section 8.1 of the Lease, or the entire balance in such Fund if less than sufficient. Amounts on deposit in the General Account may be applied (i) to purposes provided for in Section 4.2, (ii) to the payment of Bonds in accordance with Article XII of the Resolution or (iii) to the Costs of Water Projects, but shall be retained therein to the extent required by the Annual Budget. (Section 4.5)

**Application of Moneys in Board Expense Fund.** Amounts on deposit in the Board Expense Fund shall be applied by the Board solely for the purposes of paying expenses of the Board, in accordance with the Annual Budget. (Section 4.6)

**Application of Revenues After Default.** The Board has covenanted that if an “event of default” (as defined in the Resolution) shall occur, the Board shall pay or cause to be paid to the Trustee, upon its request, all moneys and securities then held by the Board in the Local Water Fund and thereafter the Revenues as promptly as practicable after receipt. (Section 4.7)

**Amounts Remaining.** Any amounts received or held by the Authority or the Trustee pursuant to the Resolution, any similar document or the Agreement after all Bonds and other evidences of indebtedness have been paid in full or are no longer Outstanding and after payment of all other obligations and expenses of the Authority, or provision for payment thereof has been made, shall be paid to the City.

Any payments by the City to the Water Board pursuant to Section 1045-h(3) of the Act shall be confined to consideration for the sale of goods or the rendering of services by the Water Board to the City pursuant to the Lease or the Agreement as contemplated by the Act. (Section 4.8)

**Rate Covenant.** The Board has covenanted and agreed to establish, fix and revise fees, rates or other charges for the use of or services furnished by the System which, together with any other available funds, are adequate to provide for (i) the timely payment of the Principal Installments of and interest on all Bonds and the principal of and interest on any other indebtedness of the Authority payable from Revenues, (ii) the proper operation and maintenance of the System, (iii) all other payments required for the System not otherwise provided for and (iv) all other payments required pursuant to the Agreement and the Lease, without intending to limit the generality of the foregoing, the Board has also covenanted to establish and collect rates, fees and charges sufficient in each Fiscal Year so that Revenues collected in such Fiscal Year will be at least equal to the sum of (i) 115% of estimated Aggregate Debt Service and Projected Debt Service payable in such Fiscal Year (excluding any Refundable Principal Installment if payable from funds held in trust therefor and assuming with respect to Variable Rate Bonds that the effective rate of interest is that which the Authority determines so long as such rate is not less than the rate such Bonds bear at the time Aggregate Debt Service is determined), (ii) 100% of the Operating Expenses and Authority Expenses payable in such Fiscal Year and (iii) 100% of the amount necessary to pay the other Required Deposits for such Fiscal Year. However, a failure to generate such Revenues does not constitute an “event of default” if the Board takes timely action to correct any such deficit. The Board shall review, at least annually, such rates, fees and charges to determine whether such rates, fees and charges are, or will be, sufficient to meet the requirements thereof and shall promptly take action to cure or avoid any deficiency. Except to the extent required by Section 1045-j of the Act, as in effect on July 24, 1984, with regard to the requirement that tax exempt organizations be charged for service provided by the System or by existing agreements (including any successor agreements with Jamaica), the Board will not furnish or supply any product, use or service of the System free of charge or at a nominal charge. (Section 6.1)

**Consulting Engineer and Rate Consultant.** The Authority shall employ a Consulting Engineer and a Rate Consultant whose duties, respectively, shall be to make any certificates and perform any other acts required or permitted of the Consulting Engineer and the Rate Consultant under the Agreement and the Resolution. If so determined by the Authority, the same person or firm may perform the duties and functions of the Consulting Engineer and Rate Consultant.

In each Fiscal Year, the Consulting Engineer and the Rate Consultant shall make an examination of, and shall report to the Authority, the Board, the City and the Trustee, on the properties and operations of the System. The report of the Rate Consultant shall set forth among other findings, the Rate Consultant's recommendation as to any necessary or advisable revisions of rates, fees and charges for the ensuing Fiscal Year and such other advice and recommendation as it may deem desirable. The Consulting Engineer's report shall set forth its findings as to whether the System has been maintained in good repair and sound operating condition, and its estimate of the amount, if any, required to be expended to place such properties in such condition and the details of such expenditures and the approximate time required therefor. The City covenants that if any such report of the Consulting Engineer shall set forth that the properties of the System have not been maintained in good repair and sound operating condition, it will promptly restore the properties to good repair and sound operating condition with all expedition practicable. (*Section 6.2*)

**Covenant to Operate and Maintain System.** The City has covenanted that it shall, at all times:

(a) in accordance with the advice and recommendations of the Consulting Engineer, operate the System properly and in a sound and economical manner and maintain, preserve, and keep the same preserved and kept with the appurtenances and every part and parcel thereof, in good repair, working order and condition, and from time to time make, or cause to be made, all necessary and proper repairs, replacements and renewals so that at all times the operation of the System may be properly and advantageously conducted, regardless of any failure on the part of the Board to make the payments to the City required by Section 8.1 of the Lease; provided, however, that nothing contained in the Agreement shall require the City to operate, maintain, preserve, repair, replace, renew or reconstruct any part of the System if there shall be filed with the Board, the Authority and the Trustee (i) a certificate of the Commissioner acting as the Authorized Representative of the City stating that in the opinion of the City abandonment of operation of such part of the System will not adversely affect the operation of the System or the amount of Revenues derived therefrom and is not prejudicial to the interests of the Board, the Authority or the Bondholders and (ii) a Certificate of the Consulting Engineer concurring with such statement;

(b) enforce the rules and regulations governing the operation, use and services of the System established from time to time by the Board or the City;

(c) observe and perform all of the terms and conditions contained in the Act, and comply with all valid acts, rules, regulations, orders and directions of any legislative, executive, administrative or judicial body having competent jurisdiction of the City or the System; provided, however, that the failure of the City to comply with the covenant contained in this subsection (c) for any period shall not constitute a default on its part so long as the City (i) is taking reasonable and timely steps to permit compliance and (ii) the City shall have delivered to the Board and to the Authority a Certificate of the Consulting Engineer which (1) sets forth in reasonable detail the facts and circumstances attendant to such non-compliance, (2) sets forth the steps being taken by the City to permit compliance, (3) sets forth the estimated date on which the City will be in compliance and (4) states that in the opinion of the Consulting Engineer such non-compliance during the period described will not adversely affect the operation of the System or the amount of Revenues to be derived therefrom; and

(d) not create or suffer to be created any lien or charge upon the System or any part thereof except for Permitted Encumbrances. (*Section 6.3*)

**Annual Budget.** On May 1 of each year (or on such later date as the Authority, the Board and the City may agree) the Authority shall deliver to the Board a certified copy of the Authority Budget for the

ensuing Fiscal Year showing the Cash Flow Requirement for such Fiscal Year. Based upon the information contained in (a) the Authority Budget, (b) the City's certification pursuant to Section 8.3 of the Lease and (c) the Certificate of the Consulting Engineer delivered to the Board pursuant to Section 8.3 of the Lease (collectively, the "Budget Documents"), the Board shall prepare the Annual Budget for the ensuing Fiscal Year. In addition to the information contained in the Budget Documents the Board shall also make provision in the Annual Budget for Board Expenses for the ensuing Fiscal Year, for the amount, if any, required to be deposited in the Operation and Maintenance Reserve Fund in accordance with Section 4.4 of the Agreement, and for the application of the amounts in the General Account therein. Thereafter, but in no event later than 15 days after the date of publication of the Executive Budget of the City, the Board shall adopt such Annual Budget. Promptly after adoption of the Annual Budget, and in no event later than June 10 (or such other date as the Authority, the Board and the City may agree) of each year, the Board shall establish the rates, fees and charges for the use of the System for the ensuing Fiscal Year. The Board may from time to time, either before or after commencement of the Fiscal Year to which it relates, amend the Annual Budget, but (except for its own expenses) only in accordance with and after receipt of amended Budget Documents. If as of the first day of any Fiscal Year an Annual Budget has not been adopted, the Annual Budget for the immediately preceding Fiscal Year shall be the Annual Budget for such Fiscal Year until a new Annual Budget is adopted. (*Section 6.4*)

**Tax Exemption.** The City, the Authority and the Board have covenanted that so long as any Bonds shall be Outstanding, no one will take any action, nor fail to take any action, which, if taken or not taken, as the case may be, would adversely affect the tax-exempt status of the interest payable on the Bonds then Outstanding the interest on which is excluded from gross income under the Internal Revenue Code of 1986, as amended. (*Section 6.5(b)*)

**Discontinuance of Service.** The Board has covenanted to enforce or cause the City to enforce the rules and regulations providing for discontinuance of, or disconnection from, the supply of water or the provision of sewer service, or both, as the case may be, for non-payment of fees, rents, rates or other charges imposed by the Board, provided that such discontinuance or disconnection shall not be carried out except in the manner and upon the notice as is required of a waterworks corporation pursuant to Sections 89(b)(3)(a)-(c) and 116 of the Public Service Law of the State. (*Section 6.7*)

**Covenant of City as to Rates and Charges.** The City has covenanted that, upon the issuance of the Bonds by the Authority, the City will not thereafter levy user fees, rents and other charges with respect to the System until all Bonds are paid or are no longer Outstanding pursuant to the terms of the Resolution; provided, however, that the City may levy *ad valorem* taxes to pay the costs and expenses of the System or to pay the principal of and interest on general obligation bonds of the City heretofore or hereafter issued to finance the System or any part thereof. (*Section 6.9*)

**Books and Records.** Each of the Authority and the Board shall keep or cause to be kept proper books of record and account in which complete and correct entries shall be made of all transactions relating to their corporate purposes under the Act. In accordance with Section 1045-y of the Act, the Authority and the Board shall annually submit to the Mayor, the Comptroller and the Director of Management and Budget of the City a detailed report concerning their activities for the Fiscal Year. In addition, the Authority and the Board shall submit to the Mayor, the Comptroller and the Director of Management and Budget of the City audited annual financial statements of the Authority and the Board together with a report thereon of an accountant satisfactory to the Board. (*Section 6.11*)

**Liens.** Until the Bonds or other evidences of indebtedness issued by the Authority for its purposes under the Act have been paid in full or provision has been made therefor in accordance with the Resolution or similar document, the Agreement provides that the Board shall not create, and, to the extent it has the power to do so, shall not permit to be created, any lien upon or pledge of the Revenues except the lien and pledge thereon created by the Act. (*Section 6.12*)

**Security Interests.** Except to the extent provided in the Act, neither the Board nor the Authority may grant any Bondholder any security interest in any of the assets or Properties of the Board. (*Section 6.13*)

**Financing through State Revolving Fund.** In connection with the financing of Water Projects by the Authority with funds provided from the State Revolving Fund, the City may enter into a Project Financing Agreement or Agreements among DEC, the Corporation and the Authority and make in any such agreement certain representations, warranties, covenants and agreements. *(Section 6.16)*

**Agreement of the State.** Under the provisions of the Agreement, the parties pledge and agree, for and on behalf of the State as provided in the Act, that the State will not alter or limit the rights vested by the Act in the Authority or the Board to fulfill the terms of any agreement made with or for the benefit of the Bondholders, or in any way impair the rights and remedies of Bondholders, until the Bonds, together with the interest thereon, interest on any unpaid installment of interest, and all costs and expenses incurred in any action or proceeding by or on behalf of such holders, are fully met and discharged. *(Section 7.1)*

**Events of Default and Remedies.** An “event of default” or a “default” means any one of the following events: (i) failure by the Board to pay the Authority those amounts required under the Agreement; (ii) failure of the City or the Board to observe any covenant, term or condition of the Agreement (other than the payments the Board shall make to the Authority) and such failure shall have continued for a period of sixty (60) days after written notice, specifying such failure and requesting that it be remedied, is given to the City or the Board, or both, by the Authority unless the Authority shall agree in writing to extend such time prior to its expiration, provided such extension shall not be unreasonably withheld if the City or the Board has instituted and is diligently pursuing corrective action which cannot be completed within the applicable period; (iii) the Authority shall file a petition, or otherwise seek relief, under any federal or State bankruptcy or similar law; and (iv) the terms, conditions and security provided under the Agreement and the Resolution or the respective provisions of the Act pursuant to which the Resolution has been adopted or the Bonds have been issued or entered into (including, without limitation, the provisions under which the lien upon the Revenues has been created pursuant to the Agreement and the Resolution and the provisions establishing the powers and obligations of the Board and the relationship of the Authority to the Board and the City) shall be materially and adversely limited, altered or impaired by any legislative action or any final judgment. *(Section 8.1)*

Whenever an event of default shall have occurred and be continuing, the Authority and the Trustee may take whatever legal action may appear necessary or desirable to: (i) collect the payments then due and as they thereafter become due and (ii) so long as any Bonds are Outstanding, enforce performance and observance of any obligation or covenant of the City or the Board under the Agreement. In addition, if the Board defaults in making the payments to the Authority required under the Agreement as a result of its failure to impose sufficient fees, rates, rents or other charges, the Authority may petition for the appointment of a receiver to administer the affairs of the Board in order to achieve Revenues sufficient to make such payments by establishing fees, rates, rents or other charges at least sufficient therefor. The remedies conferred upon or reserved to the Authority in respect of any event of default are not exclusive of other available remedies, but shall be in addition to every other remedy given under the Agreement or existing at law or in equity or by statute. *(Sections 8.2 and 8.3)*

**Termination.** The Agreement shall terminate and the covenants and other obligations contained therein shall be discharged and satisfied, when (i) payment of all indebtedness of the Authority has been made or provided for in accordance with the Resolution or similar document securing such indebtedness and (ii) either all payments required thereunder have been made in full, or provision for such payments satisfactory to the Authority has been made, or the City pays or assumes all liabilities, obligations, duties, rights and powers of the Authority under the Agreement. *(Section 9.1)*

**Amendments.** The parties to the Agreement may enter into any amendment, change or modification of the Agreement (if in writing, signed by each of the parties and consented to in writing by the Trustee if required by the Resolution) including, without limitation, amendments to Appendix A to the Agreement; provided that the parties shall enter into no such change or modification which materially adversely affects the rights of the holders of any Bonds by modifying or revoking certain enumerated provisions of the Agreement without first complying with the applicable provisions of the Resolution. *(Section 10.1)*

**Conflicts.** The Agreement provides that its provisions shall not change or in any manner alter the terms of the Resolution, or the security, rights or remedies of the Trustee or the Bondholders. In the event any provision of the Agreement conflicts at any time, or in any manner, with the provisions of the Resolution or any Bond, the provisions of the Resolution or Bond shall be controlling and conflicting provisions of the Agreement shall be disregarded. *(Section 12.1)*

### **Summary of the Lease**

**Term of Lease and Demise of Leased Property.** The City has leased the Leased Property to the Board for the term of the Lease (the “Lease Term”). The Lease Term commenced on the Effective Date (July 1, 1985) and continues until the later of the 40th anniversary of the Effective Date or the date on which all bonds, notes or other obligations of the Authority are paid in full or provision for such payment is made pursuant to the resolution, trust indenture or other instrument under which such bonds, notes or other obligations are issued. During the Lease Term the Board may use the Leased Property only for its corporate purposes and upon the terms and conditions contained in the Lease.

The Leased Property includes (whether now in use or hereafter acquired, and whether or not located within the boundaries of the City) all of the City’s right, title and interest in: (i) the City’s sewerage system, including but not limited to all plants, structures, equipment and other real and personal property or rights therein acquired, rehabilitated or constructed (including all work in progress as soon as commenced) and used for the purpose of collecting, treating, pumping, neutralizing, storing and disposing of sewage, including, but not limited to, main, collecting, outlet or other sewers, pumping stations, groundwater recharge basins, backflow prevention devices, sludge dewatering facilities, vessels, barges, clarifiers, filters and phosphorous removal equipment, vehicles and other property used in connection with the sewer system; (ii) the City’s water system, including but not limited to all plants, structures and other real and personal property or rights therein, acquired, rehabilitated or constructed (including all work in progress as soon as commenced) and used or to be used for the purpose of supplying, distributing, accumulating or treating water, including, but not limited to, reservoirs, basins, dams, canals, aqueducts, pipelines, mains, pumping stations, water distribution systems, intake systems, water-works, sources of water supply, purification or filtration plants, water meters and rights of flowage or diversion, vehicles and other property used in connection with the water system; and (iii) any other materials, supplies, plans and property contained in the above-mentioned plants and structures incidental to, or necessary or useful and convenient for, the operation of such facilities; provided, however, that the Leased Property shall not include the City’s right, title and interest in the following: (i) any property or rights of the City the conveyance of which pursuant to the Lease would cause a reversion to or in favor of, or permit a reentry by or in favor of, any third party; (ii) all mines and minerals whatsoever (but not including surface or subsurface waters) now or hereafter found and discovered, crops and timber, on or under the lands to be conveyed pursuant to the Lease; with power and authority for the City to perform certain mineral extraction and agricultural/timber activities; provided, however, that the City shall not undertake any such activities which interfere with the operation, maintenance or collection of Revenues of the System. *(Section 2.1)*

**Right of City to Enter Leased Property.** The City retains the right to enter upon any portion of the Leased Property, to use any property not constituting a part thereof which is located in, across or upon the Leased Property or for any purpose unless, in the reasonable judgment of the Board, such entry or use would adversely affect the collection of Revenues. *(Section 2.2)*

**Substitution of Board for City.** Where necessary or desirable and to the extent permitted by law, the City and the Board agree to use their best efforts to substitute the Board for the City with respect to any application or proceedings filed or commenced in relation to the Leased Property with the various State and Federal regulatory bodies having jurisdiction. *(Section 2.5)*

**Indemnification.** The City agrees, to the extent permitted by law and subject to certain conditions, to hold the Board harmless from any and all liability, loss or damage from or in connection with any act the Board does or omits in the exercise of its powers if taken or omitted in good faith and in pursuance of its corporate purposes. *(Sections 3.1, 3.2 and 7.2)*



**Operation and Maintenance of the Leased Property.** The City shall administer and operate the Leased Property, maintain the Leased Property in good and safe order and condition and make all repairs therein. The City's duty to "maintain" and "repair" shall include all necessary repairs, replacements, renewals, alterations and additions, whether structural, non-structural, ordinary or extraordinary and its duty to "administer" shall include, without limitation, the enforcement of regulations of the Board and the City relating to the use of the System. However, the Lease shall not impose any obligation or liability upon the City for the administration, operation, maintenance and repair of the System not previously imposed upon it in connection with its prior operation and maintenance of the System. Both the Board and the City shall use all reasonable care to prevent the occurrence of waste, damage or injury to the Leased Property. The System shall be used and operated and maintained in accordance with all applicable laws, rules and regulations. *(Sections 4.1, 4.2 and 4.3)*

**Construction and Acquisition.** The Board authorizes the City to perform the construction and effectuation of any Water Project specified in the Agreement and the City may incur Costs in connection therewith. The City may acquire all real and personal property, or any interest therein, necessary or useful for the construction or effectuation of a Water Project; provided that all such property or interest acquired by the City through the exercise of the power of eminent domain shall be taken in the name of the City. *(Sections 5.1, 5.2 and 5.3)*

**Billing and the Levy of Water and Sewer Charges.** The City has agreed to provide billing services to the Board. Such services include but are not limited to: (i) notification to users of the System of the water and sewer charges levied by the Board, (ii) collection of such charges (including the City's use of its power of enforcement and collection of unpaid taxes under the laws of the State to enforce and collect any delinquent water and sewer charges from the persons and property liable therefor) and (iii) maintenance of the books, records and accounts of the billing systems. *(Sections 6.1 and 6.2)*

**Late Payments.** All late payments of water and sewer charges are the property of the Board and shall be collected by the City on behalf of the Board. Notwithstanding the foregoing, the Board has assigned to the City all of its rights and interest in and to all outstanding charges levied and uncollected on all properties at the time title thereto is vested in the City pursuant to *in rem* proceedings in consideration for the City's payment to the Board, in each Fiscal Year after the Effective Date, of an amount equal to 2% of such outstanding charges (unless, during the Lease Term, the City and the Board mutually agree on a different procedure for allocating such outstanding charges). *(Section 6.3)*

**Discontinuance of Billing Services.** If either the City or the Board no longer desires that the City provide the Board with billing services, the party desiring termination shall give written notice of such fact to the other party at least two years prior to the termination. Notwithstanding such termination of billing services, Section 6.2 of the Lease shall remain in full force and effect. *(Section 6.4)*

**Legal Services.** The Board has hired the City's Law Department to provide it with legal services. However, the Board may hire a different attorney or firm of attorneys to provide it with legal services. If the Board retains counsel to defend a claim against it without the prior approval of the Corporation Counsel of the City (which approval shall not be unreasonably withheld), the Board shall not be entitled to the indemnification from the City provided in Article III of the Lease with respect to such claim, unless the City elects in writing to provide such indemnification. *(Sections 7.1 and 7.2)*

**Payments of Costs by the Board.** The Board has agreed to pay to the City amounts sufficient to: (i) pay the cost of administration, maintenance, repair and operation of the Leased Property, including overhead costs incurred by the City attributable to the Leased Property (but less the amount of any governmental operating aid received or receivable within the current Fiscal Year with respect to the System), the cost of materials and supplies, and the amount of any judgment or settlement paid by the City arising out of a tort claim (but only if the costs of such claim are not otherwise reimbursed, the City's liability for such claim is related to Construction of a Water Project or operation or maintenance of the System and the costs of such claims do not exceed for any Fiscal Year 5% of the aggregate revenues shown on the Board's last year-end audited financial statements); (ii) reimburse the City for capital Costs incurred by the City in the Construction of Water Projects (if requested by the City and not otherwise reimbursed) including, without limitation, the payment of any judgment or settlement arising out of a

contract claim related to the Construction of any Water Project; (iii) pay the cost of billing and collection services provided by the City; (iv) pay the cost of legal services provided by the City; and (v) reimburse the City for the compensation, or the costs of the services, of any City officers and employees provided on a full-time or part-time basis to the Board. (*Section 8.1*)

**Base Rental Payments.** In addition, the Board shall pay the City a rental payment for the System, but only to the extent requested by the City, and not to exceed the greater of (i) the principal and interest payable on general obligation bonds issued by the City for water and sewer purposes and certified by the City to be paid within such Fiscal Year, or (ii) 15% of the amount of principal and interest payable on the Bonds of the Authority and certified by the Authority to be paid within such Fiscal Year. (*Section 8.2*)

**Method of Payment.** The City shall certify within five business days after publication of the City's Executive Budget for the ensuing Fiscal Year the (i) amount which the City reasonably anticipates it will expend in connection with the costs described in Section 8.1 of the Lease and (ii) the amount of the payments described in Section 8.2 of the Lease; provided that, prior to the Board's payment to the City the Board shall have received, in addition to such certification by the City, a certificate of the Consulting Engineer to the effect that such amounts certified by the City for such payments and costs are reasonable and appropriate. Upon the Board's payment of all such amounts so certified or requested and any other payments required under the Act, or, after provisions for their payment have been made, the Board shall pay to the City, as Additional Rent in each Fiscal Year, any surplus of funds received. (*Section 8.3*)

**Disposition of Property.** The Board agrees that it will not sell, lease, sublease, assign, transfer, encumber (other than Permitted Encumbrances) or otherwise dispose of any part of the Leased Property, or any other real property or personal property which may be acquired by the Board, or its interest in the Lease, without the prior written approval of the City.

The City will not sell, transfer or otherwise dispose of real property or personal property included in the Leased Property without the Board's written consent. In the case of personal property, the value of which is less than \$1 million per unit (or of greater value if the Board designates), the Board will adopt rules and procedures for the expedited disposition thereof. Upon the City's request to dispose of any real property or personal property valued in excess of \$1 million, the Board will give such consent only upon receipt of a certificate signed by the Consulting Engineer to the effect that such real or personal property may be disposed of without materially adversely affecting the Revenues of the System or impairing the ability of the Board to make any payments required by the Lease or the Agreement or any other agreement to which it may be a party or be bound. The City may also, with the prior written consent of the Board, grant interests in the Leased Property which, in the reasonable judgment of the Board, do not interfere with the operation and maintenance of the System and the collection of the Revenues from the System. (*Section 11.1*)

**Encumbrances.** The Board may not encumber the Leased Property without the prior written approval of the City. The City may grant temporary licenses for use of the Leased Property which do not interfere with the operation and maintenance of the System or the collection of Revenues therefrom. (*Section 11.3*)

### **Summary of the Resolution**

*Terms used in this Summary of the Resolution shall have the meanings ascribed thereto in "APPENDIX C—GLOSSARY AND SUMMARY OF CERTAIN DOCUMENTS—Glossary".*

**Pledge of Revenues and Funds.** The Authority pledges for the payment of the Bonds, in accordance with their terms and the provisions of the Resolution, the Act and the Agreement permitting the application thereof for or to the purposes and on the terms and conditions therein set forth: (i) all Revenues, (ii) all moneys or securities in any of the Funds and Accounts created under the Resolution, except that moneys or securities on deposit in a Special Account are pledged only to the Series of Bonds to which such Account relates and moneys or securities on deposit in the Common Account are pledged only to the Bonds for which a Special Account has not been established pursuant to the General Resolution, and (iii) all other moneys and securities to be received, held or set aside by the Authority or by any Fiduciary pursuant to the Resolution.

The Act provides that (i) the pledges made by the Resolution are valid, binding and perfected from the time when they are made and property so pledged shall immediately be subject to the lien of such pledges without any physical delivery thereof or further act, (ii) the lien of such pledges shall be valid, binding and perfected as against all parties having claims of any kind in tort, contract or otherwise against the Authority irrespective of whether such parties have notice thereof and (iii) no instrument by which such pledges are created nor any financing statement need be recorded or filed. Accordingly, no financing statements have been or will be filed. Based upon the foregoing, the Authority represents in the Resolution that under the laws of the State (i) the Resolution creates valid and binding pledges in favor of the Holders from time to time of the Bonds, enforceable in accordance with the terms thereof, (ii) the pledges made thereby and each pledge made to secure obligations of the Authority which, by the terms thereof, are prior to or of equal rank with such pledge are and shall be prior to any judicial lien thereafter imposed on the property pledged thereby to enforce a judgement against the Authority on a simple contract and (iii) no instrument by which such pledges are created nor any financing statement need be recorded or filed in order to establish or maintain such priority. The Authority further represents in the Resolution that, the Authority has not made a pledge of, granted a lien on or security interest in, or made an assignment or sale of the Revenues or any other property pledged thereby that is prior to or of equal rank with the pledge made thereby and neither the Revenues nor any other property pledged thereby have been described in any financing statement. Except as expressly permitted by the Resolution, the Authority shall not make or suffer to exist any pledge or assignment of, lien on or security interest in the Revenues or other property pledged thereby that is prior to or of equal rank with the pledge made thereby, or file any financing statement describing any such pledge, assignment, lien or security interest, except in connection with pledges, assignments, liens or security interests expressly permitted by the Resolution.

As further security for the payment of the principal or Redemption Price of and interest on the Bonds, the Authority, under the Resolution, assigns, transfers and pledges to the Trustee all of its rights and interests under and pursuant to the Agreement (excluding rights to notice and other procedural rights, its right to indemnification and rights and interests not material to Bondholders), including, without limiting the generality of the foregoing, the present and continuing right: (i) to make claim for, collect or cause to be collected or receive or cause to be received, from the Board, all Revenues thereunder, (ii) to bring actions and proceedings thereunder for the enforcement thereof, and (iii) to do any and all things which the Authority is or may become entitled to do under the Agreement; provided that such assignment shall not impair or diminish any obligation of the Authority under the Agreement.

The Bonds are special obligations of the Authority payable solely from the Revenues and other amounts described in the Resolution and do not and will not constitute an indebtedness of the State, the City or the Board and neither the State, the City nor the Board shall be in any way liable thereon. (*Sections 203 and 501*)

**Establishment of Funds and Accounts.** The Resolution establishes the following Funds:

- (1) Construction Fund;
- (2) Revenue Fund;
- (3) Debt Service Fund;
- (4) Authority Expense Fund;
- (5) Debt Service Reserve Fund;
- (6) Subordinated Indebtedness Fund;
- (7) Surplus Fund; and
- (8) Arbitrage Rebate Fund.

The Resolution establishes in the Debt Service Reserve Fund a separate account known as the “Common Account”, and provides that any Supplemental Resolution which authorizes a Special Credit Facility may establish one or more “Special Accounts” in the Debt Service Reserve Fund. The Resolution also establishes in the Debt Service Reserve Fund a separate account to be known as the “Capitalized Interest Account”.

The Trustee shall hold all of the Funds and Accounts, except the Authority Expense Fund, which shall be held by the Authority.

The Trustee is directed to make withdrawals and transfers from the Funds and Accounts established by the Resolution in order to comply with any agreement entered into upon or after the date of issuance of the Authority's Fiscal 1987 Series C Bonds providing for the rebate of certain arbitrage earnings to the United States. (*Section 502*)

**Construction Fund.** The Authority shall deposit from time to time in the Construction Fund the net proceeds from the sale of each Series of Bonds and make the deposits in the Funds and Accounts required by the applicable Supplemental Resolutions. The Authority shall also deposit from time to time in the Construction Fund any other amounts required to be deposited therein pursuant to the Resolution or the Agreement, including amounts received by the Authority for or in connection with the System and determined by the Authority to be deposited therein. Any proceeds of insurance maintained by the Board or the City against physical loss of or damage to the System, or of contractors' performance bonds pertaining to the construction of the System, shall also be paid into the Construction Fund.

Except as otherwise provided, amounts in the Construction Fund may only be expended to pay Costs of Water Projects (including Costs of Issuance). The Trustee shall make payments from the Construction Fund, except as otherwise provided, only upon receipt of a Disbursement Request signed by an Authorized Representative of the Authority.

To the extent that other moneys are not available therefor in any other Fund or Account, amounts in the Construction Fund shall be applied to the payment of principal of and interest on Bonds when due. (*Section 503*)

**Allocation of Revenues—Revenue Fund.** The Authority shall cause all Revenues received from the Board pursuant to the Agreement or otherwise to be paid to the Trustee and deposited promptly upon receipt in the Revenue Fund. There shall also be deposited in the Revenue Fund all other amounts required by the Resolution or the Agreement to be so deposited. (*Section 504*)

**Payments Into Certain Funds.** From the Revenues in the Revenue Fund, the Trustee shall make, as soon as practicable in each month, the following deposits in the following order:

(i) to the Debt Service Fund all such amounts until the amount therein on deposit in such month equals the Minimum Monthly Balance for such month for all Series of Bonds Outstanding;

(ii) from the balance, if any, remaining in such month after making the deposits required in (i) above, to the Authority Expense Fund the entire balance until the total on deposit therein in such month is equal to the product obtained by multiplying (A) the sum of the Authority Expenses for the then current Fiscal Year plus (if included in the Authority Budget for the then current Fiscal Year) an amount (the "Reserve for Expenses") equal to one-sixth (th) of such Authority Expenses by (B) a fraction, the numerator of which is 12 minus the number of full months, excluding the month of calculation, remaining in the Fiscal Year, and the denominator of which is 12;

(iii) from the balance, if any, remaining after making the deposits required in (i) and (ii) above, *first*, to the Common Account in the Debt Service Reserve Fund, the amount, if any, necessary to make the total on deposit in the Common Account equal to the Debt Service Reserve Requirement for the Bonds to which such Common Account relates or, if less than sufficient, the entire balance and, *second*, to each Special Account until the amount therein on deposit equals the Debt Service Reserve Requirement for the Bonds to which each Special Account relates; provided, however, if the balance remaining is less than sufficient to credit in full each Special Account, credit shall be made pro rata among all Special Accounts in the same ratio as the Debt Service Reserve Requirement related to such Special Account bears to the sum of the Debt Service Reserve Requirements for all of the Bonds related to the Special Accounts; and

(iv) from the balance, if any, remaining after making the deposits required in (i), (ii) and (iii) above, to the Subordinated Indebtedness Fund the amount required to be deposited in accordance with the Authority Budget, or the entire balance, if less than sufficient.

Beginning with the first day of each Fiscal Year, the Trustee shall calculate the amounts deposited in the Revenue Fund on a daily basis until the total of all amounts deposited therein during such Fiscal Year is at least equal to the Cash Flow Requirement. On such date, if any, the Trustee is directed to give the notice to the Authority and the Board provided in Section 4.3(b) of the Agreement. Thereafter, during each Fiscal Year, no further Revenues shall be paid to the Trustee pursuant to paragraph Fourth of Section 4.2(c) of the Agreement so long as the Cash Flow Requirement, as the same may be revised from time to time, continues to be met. *(Section 505)*

**Debt Service Fund.** The Trustee shall, for each Series of Bonds Outstanding, pay from the Debt Service Fund the amounts due on each Bond Payment Date for the payment of the Principal Installments, if any, and from the moneys in the Debt Service Fund, including moneys in the Capitalized Interest Account in such Fund, interest on the Outstanding Bonds and on the redemption date or date of purchase, the amounts required for the payment of accrued interest on Bonds to be redeemed or purchased on such date unless the payment of such accrued interest shall be otherwise provided.

The Trustee may, and if so directed by an Authorized Representative of the Authority shall, prior to the forty-fifth day preceding the due date of each Sinking Fund Installment, apply the amounts accumulated in the Debt Service Fund for such Sinking Fund Installment, together with any interest on the Bonds for which such Sinking Fund Installment was established: (i) to the purchase of Bonds of like Series and maturity at prices (including any brokerage and other charges) not exceeding the Redemption Price payable for such Bonds when such Bonds are redeemable with such Sinking Fund Installment plus unpaid interest accrued or (ii) to the redemption of such Bonds, if redeemable by their terms, at or below said Redemption Price. Upon such purchase or redemption of any Bond, the Trustee shall then credit an amount equal to the principal of the Bond so purchased or redeemed toward the next Sinking Fund Installments thereafter to become due and the amount of any excess over the amount of such Sinking Fund Installment shall be credited against future Sinking Fund Installments in direct chronological order.

In any event, the Trustee shall, as soon as practicable after the forty-fifth day preceding the due date of any such Sinking Fund Installment, call for redemption a sufficient amount of Bonds of like Series and maturity to complete the retirement of the principal amount specified for such Sinking Fund Installment of such Bonds whether or not it then has moneys in the Debt Service Fund to pay the applicable Redemption Price thereof on the redemption date. The Trustee shall apply to the redemption of the Bonds on each such redemption date the amount required for the redemption of such Bonds. *(Sections 506 and 514)*

**Authority Expense Fund.** The Authority shall apply amounts credited to the Authority Expense Fund to the payment of Authority Expenses. Any moneys in the Authority Expense Fund which the Authority determines are in excess of that needed to meet the sum of the unpaid Authority Expenses for such Fiscal Year plus (if such amount was included in the Authority Budget for such Fiscal Year) the Reserve for Expenses, shall be applied toward any deficiencies in the following Funds and Accounts in the order stated: the Debt Service Fund, Debt Service Reserve Fund and Subordinated Indebtedness Fund. Any remaining amounts shall be credited to the Revenue Fund. *(Section 507)*

**Debt Service Reserve Fund.** The Resolution establishes a Debt Service Reserve Fund and a Common Account therein. In addition, the Resolution provides that any Supplemental Resolution which provides for a Special Credit Facility to secure the principal, interest or Tender Option Price of any Bonds may establish one or more "Special Accounts" in the Debt Service Reserve Fund. From the proceeds of each Series of Bonds there shall be deposited in the Debt Service Reserve Fund the amount, if any, necessary to make the amount on deposit therein equal to the Debt Service Reserve Requirement, after giving effect to the issuance of such Bonds; and all such amounts will be credited to the Common Account, unless a Supplemental Resolution requires a deposit in a Special Account. Amounts on deposit in the Common Account will be applied, to the extent necessary, to pay the Principal Installments of and interest on the Bonds; provided, however, that the amounts in the Common Account may not be applied to pay the Principal Installments or Tender Option Price of or interest on Bonds for which such payments are secured by a Special Credit Facility, if the Supplemental Resolution authorizing such Bonds has established a Special Account. Likewise, amounts in any Special Account may not be applied to pay the

Principal Installments of or interest on any Bond for which such payments may be made from the Common Account. Amounts on deposit in each of the Accounts in the Debt Service Reserve Fund shall be applied, to the extent other funds are not available in the Surplus Fund, the Subordinated Indebtedness Fund and the Authority Expense Fund, to pay the Principal Installments of, and interest on the Bonds to which such Account relates when due. Amounts so applied shall be derived first from cash or Investment Securities on deposit, and second from draws and demands on Financial Guaranties.

If, as of June 30 of each year, the amount in any Account in the Debt Service Reserve Fund exceeds the applicable Debt Service Reserve Requirement after giving effect to any Financial Guaranty deposited in such Fund, the Trustee shall, on the first business day of the following Fiscal Year, withdraw from such Account the amount of any excess therein over the applicable Debt Service Reserve Requirement as of the date of such withdrawal for deposit into (i) the Arbitrage Rebate Fund, the amount estimated by the Authority to be required by the Code to be rebated to the Department of the Treasury, (ii) the Surplus Fund, the amount required to be deposited therein in accordance with the Authority Budget, and (iii) the Revenue Fund, the amount of any excess then remaining in the Debt Service Reserve Fund over the applicable Debt Service Reserve Fund Requirement.

Whenever the amount (exclusive of Financial Guaranties) in all of the Accounts in the Debt Service Reserve Fund, together with the amount in the Debt Service Fund, is sufficient to pay all Outstanding Bonds in accordance with their respective terms, the funds on deposit in the Debt Service Reserve Fund shall be transferred to the Debt Service Fund and applied to the redemption or payment at maturity of all Bonds Outstanding.

In lieu of the required deposits and transfers to the Debt Service Reserve Fund, the Authority may cause to be deposited into the Debt Service Reserve Fund Financial Guaranties in an amount equal to the difference between the Debt Service Reserve Requirement and the sums, if any, then on deposit in the Debt Service Reserve Fund or being deposited in the Debt Service Reserve Fund concurrently with such Financial Guaranties. The Financial Guaranties shall be payable (upon the giving of notice as required thereunder) on any date on which moneys will be required to be withdrawn from the Debt Service Reserve Account and applied to the payment of a Principal Installment of or interest on any Bonds and such withdrawal cannot be met by amounts on deposit in the Debt Service Reserve Fund. If a disbursement is made pursuant to Financial Guaranties, the Authority shall be obligated either (i) to reinstate the maximum limits of such Financial Guaranties or (ii) to deposit into the Debt Service Reserve Fund, funds in the amount of the disbursement made under such Financial Guaranties, or a combination of such alternatives, as shall provide that the amount in the Debt Service Reserve Fund equals the Debt Service Reserve Requirement.

In the event of the refunding of any Bonds, the Trustee shall, upon the written direction of the Authority, withdraw from the Debt Service Reserve Fund all or any portion of amounts accumulated therein with respect to the Bonds being refunded and deposit such amounts as provided in such written direction; provided that such withdrawal shall not be made unless (a) immediately thereafter the Bonds being refunded shall be deemed to have been paid pursuant to Section 1201 of the Resolution, and (b) the amount remaining in the Debt Service Reserve Fund after such withdrawal shall not be less than the Debt Service Reserve Requirement. (*Section 508*)

**Subordinated Indebtedness Fund.** The Trustee shall apply amounts on deposit in the Subordinated Indebtedness Fund solely to the maintenance of reserves for, or the payment of, Subordinated Indebtedness (or as otherwise provided by the resolution of the Authority authorizing each issue of Subordinated Indebtedness). The Trustee shall withdraw from the Subordinated Indebtedness Fund any amount necessary to render the balances in the Debt Service Fund or Debt Service Reserve Fund sufficient to meet the requirements of such Funds. (*Section 509*)

**Surplus Fund.** The Trustee shall, on each Bond Payment Date, apply moneys credited to the Surplus Fund in the following amounts: (i) to the Debt Service Fund the amount, if any, necessary (or all the moneys in the Surplus Fund if less than the amount necessary) to make up any deficiency in the amount required to be on deposit in such Fund and (ii) to the Debt Service Reserve Fund the amount, if any, necessary (or all the moneys in the Surplus Fund if less than the amount necessary) to make up any

deficiency in the amount required to be on deposit in any Account in such Fund. Such transfer shall be made notwithstanding any other provisions of this Resolution requiring deposits in such Funds. Amounts on deposit in the Surplus Fund on the last day of a Fiscal Year shall be withdrawn from such Fund and transferred to the Board for deposit in the Local Water Fund. (*Section 510*)

**Arbitrage Rebate Fund.** Amounts on deposit in the Arbitrage Rebate Fund shall be applied by the Trustee to make payments to the Department of the Treasury of the United States of America. Notwithstanding the foregoing, the Trustee shall apply moneys credited to the Arbitrage Rebate Fund in the following amounts: (i) to the Debt Service Fund the amount, if any, necessary (or all the moneys in the Arbitrage Rebate Fund if less than the amount necessary) to make up any deficiency in the amount required to be on deposit in the Debt Service Fund and (ii) to the Debt Service Reserve Fund the amount, if any, necessary (or all the moneys in the Arbitrage Rebate Fund if less than the amount necessary) to make up any deficiency in the amount required to be on deposit in any Account in the Debt Service Reserve Fund.

Amounts on deposit in the Arbitrage Rebate Fund in excess of the amount required to be maintained therein for the purposes of such Fund may be transferred and paid by the Trustee to the Surplus Fund. (*Section 510-a*)

**Subordinated Indebtedness.** The Authority may issue Subordinated Indebtedness payable out of and secured by a pledge of and lien on amounts in the Subordinated Indebtedness Fund available for such payment. Such Subordinated Indebtedness, however, shall be issued only for the purposes set forth in the Resolution and shall be secured by a pledge subordinate in all respects to the pledge created by the Resolution as security for the Bonds. (*Section 511*)

**Depositaries.** All moneys or securities held by the Trustee shall constitute trust funds and the Trustee may and shall, if directed by the Authority, deposit such moneys or securities with one or more Depositaries. All moneys or securities held by the Authority in the Authority Expense Fund shall be deposited with one or more Depositaries. All moneys or securities deposited under the provisions of the Resolution with the Trustee or any Depositary shall be held in trust and applied only in accordance with the provisions of the Resolution, and each of the Funds established by the Resolution shall be a trust fund for the purposes thereof.

Each Depositary holding moneys or securities in trust for the Trustee shall be a bank or trust company organized under the laws of the State or a national banking association (having its principal office within the State), having capital stock, surplus and undivided earnings aggregating at least \$100,000,000 and willing and able to accept the office on reasonable and customary terms and authorized by law to act in accordance with the provisions of the Resolution. (*Section 512*)

**Investment of Certain Funds.** Moneys held in the Debt Service Fund, the Debt Service Reserve Fund and the Subordinated Indebtedness Fund (subject to the terms of any resolutions or other instruments securing any issue of Subordinated Indebtedness) shall be invested and reinvested to the fullest practicable extent in Investment Securities which mature not later than such times as shall be necessary to provide moneys when needed to make payments required from such Funds; provided that in the case of the Debt Service Reserve Fund maturation may not occur later than fifteen years from the date of such investment, and in the case of the Debt Service Fund, investments shall be of the type described in clauses (ii), (iii) and (vi), and in the case of the Debt Service Reserve Fund, clauses (ii) and (iii), of the definition of "Investment Securities" (in either case, to the fullest extent practicable). Moneys in the Authority Expense Fund, the Revenue Fund, the Construction Fund, the Arbitrage Rebate Fund and the Surplus Fund may be invested in Investment Securities which mature no later than such times as shall be necessary to provide moneys when needed to make payments from such Funds. The Trustee shall make all investments in accordance with written instructions from any Authorized Representative of the Authority. Moneys in any Fund or Account may be combined with moneys in any other Fund or Account for the purpose of making such investments in Investment Securities.

Interest (net of that which represents a return of accrued interest paid in connection with the purchase of any investment) earned on any moneys or investments in such Funds and Accounts, other

than the Construction Fund, the Arbitrage Rebate Fund and the Debt Service Reserve Fund, shall be paid into the Revenue Fund as and when received. Interest (net of that which represents a return of accrued interest paid in connection with the purchase of any investment) earned on any moneys or investments in (i) the Debt Service Reserve Fund shall be paid into the Arbitrage Rebate Fund or the Surplus Fund, (ii) the Construction Fund shall be paid to the Board for deposit in the Local Water Fund quarterly, on the 15th day of each July, October, January and April of each Fiscal Year upon receipt of a written request and a certificate of the Authority relating to the satisfaction of the Cash Flow Requirement and (iii) the Arbitrage Rebate Fund shall remain in such fund.

All Investment Securities acquired with moneys in any Fund or Account, including any Fund or Account held by the Authority, shall be held by the Trustee in pledge or by a Depository as agent in pledge in favor of the Trustee. (*Section 514*)

**Additional Bonds.** The Authority may issue Bonds from time to time without limitation as to amount except as provided in the Resolution or as specified by law to generate funds sufficient to meet the Costs of Water Projects, to make deposits in the Funds and Accounts or to refund Outstanding Bonds, Bond Anticipation Notes, Subordinated Indebtedness or outstanding bonds of the City issued to pay the capital costs of the System. All Bonds shall be issued subject to the terms, conditions and limitations established in the Resolution and in one or more Series as therein provided.

Bonds shall be authenticated and delivered only upon the Trustee's receipt of, among other items:

- (a) a certified copy of the Supplemental Resolution authorizing such Series;
- (b) (i) in the case of the initial Series of Bonds, an executed copy of the Agreement and the Lease; and (ii) in the case of any subsequent Series of Bonds, an executed copy of any amendment or supplement to the Agreement or the Lease not theretofore delivered to the Trustee;
- (c) except in the case of Series of Bonds issued prior to July 1, 1986 and any Series of Refunding Bonds issued pursuant to Section 207 of the Resolution, a certificate of an Authorized Representative of the Authority setting forth (i) the Revenues for either of the last two full Fiscal Years immediately preceding the Fiscal Year in which such Bonds are to be issued and (ii) the Aggregate Debt Service during such Fiscal Year for which Revenues are set forth pursuant to clause (i) above (excluding from Aggregate Debt Service any Principal Installment or portion thereof which was paid from sources other than Revenues) and (iii) the sum of the Operating Expenses and the Required Deposits for such period, and showing that the amount set forth in (i) is at least equal to the sum of (x) an amount equal to 115% of the amount set forth in (ii) and (y) an amount equal to 100% of the amount set forth in (iii);
- (d) except in the case of the initial Series of Bonds under the Resolution and any Series of Refunding Bonds issued pursuant to Section 207 of the Resolution, a certificate of the Consulting Engineer setting forth the projected Operating Expenses for each of the five Fiscal Years following the Issuance of such Series of Bonds (plus the Fiscal Year in which such Bonds are issued);
- (e) except in the case of the initial Series of Bonds under the Resolution and any Series of Refunding Bonds issued pursuant to Section 207, a certificate, signed by an Authorized Representative of the Authority setting forth the estimated Required Deposits for each of the five Fiscal Years following the issuance of such Series of Bonds (plus the Fiscal Year in which such Bonds are issued); and
- (f) except in the case of the initial Series of Bonds under the Resolution and any Series of Refunding Bonds issued pursuant to Section 207, a certificate of the Rate Consultant (i) setting forth the estimated Revenues for each of the five Fiscal Years following the issuance of such Series of Bonds (plus the Fiscal Year in which such Bonds are issued) after giving effect to any increases or decreases in rates, fees and charges projected for such Fiscal Years and (ii) showing for each such Fiscal Year that the estimated Revenues for such Fiscal Year will be at least equal to the sum of (A) 115% of the maximum estimated Adjusted Aggregate Debt Service on all Bonds then



Outstanding including the Bonds to be issued, and (B) 100% of the sum of the projected Operating Expenses and Required Deposits, as shown on the Certificate of the Consulting Engineer delivered pursuant to paragraph (e) above and the Certificate of the Authority delivered pursuant to paragraph (f) above, respectively. (*Sections 204 and 206*)

**Refunding Bonds.** One or more Series of Refunding Bonds may be issued pursuant to Section 207 of the Resolution at any time to refund any Outstanding Bonds provided that (i) estimated average annual Debt Service on such Series of Refunding Bonds shall not exceed the average annual Debt Service on the Bonds to be refunded and (ii) the maximum Debt Service in any Fiscal Year on such Series of Refunding Bonds shall not exceed the maximum Debt Service in any Fiscal Year on the Bonds to be refunded, all as shown in a Certificate signed by an Authorized Representative of the Authority and delivered to the Trustee prior to the authentication and delivery of such Series of Refunding Bonds. Refunding Bonds shall be issued in a principal amount sufficient, together with other moneys available therefor, to accomplish such refunding and to make the deposits in the Funds and Accounts required by the provisions of the Supplemental Resolution authorizing such Bonds. (*Section 207*)

**Bond Anticipation Notes.** Whenever the Authority shall authorize the issuance of a Series of Bonds, the Authority may, by resolution, authorize the issuance of notes (and renewals thereof) in anticipation of such Series of Bonds. The principal of and interest on such notes and renewals thereof shall be payable from the proceeds of such notes or from the proceeds of the sale of the Series of Bonds in anticipation of which such notes are issued. The proceeds of such Bonds may be pledged for the payment of the principal of and interest on such notes and any such pledge shall have a priority over any other pledge of such proceeds created by the Resolution. The Authority may also pledge the Revenues to the payment of the interest on, and subject to Section 707 of the Resolution, the principal of such notes. A copy of the Resolution of the Authority authorizing such notes, certified by an Authorized Representative of the Authority, shall be delivered to the Trustee following its adoption, together with such other information concerning such notes as the Trustee may reasonably request. (*Section 208*)

**Credit Facilities.** In connection with the issuance of any Series of Bonds, the Authority may obtain or cause to be obtained one or more Credit Facilities providing for payment of all or a portion of the Principal Installments, or Redemption Price or interest due or to become due on such Bonds, providing for the purchase of such Bonds by the issuer of such Credit Facility or providing funds for the purchase of such Bonds by the Authority.

The Authority may secure such Credit Facility by an agreement providing for the purchase of the Series of Bonds secured thereby with such adjustments to the rate of interest, method of determining interest, maturity or redemption provisions as specified by the Authority in the applicable Supplemental Resolution. The Authority may also in an agreement with the issuer of such Credit Facility agree to directly reimburse such issuer for amounts paid under the terms of such Credit Facility, together with interest thereon (the "Reimbursement Obligation"); provided, however, that no Reimbursement Obligation shall be created until amounts are paid under such Credit Facility. Any such Reimbursement Obligation (a "Parity Reimbursement Obligation") may be secured by a pledge of, and a lien on Revenues on a parity with the lien created by Section 501 of the Resolution. Upon the payment of amounts under the Credit Facility which payment results in the Parity Reimbursement Obligation becoming due and payable, such Parity Reimbursement Obligation shall be deemed to be part of the Series of Bonds to which the Credit Facility which gave rise to such Parity Reimbursement Obligation relates.

Any such Credit Facility shall be for the benefit of and secure such Series of Bonds or portion thereof, as specified in the applicable Supplemental Resolution. (*Section 209*)

**Indebtedness and Liens.** The Resolution provides that the Authority shall not issue any bonds, or other evidences of indebtedness, other than the Bonds, Bond Anticipation Notes, Subordinated Indebtedness and Parity Reimbursement Obligations, secured by a pledge of or other lien on the Revenues and shall not create or cause to be created any lien on such Revenues or on any amounts held by any Fiduciary, under the Resolution; however, the Authority may: (i) issue notes payable from the proceeds of Bonds or other obligations for the corporate purposes of the Authority payable or secured

by Revenues derived on and after such date as the pledge of the Revenues provided in the Resolution is discharged and satisfied and (ii) issue bonds or other obligations for the corporate purposes of the Authority payable out of or secured by the pledge of amounts in the Local Water Fund after satisfaction of the Cash Flow Requirement for the then current Fiscal Year, and which recite on their face that such pledge of said amounts is and shall be in all respects subordinate to the provisions of the lien and pledge created by the Resolution. (*Section 707*)

**Agreement of the State.** In accordance with Section 1045-t of the Act, the Authority agrees, for and on behalf of the State, that the State will not alter or limit the rights vested by the Act in the Authority or the Board to fulfill the terms of any agreement made with or for the benefit of the Bondholders, or in any way impair the rights and remedies of Bondholders, until the Bonds, together with the interest thereon, with interest on any unpaid installment of interest, and all costs and expenses in connection with any action or proceeding by or on behalf of such holders, are fully met and discharged. (*Section 711*)

**Authority Budget.** The Authority shall, on or before May 1, in each Fiscal Year, adopt and file with the Trustee, the Board and the City, a certified copy of the Authority Budget showing the estimated Cash Flow Requirement and the components thereof (on a monthly basis) for the ensuing Fiscal Year, together with any other information required to be set forth therein by the Resolution or the Agreement. Such Authority Budget may set forth such additional information as the Authority may determine or as the Board or the City may request. If for any reason the Authority shall not have adopted the Authority Budget before such May 1, the Authority Budget for the then current Fiscal Year shall be deemed to be the Authority Budget for the ensuing Fiscal Year until a new Authority Budget is adopted. The Authority may at any time adopt an amended Authority Budget for the then current or ensuing Fiscal Year, but no such amended Authority Budget shall supercede any prior Budget until the Authority shall have filed with the Trustee, the Board and the City a copy of such amended Authority Budget. Each month the Authority shall recalculate the Cash Flow Requirement. (*Sections 712 and 713*)

**Enforcement and Amendment of Agreement and Lease.** The Authority shall enforce or cause to be enforced the provisions of the Agreement and the Lease and duly perform its covenants and agreements under the Agreement. The Authority will not consent or agree to or permit any rescission of or amendment to or otherwise take any action under or in connection with the Agreement or the Lease except in accordance with Article X of the Agreement of the Resolution. (*Section 714*)

**Supplemental Resolutions.** The Resolution permits the modification or amendment of the rights and obligations of the Authority and of the holders of the Bonds thereunder by a Supplemental Resolution, with the written consent of the holders of two-thirds of the principal amount of: (i) the Bonds then Outstanding and (ii) in case less than all of the several Series of Bonds then Outstanding are affected by the modification or amendment, of the Bonds of the Series so affected and then Outstanding; however, if such modification or amendment will, by its terms, not take effect so long as any Bonds of any specified like Series and maturity remain Outstanding, the consent of the holders of such Bonds shall not be required and such Bonds shall not be deemed to be Outstanding for the purpose of modification; provided no such modification or amendment shall change the terms of redemption, maturity of principal, installment of interest, or reduce the principal amount, Redemption Price, or rate of interest without the consent of the holder of the affected Bond, or reduce the percentages of consents required to effect any future modification or amendment.

The Authority may adopt (without the consent of any holders of the Bonds) supplemental resolutions to authorize additional Bonds; to add to the restrictions contained in the Resolution upon the issuance of additional indebtedness; to add to the covenants of the Authority contained in, or surrender any rights reserved to or conferred upon it by, the Resolution; to confirm any pledge under the Resolution of Revenues or other moneys; to preserve the Federal tax exemption of interest on the Bonds; or otherwise to modify any of the provisions of the Resolution (but no such other modification may be effective while any of the Bonds of any Series theretofore issued are Outstanding); or to cure any ambiguity, supply any omission or to correct any defect in the Resolution or to insert such provisions clarifying matters or questions arising under the Resolution as are necessary or desirable, and are not contrary to or inconsistent with the Resolution as theretofore in effect or to provide for additional duties of the Trustee (provided that the Trustee shall consent thereto). (*Arts. VIII and IX*)

**Defaults and Remedies.** The Resolution provides that if one or more of the following Events of Default shall occur, namely: (i) a default in the payment of the principal or Redemption Price of any Bond; (ii) a default in payment of any installment of interest on any Bond; (iii) a default by the Authority in the performance or observance of any other of its covenants, agreements or conditions in the Resolution for a period of 45 days after written notice thereof; (iv) a default under the Agreement or the Lease by the Board or the City for a period of 45 days after written notice thereof; or (v) a filing of a petition for relief under any Federal or State bankruptcy or similar law by the Authority; then, upon the happening and continuance of any Event of Default, the Trustee may, and upon the written request of the holders of not less than a majority in principal amount of the Bonds Outstanding the Trustee shall, declare the principal and accrued interest on all the Bonds then Outstanding, due and payable immediately subject, however, to rescission of such declaration and annulment of the default upon the remedying thereof.

The Authority covenants that upon the occurrence of an Event of Default, the books of record and account of the Authority shall at all times be subject to the inspection and use of the Trustee and of its agents and attorneys and that, upon demand of the Trustee, the Authority will account, as if it were the trustee of an express trust, for all Revenues and other moneys, securities and funds pledged or held under the Resolution for such period as shall be stated in such demand.

Upon default, the Trustee may proceed to protect and enforce its rights and the rights of the holders of the Bonds under the Resolution forthwith by a suit or suits in equity or at law, whether for the specific performance of any covenant therein contained, or in aid of the execution of any power therein granted, or for an accounting against the Authority as if the Authority were the trustee of an express trust, or in the enforcement of any other legal or equitable right as the Trustee, being advised by counsel, shall deem most effectual to enforce any of its rights or to perform any of its duties under the Resolution. During the continuance of an Event of Default, Revenues shall be applied first, to the reasonable and proper charges and expenses of the Trustee; then (unless the principal of all of the Bonds shall have been declared payable) to the payment of all unpaid interest ratably, and then to unpaid principal or Redemption Price, ratably; and if all of the principal of the Bonds shall be due and payable, to the payment of unpaid principal and interest, without preference or priority of interest over principal, principal over interest or of any Bond or installment over any other Bond or installment, without any discrimination or preference. No Bondholder has any right to institute suit to enforce any provision of the Resolution or the execution of any trust thereunder or for any remedy thereunder, unless the Trustee has been requested by the holders of at least a majority in principal amount of the Bonds to take such action and has been offered adequate security and indemnity and has failed to commence such suit in the manner provided in the Resolution. The right to appoint a statutory trustee under Section 1045-p of the Act is expressly abrogated. (*Art. X*)

**Defeasance of Bonds Other than Variable Rate or Option Bonds.** Any Outstanding Bond shall prior to the maturity or redemption date thereof be deemed to have been paid and shall cease to be entitled to any lien, benefit or security under the Resolution if (i) in the case of any Bonds to be redeemed prior to their maturity, the Authority shall have given to the Trustee irrevocable instructions accepted in writing by the Trustee to publish on such date the notice of redemption therefor (other than Bonds purchased by the Trustee prior to the publication of the notice of redemption), (ii) there shall have been deposited with the Trustee either moneys in an amount sufficient, or Defeasance Obligations the principal of and/or the interest on which, when due, without reinvestment, will, as verified by the report of a firm of nationally recognized independent certified public accountants, provide moneys which, together with the moneys deposited shall be sufficient, to pay when due the principal or Redemption Price (if applicable) and interest due and to become due on said Bonds and (iii) in the event said Bonds are not by their terms subject to redemption within the next succeeding 60 days, the Authority shall have given the Trustee irrevocable instructions to publish, as soon as practicable, a notice to the holders of such Bonds that the deposit required above has been made with the Trustee and that said Bonds are deemed paid in accordance with the Resolution and stating such maturity or redemption date upon which moneys are to be available to pay the principal or Redemption Price, if applicable, on such Bonds (other than Bonds purchased by the Trustee prior to the publication of the notice of redemption); provided that any

notice published for Bonds constituting less than all of the Outstanding Bonds of any maturity within a Series shall specify the letter and number or other distinguishing mark of each such Bond. The Trustee shall, to the extent necessary, apply moneys to the retirement of said Bonds in amounts equal to the unsatisfied balances of any Sinking Fund Installments thereto.

The Trustee shall, if so directed by the Authority prior to the maturity date of Bonds deemed to have been paid which are not to be redeemed prior to their maturity date or prior to the publication of the above notice of redemption for Bonds deemed paid and to be redeemed, apply moneys deposited with the Trustee in respect of such Bonds and redeem or sell Defeasance Obligations so deposited with the Trustee and purchase such Bonds and the Trustee shall immediately thereafter cancel all such Bonds so purchased; provided, however, that the moneys and Defeasance Obligations remaining on deposit with the Trustee after the purchase and cancellation of such Bonds shall be sufficient to pay when due the Principal Installment or Redemption Price, if applicable, and interest due or to become due on all Bonds.

**Defeasance of Variable Rate Bonds.** The Resolution provides that for the purposes of determining whether Variable Rate Bonds shall be deemed to have been paid prior to the maturity or redemption date thereof, by the deposit of moneys, or Defeasance Obligations and moneys (if any), the interest due on such Bonds shall be calculated at the maximum rate permitted; provided, however, that if, as a result of such Bonds having borne interest at less than the maximum rate for any period, the total amount of moneys and Investment Securities on deposit with the Trustee for the payment of interest on such Bonds exceeds the total amount required to be deposited with the Trustee, the Trustee shall, if requested by the Authority, pay the amount in excess to the Authority free and clear of any lien or pledge securing the Bonds or otherwise existing under the Resolution.

**Defeasance of Option Bonds.** Under the Resolution, Option Bonds shall be deemed paid in accordance with the Resolution only if, in addition to satisfying several of the requirements applicable to other than Variable Rate or Option Bonds, there shall have been deposited with the Trustee moneys in an amount which shall be sufficient to pay the maximum amount of principal of and premium due, if any, and interest on such Bonds which could become payable to the holders of such Bonds upon the exercise of any options provided to the holders of such Bonds; provided, however, that if the options originally exercisable by the holder of an Option Bond are no longer exercisable, such Bond shall not be considered an Option Bond. (*Section 1201*)

**FINANCIAL STATEMENTS**

**FISCAL YEAR 2002 AND 2003 AUDITED FINANCIAL STATEMENTS OF  
THE NEW YORK CITY WATER AND SEWER SYSTEM**

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**FORM OF OPINION OF BOND COUNSEL**

**FORM OF OPINION OF BOND COUNSEL**  
**(Fiscal 2004 Series B Bonds)**

March , 2004

New York City Municipal  
 Water Finance Authority

Ladies and Gentlemen:

We have examined a record of proceedings relating to the issuance of \$347,615,000 aggregate principal amount of Water and Sewer System Bonds, Fiscal 2004 Series B (the “2004 Series B Bonds”) by the New York City Municipal Water Finance Authority (the “Authority”), a body corporate and politic constituting a public benefit corporation of the State of New York (the “State”), created and existing under and pursuant to the Constitution and statutes of the State, including the New York City Municipal Water Finance Authority Act, being Title 2-A of Article 5 of the Public Authorities Law of the State, as amended (which, together with Section 1046 of the Public Authorities Law of the State, is herein referred to as the “Act”).

The 2004 Series B Bonds are issued under and pursuant to the Act and a resolution of the Authority adopted November 14, 1985 entitled “Water and Sewer System General Revenue Bond Resolution,” as amended and supplemented the date hereof (the “Resolution”), including by a resolution adopted February , 2004 entitled “Sixty-seventh Supplemental Resolution Authorizing the Issuance of Water and Sewer System Revenue Bonds, Fiscal 2004 Series B” (the “Sixty-seventh Supplemental Resolution”) authorizing the 2004 Series B Bonds. Capitalized terms used herein and not otherwise defined have the respective meanings given to them in the Resolution.

Pursuant to the Act, the New York City Water Board (the “Board”), a public benefit corporation of the State, created and existing under the laws of the State, and The City of New York (the “City”), a municipal corporation of the State, have entered into a lease agreement, dated as of July 1, 1985, as amended (the “Lease”), whereby the Board has leased the New York City Water and Sewer System from the City for a term ending on the date on which all bonds, notes or other obligations of the Authority have been paid in full or provision for such payment shall have been made in accordance with the instruments under which they were issued. Pursuant to the Act, the Authority, the Board and the City have entered into a financing agreement, dated as of July 1, 1985, as amended (the “Financing Agreement”), relating to, among other things, the financing of Water Projects.

The 2004 Series B Bonds are part of an issue of bonds of the Authority (the “Bonds”) which the Authority has created under the terms of the Resolution and is authorized to issue from time to time for the purposes authorized by the Act and the Resolution, as then in effect, and without limitation as to amount except as provided in the Resolution or as may be limited by law. The 2004 Series B Bonds are being issued for the purposes of the Resolution.

The Authority is authorized to issue Bonds, in addition to the 2004 Series B Bonds, only upon the terms and conditions set forth in the Resolution, and such Bonds, when issued, shall, with all other such Bonds theretofore issued, be entitled to the equal benefit, protection and security of the provisions, covenants and agreements of the Resolution.

The 2004 Series B Bonds are dated the date hereof and mature on June 15 of the years and in the respective principal amounts, and bear interest at the respective rates per annum, set forth below.

<u>Maturity</u>	<u>Amount</u>	<u>Rate</u>	<u>Maturity</u>	<u>Amount</u>	<u>Rate</u>
2004	\$5,665,000	2%	2011	\$ 3,560,000	2¾%
2005	1,705,000	2	2012	4,620,000	3
2006	1,745,000	2	2012	27,020,000	5
2007	1,780,000	2¼	2014 (1)	7,685,000	3.40



<u>Maturity</u>	<u>Amount</u>	<u>Rate</u>	<u>Maturity</u>	<u>Amount</u>	<u>Rate</u>
2014 (1)	\$44,360,000	5%	2019	\$ 2,330,000	3.90%
2015 (1)	2,190,000	3½	2019	37,775,000	5
2015 (1)	58,435,000	5	2021	2,640,000	4.10
2016	740,000	3.70	2021	7,150,000	5
2016	13,200,000	5	2022	500,000	4.15
2017	165,000	3¾	2022	20,355,000	5
2017	18,230,000	5	2023	7,535,000	4¼
2018	105,000	3.90	2023 (1)	21,365,000	5
2018	56,760,000	5			

(1) Insured by Financial Security Assurance Inc.

Interest on the 2004 Series B Bonds is payable on June 15, 2004 and semiannually thereafter on December 15 and June 15 in each year.

The 2004 Series B Bonds are subject to redemption in the manner and upon the terms and conditions set forth in the Resolution. The 2004 Series B Bonds are issuable in the form of fully registered Bonds in denominations of \$5,000 or integral multiples thereof.

We are of the opinion that:

1. The Authority is a body corporate and politic constituting a public benefit corporation of the State, duly created and existing under the laws of the State with the right and lawful authority and power to enter into the Financing Agreement, to adopt the Resolution and the Sixty-seventh Supplemental Resolution and to issue the 2004 Series B Bonds.

2. The Resolution and the Sixty-seventh Supplemental Resolution have been duly and lawfully adopted by the Authority, are in full force and effect and are the legal, valid and binding agreements of the Authority enforceable in accordance with their terms. The Resolution and the Sixty-seventh Supplemental Resolution create the valid, binding and perfected pledges they purport to create of the Revenues and any moneys or securities on deposit in the Funds and Accounts created thereby, subject only to the provisions of the Resolution, the Sixty-seventh Supplemental Resolution and the Financing Agreement permitting the application thereof for or to the purposes and on the terms and conditions permitted thereby, including the making of any required payments to the United States with respect to arbitrage earnings.

3. The 2004 Series B Bonds have been duly and validly authorized and issued. The 2004 Series B Bonds are valid and binding special obligations of the Authority payable as provided in the Resolution, are enforceable in accordance with their terms and the terms of the Resolution and are entitled, together with all other Bonds issued under the Resolution to the benefits of the Resolution and the Act.

4. The 2004 Series B Bonds are payable solely from the Revenues and other amounts pledged to such payment under the Resolution. The 2004 Series B Bonds are not a debt of the State, the City or the Board and neither the State, the City, the Board nor any other political subdivision of the State is liable thereon.

5. The Lease and the Financing Agreement have been duly authorized, executed and delivered by the respective parties thereto and constitute valid and binding obligations of such parties, enforceable in accordance with their terms.

6. The Revenues derived from the operation of the System are the property of the Board. The Financing Agreement validly transfers the right, title and interest of the Board in the Revenues to the Authority to the extent and as provided in the Financing Agreement, subject only to the provisions of the Act, the Financing Agreement and the Resolution permitting the application thereof for or to the purposes, and on the terms and conditions, therein set forth.

7. By virtue of the Act, the Authority has a valid, binding and perfected statutory lien upon the Revenues to be paid by the Board to the Authority pursuant to the Financing Agreement and such lien constitutes a first priority security interest therein.

8. The Internal Revenue Code of 1986 (the “Code”) imposes certain requirements which must be met subsequent to the issuance and delivery of the 2004 Series B Bonds for interest thereon to be and remain excluded from gross income for federal income tax purposes. Noncompliance with such requirements could cause the interest on the 2004 Series B Bonds to be included in gross income for federal income tax purposes retroactive to the date of issue of the 2004 Series B Bonds. Pursuant to the Sixty-seventh Supplemental Resolution, the Authority has covenanted to maintain the exclusion from gross income of the interest on the Bonds pursuant to Section 103 of the Code, in furtherance thereof, to comply with the Tax Certificate as to Arbitrage and the Provisions of Sections 103 and 141-150 of the Code, with respect to the 2004 Series B Bonds for federal income tax purposes and that it shall provide for any required rebate to the United States.

9. Under existing law and assuming compliance with the aforementioned tax covenants, interest on the 2004 Series B Bonds is excluded from gross income for federal income tax purposes under Section 103 of the Code. We are also of the opinion that such interest on the 2004 Series B Bonds is not treated as a preference item in calculating the alternative minimum tax imposed under the Code with respect to individuals and corporations. Interest on the 2004 Series B Bonds is, however, included in the adjusted current earnings of certain corporations for purposes of computing the alternative minimum tax on such corporations.

Interest on the 2004 Series B Bonds is exempt, under existing law, from personal income tax of the State of New York and its political subdivisions, including The City of New York.

Bond Counsel is further of the opinion that the difference between the principal amount of the difference between the principal amounts of the 2004 Series B Bonds maturing on June 15, 2011, June 15, 2012 and bearing interest at the rate of 3% per annum, June 15, 2015 and bearing interest at the rate of 3½% per annum, June 15, 2017 and bearing interest at the rate of 3¾% per annum, June 15, 2019 and bearing interest at the rate of 3.90% per annum, June 15, 2022 and bearing interest at the rate of 4.15% per annum, and June 15, 2023 and bearing interest at the rate of 4¼% per annum (collectively, 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 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 2004 Series B Bonds. Further, the original issue discount accrues actuarially on a constant interest rate basis over the term of the Discount Bonds and the basis of each Discount Bond acquired at the initial offering price by its initial purchaser will be increased by the amount of the accrued original issue discount. The accrual of original issue discount may be taken into account as an increase in the amount of tax-exempt income for purposes of determining various other tax consequences of owning 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 the state and local tax consequences of owning Discount Bonds.

Except as stated in the preceding paragraphs, we express no opinion as to any other federal or state tax consequences of the ownership or disposition of the 2004 Series B Bonds. Furthermore, we express no opinion as to any federal, state or local tax law consequences with respect to the 2004 Series B Bonds, or the interest thereon, if any action is taken with respect to the 2004 Series B Bonds or the proceeds thereof upon the advice or approval of other counsel.

We have examined an executed 2004 Series B Bond, and, in our opinion, the form of said bond and its execution are regular and proper. However, we have not verified and express no opinion as to the accuracy of, any “CUSIP” identification number which may be printed on any of the 2004 Series B Bonds.

The above opinions are qualified to the extent that the enforceability of rights and remedies may be limited by bankruptcy, insolvency, or other laws affecting creditors’ rights and the unavailability of equitable remedies.

In rendering the opinions set forth in paragraphs 5 and 6 above, we wish to advise you that we have, with your consent, relied upon the opinion of the Corporation Counsel of The City of New York dated

the date hereof and addressed to you as to the validity, binding effect and enforceability of the Financing Agreement and the Lease with respect to the Board and the City. In rendering the priority of lien opinion set forth in paragraph 7 above, we have (i) relied upon a certification by the Board that it has not made or granted a pledge of or security interest in the Revenues to any person other than the Authority and that it has not taken any action which could result in the imposition by operation of law of any lien, charge or encumbrance upon the Revenues, and (ii) assumed, without making any independent investigation, that (1) no lien, charge or encumbrance upon the Revenues has been imposed or exists by operation of law that is prior to the lien in favor of the Authority and (2) no facts or circumstances have occurred or exist which could result in the imposition by operation of law of any lien, charge or encumbrance upon the Revenues that is prior to the lien in favor of the Authority.

Very truly yours,

**BOOK-ENTRY-ONLY FORM**

## **BOOK-ENTRY-ONLY FORM**

The Depository Trust Company (“DTC”), New York, NY, will act as securities depository for the Fiscal 2004 B Bonds. The Fiscal 2004 B Bonds will be issued as fully-registered securities registered in the name of Cede & Co. (DTC’s partnership nominee). One fully-registered bond certificate will be issued for each maturity of the Fiscal 2004 B Bonds, each in the aggregate principal amount of such maturity, and will be deposited with DTC. If, however, the aggregate principal amount of any maturity exceeds \$500 million, one certificate will be issued with respect to each \$500 million of principal amount and an additional certificate will be issued with respect to any remaining principal amount of such issue.

DTC, the world’s largest depository, is a limited-purpose trust company organized under the New York Banking Law, a “banking organization” within the meaning of the New York Banking Law, a member of the Federal Reserve system, a “clearing corporation” within the meaning of the New York Uniform Commercial Code, and a “clearing agency” registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934. DTC holds and provides asset servicing for over 2 million issues of U.S. and non-U.S. equity issues, corporate and municipal debt issues, and money market instruments from over 85 countries that DTC’s participants (“Direct Participants”) deposit with DTC. DTC also facilitates the post-trade settlement among Direct Participants of sales and other securities transactions in deposited securities through electronic computerized book-entry transfers and pledges between Direct Participants’ accounts. This eliminates the need for physical movement of securities certificates. Direct Participants include both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, clearing corporations, and certain other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation (“DTCC”). DTCC in turn is owned by a number of Direct Participants of DTC and Members of the National Securities Clearing Corporation, Government Securities Clearing Corporation, MBS Clearing Corporation, and Emerging Markets Clearing Corporation, also subsidiaries of DTCC, as well as by the New York Stock Exchange, Inc., the American Stock Exchange, Inc., 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”). DTC has Standard & Poor’s highest rating: AAA. The DTC Rules applicable to its Participants are on file with the Securities and Exchange Commission. More information about DTC can be found at [www.dtcc.com](http://www.dtcc.com).

Purchases of Fiscal 2004 B Bonds under the DTC system must be made by or through Direct Participants, which will receive a credit for the Fiscal 2004 B Bonds on DTC’s records. The ownership interest of each actual purchaser of each Fiscal 2004 B Bond (“Beneficial Owner”) is in turn to be recorded on the Direct and Indirect Participants’ records. Beneficial Owners will not receive written confirmation from DTC of their purchase. Beneficial Owners are, however, expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through which the Beneficial Owner entered into the transaction. Transfers of ownership interests in the Fiscal 2004 B 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 Fiscal 2004 B Bonds, except in the event that use of the book-entry system for the Fiscal 2004 B Bonds is discontinued.

To facilitate subsequent transfers, all Fiscal 2004 B 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 any series of bonds with DTC and their registration in the name of Cede & Co. or such other DTC nominee do not effect any change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of any Fiscal 2004 B Bonds; DTC’s records reflect only the identity of the Direct Participants to whose accounts such bonds are credited, which may or may not be the Beneficial Owners. The Direct and Indirect Participants will remain responsible for keeping account of their holdings on behalf of their customers.

Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Direct Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time.

Redemption notices shall be sent to DTC. If less than all of the Fiscal 2004 B Bonds within a maturity are being redeemed, DTC's practice is to determine by lot the amount of the interest of each Direct Participant in such maturity to be redeemed.

Neither DTC nor Cede & Co. (nor any other DTC nominee) will consent or vote with respect to Fiscal 2004 B 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 Fiscal 2004 B Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Principal and interest payments on the Fiscal 2004 B 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 Authority or Trustee on a payment date in accordance with their respective holdings shown on DTC's records. Payments by Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such Participant and not of DTC, the Trustee, or the Authority, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of principal, premium, if any, and interest to Cede & Co. is the responsibility of the Authority or 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.

DTC may discontinue providing its services as securities depository with respect to the Fiscal 2004 B Bonds at any time by giving reasonable notice to the Authority or the Trustee. Under such circumstances, in the event that a successor securities depository is not obtained, bond certificates are required to be printed and delivered.

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

Unless otherwise noted, the information contained in the preceding paragraphs of this subsection "Book-Entry-Only System" has been extracted from information given by DTC. Neither the Authority, the Trustee nor the Underwriters makes any representation as to the completeness or the accuracy of such information or as to the absence of material adverse changes in such information subsequent to the date hereto.

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

**SYSTEM MAPS**

**TABLE OF REFUNDED BONDS**



**TABLE OF REFUNDED BONDS**

## TABLE OF REFUNDED BONDS

The Authority expects to refund the Outstanding Bonds of the Series specified below by providing for the payment of the principal of and redemption premium, if any, and interest on such Bonds to the respective redemption dates set forth below. The refunding is contingent upon delivery of the Fiscal 2004 B Bonds.

<u>Series</u>	<u>Maturity Date</u>	<u>Principal Amount Outstanding</u>	<u>Principal Amount to be Refunded</u>	<u>Redemption Price</u>	<u>Redemption Date</u>
1994B	June 15, 2019(1)	\$ 33,000,000	\$ 33,000,000	101 %	June 15, 2004
	June 15, 2019(2)	50,000,000	50,000,000	101	June 15, 2004
	June 15, 2019(3)	152,450,000	152,450,000	101	June 15, 2004
1994D	June 15, 2012	16,000,000	16,000,000	100	June 15, 2004
1994E	June 15, 2012	16,000,000	16,000,000	102	June 15, 2004
1994F	June 15, 2005	865,000	865,000	101½	June 15, 2004
	June 15, 2006	915,000	915,000	101½	June 15, 2004
	June 15, 2007	965,000	965,000	101½	June 15, 2004
	June 15, 2011	4,330,000	4,330,000	101½	June 15, 2004
	June 15, 2023	70,000,000	70,000,000	101½	June 15, 2004
1994G	June 15, 2019	10,000,000	10,000,000	100	June 15, 2004
	June 15, 2019	10,000,000	10,000,000	103	June 11, 2004

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(1) 5.375% coupon, insured by MBIA Insurance Corporation.

(2) 5.375% coupon, insured by Ambac Assurance Corporation.

(3) 5.50% coupon.

**BOND INSURER**

**BOND INSURER**

The following information pertaining to Financial Security Assurance Inc. (“Financial Security”) has been supplied by Financial Security. The Authority makes no representation as to the accuracy or adequacy of such information or as to the absence of material adverse changes in such information subsequent to the date indicated. Summaries of or references to the insurance policy to be issued by Financial Security are made subject to all the detailed provisions thereof to which reference is hereby made for further information and do not purport to be complete statements of any or all such provisions. See “APPENDIX J—SPECIMEN INSURANCE POLICY.”

**Bond Insurance Policy**

Concurrently with the issuance of the Fiscal 2004 B Bonds, Financial Security will issue its Municipal Bond Insurance Policy (the “Policy”) for the Fiscal 2004 B Bonds maturing in the years 2014 and 2015, and the Fiscal 2004 B Bonds maturing in the year 2023 which bear interest at a rate of 5% per annum (the “FSA Insured Bonds”). The Policy guarantees the scheduled payment of principal of and interest on the FSA Insured Bonds when due as set forth in the form of the Policy included as Appendix J to this Official Statement.

The Policy is not covered by any insurance security or guaranty fund established under New York, California, Connecticut or Florida insurance law.

**Financial Security Assurance Inc.**

Financial Security is a New York domiciled financial guaranty insurance company and a wholly owned subsidiary of Financial Security Assurance Holdings Ltd. (“Holdings”). Holdings is an indirect subsidiary of Dexia, S.A., a publicly held Belgian corporation, and of Dexia Credit Local, a direct wholly-owned subsidiary of Dexia, S.A. Dexia, S.A., through its bank subsidiaries, is primarily engaged in the business of public finance, banking and asset management in France, Belgium and other European countries. No shareholder of Holdings or Financial Security is liable for the obligations of Financial Security.

At September 30, 2003, Financial Security’s total policyholders’ surplus and contingency reserves were approximately \$2,021,327,000 and its total unearned premium reserve was approximately \$1,281,769,000 in accordance with statutory accounting practices. At September 30, 2003, Financial Security’s total shareholders’ equity was approximately \$2,208,123,000 and its total net unearned premium reserve was approximately \$1,098,686,000 in accordance with generally accepted accounting principles.

The financial statements included as exhibits to the annual and quarterly reports filed by Holdings with the Securities and Exchange Commission are hereby incorporated herein by reference. Also incorporated herein by reference are any such financial statements so filed from the date of this Official Statement until the termination of the offering of the FSA Insured Bonds. Copies of materials incorporated by reference will be provided upon request to Financial Security Assurance Inc.: 350 Park Avenue, New York, New York 10022, Attention: Communications Department (telephone (212) 826-0100).

The Policy does not protect investors against changes in market value of the FSA Insured Bonds, which market value may be impaired as a result of changes in prevailing interest rates, changes in applicable ratings or other causes. Financial Security makes no representation regarding the FSA Insured Bonds or the advisability of investing in the FSA Insured Bonds. Financial Security makes no representation regarding the Official Statement, nor has it participated in the preparation thereof, except that Financial Security has provided to the Authority the information presented under this caption for inclusion in the Official Statement.

**SPECIMEN INSURANCE POLICY**



**MUNICIPAL BOND  
INSURANCE POLICY**

ISSUER:

BONDS:

Policy No.: -N

Effective Date:

Premium:

FINANCIAL SECURITY ASSURANCE INC. ("Financial Security"), for consideration received, hereby UNCONDITIONALLY AND IRREVOCABLY agrees to pay to the trustee (the "Trustee") or paying agent (the "Paying Agent") (as set forth in the documentation providing for the issuance of and securing the Bonds) for the Bonds, for the benefit of the Owners or, at the election of Financial Security, directly to each Owner, subject only to the terms of this Policy (which includes each endorsement hereto), that portion of the principal of and interest on the Bonds that shall become Due for Payment but shall be unpaid by reason of Nonpayment by the Issuer.

On the later of the day on which such principal and interest becomes Due for Payment or the Business Day next following the Business Day on which Financial Security shall have received Notice of Nonpayment, Financial Security will disburse to or for the benefit of each Owner of a Bond the face amount of principal of and interest on the Bond that is then Due for Payment but is then unpaid by reason of Nonpayment by the Issuer, but only upon receipt by Financial Security, in a form reasonably satisfactory to it, of (a) evidence of the Owner's right to receive payment of the principal or interest then Due for Payment and (b) evidence, including any appropriate instruments of assignment, that all of the Owner's rights with respect to payment of such principal or interest that is Due for Payment shall thereupon vest in Financial Security. A Notice of Nonpayment will be deemed received on a given Business Day if it is received prior to 1:00 p.m. (New York time) on such Business Day; otherwise, it will be deemed received on the next Business Day. If any Notice of Nonpayment received by Financial Security is incomplete, it shall be deemed not to have been received by Financial Security for purposes of the preceding sentence and Financial Security shall promptly so advise the Trustee, Paying Agent or Owner, as appropriate, who may submit an amended Notice of Nonpayment. Upon disbursement in respect of a Bond, Financial Security shall become the owner of the Bond, any appurtenant coupon to the Bond or right to receipt of payment of principal or interest on the Bond and shall be fully subrogated to the rights of the Owner, including the Owner's right to receive payments under the Bond, to the extent of any payment by Financial Security hereunder. Payment by Financial Security to the Trustee or Paying Agent for the benefit of the Owners shall, to the extent thereof, discharge the obligation of Financial Security under this Policy.

Except to the extent expressly modified by an endorsement hereto, the following terms shall have the meanings specified for all purposes of this Policy. "Business Day" means any day other than (a) a Saturday or Sunday or (b) a day on which banking institutions in the State of New York or the Insurer's Fiscal Agent are authorized or required by law or executive order to remain closed. "Due for Payment" means (a) when referring to the principal of a Bond, payable on the stated maturity date thereof or the date on which the same shall have been duly called for mandatory sinking fund redemption and does not refer to any earlier date on which payment is due by reason of call for redemption (other than by mandatory sinking fund redemption), acceleration or other advancement of maturity unless Financial Security shall elect, in its sole discretion, to pay such principal due upon such acceleration together with any accrued interest to the date of acceleration and (b) when referring to interest on a Bond, payable on the stated date for payment of interest. "Nonpayment" means, in respect of a Bond, the failure of the Issuer to have provided sufficient funds to the Trustee or, if there is no Trustee, to the Paying Agent for payment in full of all principal and interest that is Due for Payment on such Bond. "Nonpayment" shall also include, in respect of a Bond, any payment of principal or interest that is Due for Payment made to an Owner by or on behalf of the Issuer which has been recovered from such Owner pursuant to the

United States Bankruptcy Code by a trustee in bankruptcy in accordance with a final, nonappealable order of a court having competent jurisdiction. "Notice" means telephonic or telecopied notice, subsequently confirmed in a signed writing, or written notice by registered or certified mail, from an Owner, the Trustee or the Paying Agent to Financial Security which notice shall specify (a) the person or entity making the claim, (b) the Policy Number, (c) the claimed amount and (d) the date such claimed amount became Due for Payment. "Owner" means, in respect of a Bond, the person or entity who, at the time of Nonpayment, is entitled under the terms of such Bond to payment thereof, except that "Owner" shall not include the Issuer or any person or entity whose direct or indirect obligation constitutes the underlying security for the Bonds.

Financial Security may appoint a fiscal agent (the "Insurer's Fiscal Agent") for purposes of this Policy by giving written notice to the Trustee and the Paying Agent specifying the name and notice address of the Insurer's Fiscal Agent. From and after the date of receipt of such notice by the Trustee and the Paying Agent, (a) copies of all notices required to be delivered to Financial Security pursuant to this Policy shall be simultaneously delivered to the Insurer's Fiscal Agent and to Financial Security and shall not be deemed received until received by both and (b) all payments required to be made by Financial Security under this Policy may be made directly by Financial Security or by the Insurer's Fiscal Agent on behalf of Financial Security. The Insurer's Fiscal Agent is the agent of Financial Security only and the Insurer's Fiscal Agent shall in no event be liable to any Owner for any act of the Insurer's Fiscal Agent or any failure of Financial Security to deposit or cause to be deposited sufficient funds to make payments due under this Policy.

To the fullest extent permitted by applicable law, Financial Security agrees not to assert, and hereby waives, only for the benefit of each Owner, all rights (whether by counterclaim, setoff or otherwise) and defenses (including, without limitation, the defense of fraud, whether acquired by subrogation, assignment or otherwise, to the extent that such rights and defenses may be available to Financial Security to avoid payment of its obligations under this Policy in accordance with the express provisions of this Policy.

This Policy sets forth in full the undertaking of Financial Security, and shall not be modified, altered or affected by any other agreement or instrument, including any modification or amendment thereto. Except to the extent expressly modified by an endorsement hereto, (a) any premium paid in respect of this Policy is nonrefundable for any reason whatsoever, including payment, or provision being made for payment, of the Bonds prior to maturity and (b) this Policy may not be canceled or revoked. THIS POLICY IS NOT COVERED BY THE PROPERTY CASUALTY INSURANCE SECURITY FUND SPECIFIED IN ARTICLE 76 OF THE NEW YORK INSURANCE LAW.

In witness whereof, FINANCIAL SECURITY ASSURANCE INC. has caused this Policy to be executed on its behalf by its Authorized Officer.

[Countersignature]

FINANCIAL SECURITY ASSURANCE INC.

By \_\_\_\_\_

By \_\_\_\_\_  
Authorized Officer

A subsidiary of Financial Security Assurance Holdings Ltd.  
350 Park Avenue, New York, N.Y. 10022-6022

(212) 826-0100

Form 500NY (5/90)