



The New York City Municipal Water Finance Authority

The New York City Water and Sewer System

A COMPONENT UNIT OF THE CITY OF NEW YORK

Comprehensive Annual Financial Report for the Fiscal Year Ended June 30, 1999



The New York City Water & Sewer System

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New York City Water & Sewer System Organizational Chart

SYSTEM CUSTOMERS

NYC Municipal Water Finance Authority	NYC Water Board	NYC Department of Environmental Protection	
Board of Directors • 7 members	Board of Directors • 7 members	Commissioner	
Executive Director	Executive Director	Customer & Conservation Services	Water Supply, Quality & Protection
Comptroller Treasurer	Secretary Treasurer	Water & Sewer Operations	Environmental Engineering
Secretary		Wastewater Pollution Control	

Water System

Collection reservoirs	18
Storage capacity . . . . .	.547.5 billion gallons
Watershed area . . . . .	.2,000 square miles
Average daily water consumption (calendar 1998)	1.31 billion gallons
Average daily water consumption (calendar 1988)	1.58 billion gallons
Miles of water mains . . . . .	.6,181
Miles of water tunnels and aqueducts . . . . .	.346
Fire hydrants in New York City	103,661
Water samples taken each year . . . . .	.80,000
Laboratory tests performed each year on water samples . . . . .	.1 million

Sewer System

Water pollution control plants . . . . .	.14
Wastewater pump stations . . . . .	.89
Design capacity per day	1.8 billion gallons
Percent of dry-weather sewage processed through this system	100%
Dry-weather sewage treated per day (FY 1999)	1.27 billion gallons
Percent of plant effluent complying with Federal Clean Water Act standards . . . . .	.99.9%
Miles of sewage pipes . . . . .	.6,437
Biosolids produced each year . . . . .	.438,000 wet tons
Percent of biosolids used beneficially	100%

Letter of Transmittal

The New York City Water and Sewer System

To: Members of the Board of the New York City Municipal Water Finance Authority, Members of the Board of New York City Water Board, and the Commissioner of the New York City Department of Environmental Protection

December 31, 1999

We are pleased to submit to you this Comprehensive Annual Financial Report (“CAFR”) of the New York City Water and Sewer System (the “System”) for the year ended June 30, 1999. To the best of our knowledge, this report is accurate in all material respects and is reported in a manner designed to present fairly the financial condition of the System. All disclosures necessary to enable the reader to gain an understanding of the System’s financial activities have been included. The information contained in this report is the responsibility of management.

This CAFR is presented in three major sections: introductory, financial and statistical. The introductory section, which is unaudited, includes this letter of transmittal, an organizational chart and a list of the New York City Water and Sewer System’s principal officials. The financial section includes the general purpose financial statements and the combining financial statements and schedules, as well as the independent auditors’ report on these financial statements and schedules. The statistical section, which is unaudited, includes selected financial and demographic information, generally presented on a multi-year basis.

The reporting entity, the New York City Water and Sewer System, consists of two separate and independent corporate bodies that are combined for reporting purposes: The New York City Municipal Water Finance Authority (the “Authority”) and the New York City Water Board (the “Board”). In addition, the New York City Department of Environmental Protection (“DEP”) operates the City’s water and sewer system. The passage of the New York City Municipal Water Finance Authority Act (the “Act”) of 1984 by the New York State Legislature authorized this operating and financing structure. The System is a component unit of the City of New York (the “City”) for financial reporting purposes.

The Authority is authorized to issue bonds and various other debt instruments for the purpose of financing the renovation and improvement of the System. The Authority also has the power to refund its bonds and notes and general obligation bonds of the City issued for water or sewer purposes. The Authority is administered by a seven-member Board of Directors. Four members are designated as *ex officio*. Two members are appointed by the Mayor of New York City. One member is appointed by the Governor of the State of New York (the “State”). The appointed members have terms of two years. Pursuant to the Act, all members continue to hold office until their successors are appointed. The staff of the Authority operate under the direction of an Executive Director.



The Board leases the operating system from the City, sets rates, and collects the System revenue. The Lease Agreement (the "Lease") dated July 1, 1985 provides for a lease term until such time as all the bonds of the Authority are paid in full, or provision for payment has been made. The Lease requires the Board to make a payment to the City which is no more than the greater of: 1) principal and interest for the fiscal year on City general obligation bonds issued for water and sewer purposes, or 2) fifteen percent of principal and interest on Authority debt for the fiscal year. The Board is obligated to allocate the revenues of the System in sequential order of importance to: debt service on Authority debt obligations, DEP's cost of operating and maintaining the operating system, and rental fees to the City for the use of the operating system. The Board consists of seven members who are appointed by the Mayor for terms of two years. The Act 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 Board of Directors. The Chairman is appointed by the Mayor. Pursuant to the Act, all members continue to hold office until their successors are appointed. The staff of the Board operate under the direction of an Executive Director.

The operation and maintenance of the operating system is performed by DEP. DEP is managed by a Commissioner who is appointed by the Mayor and oversees a workforce of close to 5,700 people. DEP is divided into seven bureaus: Bureau of Customer and Conservation Services, Bureau of Water and Sewer Operations, Bureau of Water Supply, Quality and Protection, Bureau of Environmental Engineering, Bureau of Wastewater Pollution Control, Management and Budget, and Executive. DEP protects the environmental welfare and health of the City's residents and its natural resources. DEP manages the City's water supply system, including upstate collection and downstate distribution, and collects, treats, and disposes of waste and storm water. DEP manages over 2,000 square miles of watershed in upstate New York from which the City and several upstate counties draw their supply of drinking water. In addition to a system of dams, reservoirs, aqueducts, and water tunnels, DEP maintains 6,181 miles of water mains which distribute water throughout the five boroughs, and 6,437 miles of sewers which collect waste and storm water and transport it to 14 water pollution control plants.

Economic Conditions and Outlook

The City of New York is a vital center for government, business, financial, communications, higher education, cultural, medical and public services. The City also serves as a key transportation hub with important facilities linking the rest of North America with cities and countries throughout the world. The transportation infrastructure includes multiple air, rail, trucking and shipping facilities.

The City's economy continued to improve in the first half of calendar year 1999, adding on average 78,000 payroll jobs year-on-year, an annualized rate of 2.2 percent compared with the national gain of 2.3 percent. While improving, the City still lags behind the nation. The City's jobless rate averaged 7 percent, significantly above the national rate of 4.3 percent.

System Capacity

The Water and Sewer System saw steadily increasing demand through the early 1990's. Conservation and other measures reduced demand and average daily water consumption has decreased significantly over the past five years. Demand in calendar 1998 showed a marked decrease in usage from 1990 levels. The goal of these programs is to operate the supply system within the dependable yield, which is the amount of water that can be safely drawn from the existing supply system during drought periods. Reduced demand also decreases the capital outlays needed for expansion of the System's water pollution control plants.



Spillway at the Croton Dam

Universal Metering

DEP's Bureau of Customer and Conservation Services collects the data used to generate bills to customers. It is responsible for reading water meters and checking their accuracy as well as maintaining current information for those accounts remaining on the flat-rate system of billing. Meters are replacing the old system of flat-rate billing, which is based on numerous factors including the size of the property and the number of water using fixtures installed. There are now approximately 664,000 metered accounts and 162,000 flat-rate accounts in use.

Long-Term Watershed Protection

The System is subject to Federal, State, interstate and municipal regulation. At the Federal level, regulatory jurisdiction is vested in the United States Environmental Protection Agency ("USEPA"); at the State level in the New York State Department of Environmental Conservation ("NYSDEC") and the New York State Department of Health ("NYSDOH"); at the interstate level in the Delaware River Basin Commission ("DRBC") and in the Interstate Sanitation Commission (the "ISC"); and at the municipal level in DEP, the New York City Department of Health ("NYCDOH"), the Department of Buildings ("DOB"), and, to a limited degree, in municipalities and districts located in eight watershed counties north of the City.

Pursuant to the Federal Safe Drinking Water Act ("SDWA"), the 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 operating system.

On May 6, 1997, USEPA issued a determination which waived the City's requirement, as stated in the federal Surface Water Treatment Rule ("SWTR"), to filter water from its Catskill and Delaware systems until a further determination is made or until April 15, 2002, whichever is earlier. The May 6, 1997 determination is the third extension of a filtration avoidance determination first issued by USEPA in January 1993. The determination contains a number of conditions which the City is required to satisfy in order to ensure that the City will continue to be relieved of requirements for filtration. Conditions include requirements for land purchases by the City in sensitive areas of the watershed, revised watershed regulations, and upgrading of City-owned and other water pollution control plants in the watersheds.

On January 21, 1997, the City and the State executed a Memorandum of Agreement with the communities in the Catskill, Delaware and Croton watersheds, the USEPA and several environmental groups. The Memorandum of Agreement supplements 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 approximately \$350 million for an economic-environmental partnership program with upstate communities which includes a water quality investment program, a regional economic development fund and a regional advisory forum for water quality initiatives and watershed concerns, and an additional \$250 million for land acquisition.

Croton Filtration Project

Because of the high quality of the operating system's water and the long periods of retention in the reservoirs, it has not been necessary to filter water to reduce bacterial content and turbidity. However, increasingly stringent water quality 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 superseded by a 1998 federal court Consent Decree which requires the City to design and construct such a facility and have it operational by March 1, 2007. Approximately \$921 million is included in the Capital Improvement Program to construct the Croton Filter Project.

In December 1998, after an extensive study of several alternative sites, DEP released a Draft Environmental Impact Statement which identified the Mosholu Golf Course at Van Cortlandt Park in the Bronx as the City's preferred site for the full-scale water treatment facility to filter Croton System water. Also in December 1998, the City commenced a proceeding under the Uniform Land Use Review Procedure ("ULURP") to secure approval of the Mosholu Golf Course as the site for this facility. In May 1999, a Final Environmental Impact Statement was released. On July 21, 1999, the New York City Council approved with modifications the prior determination of the New York City Planning Commission endorsing the selection of the Mosholu Golf Course as the site for the treatment facility. The City Council action completed the ULURP proceeding, and preliminary design work for construction of the facility is currently underway.



Hunts Point Water Pollution Control Plant Air Blowers

Internal Controls

Management of the Board and the Authority is responsible for establishing and maintaining an internal control structure designed to ensure that the assets of the System are protected from loss, theft or misuse, and to ensure that adequate accounting data are compiled to allow for the preparation of financial statements in conformity with generally accepted accounting principles.

The System is subject to the internal control directives and memorandums that originate from the New York City Comptroller's office. These directives establish internal controls and accountability which safeguard City assets. In addition, the System is also subject to the City's internal auditors who periodically check the City's agencies' and component units' adherence to internal control policies and procedures.

Budgetary Controls

The Board and the Authority maintain separate control structures for their specific areas of responsibility. The Board and the Authority establish separate operating budgets approved by their respective Boards of Directors.

The capital budget of the Authority is appropriated through the City's Capital Budget, and the operation and maintenance budget of the System is appropriated through the City's annual operating budget. The City also maintains an encumbrance accounting system as another technique of accomplishing budgetary control.

Capital Improvement Program and Financing Program

The System's Ten Year Capital Improvement Program 2000-2009 ("CIP") provides for the rebuilding and augmentation of the System's infrastructure, including water and sewer facilities. The total projected expenditure for the CIP is \$9.1 billion.

The CIP is based on 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 these 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. An annual allowance for escalation in cost due to inflation of approximately 4% has been included, using fiscal year 1999 as the base year.



CAPITAL PROGRAM GOALS

- ▶ To maintain the quality of the water in the City's watersheds and, where necessary, treat the supply to ensure that supplies continue to be of high quality;
- ▶ To maintain and improve the transmission and distribution capabilities of the City's water supply system;
- ▶ To improve the quality of the surrounding estuarine waters by upgrading the City's water pollution control plants;
- ▶ To remove sanitary sewage and prevent flooding by replacing failing sewers and extending service to underserved areas of the city.

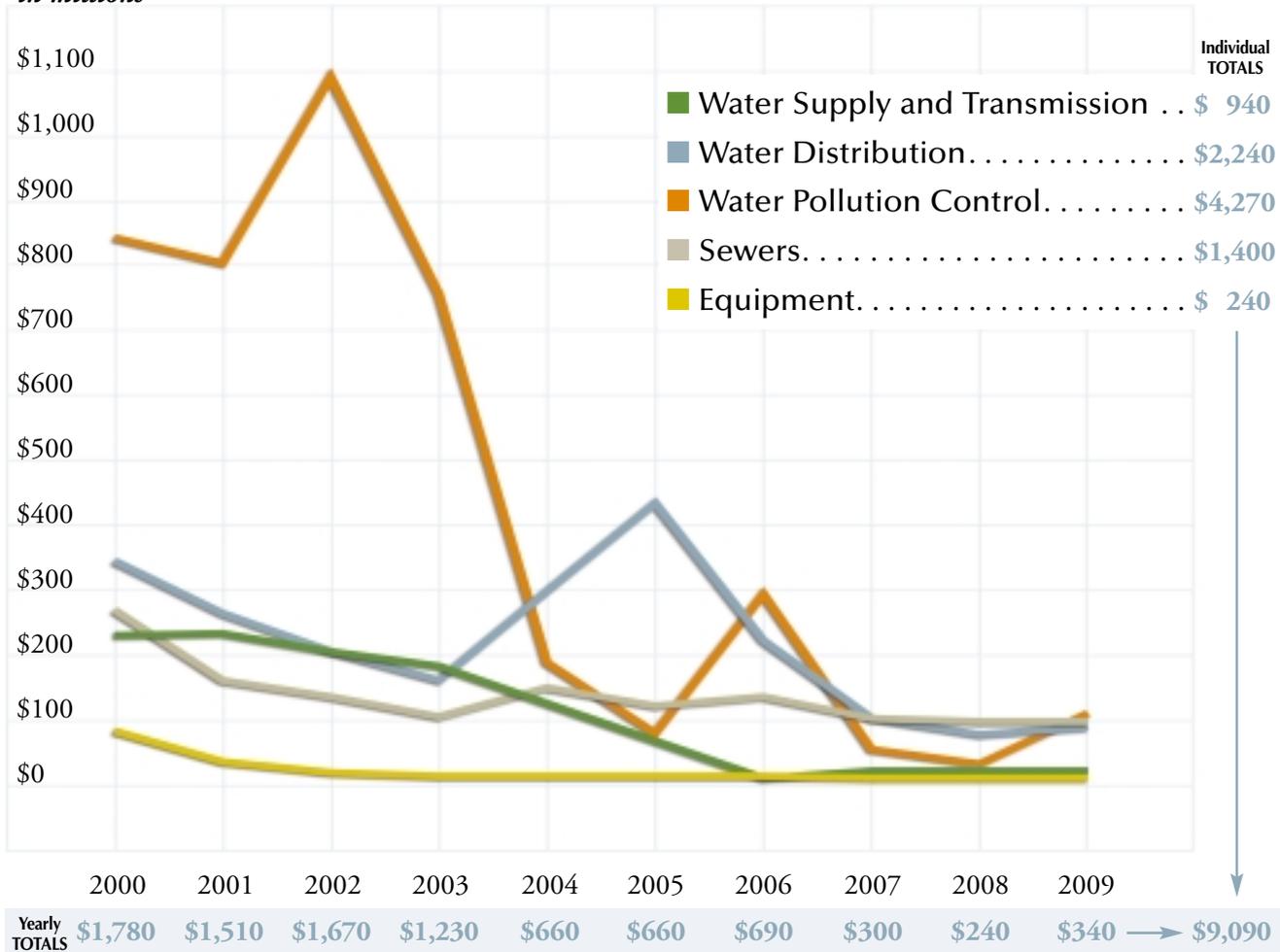
The costs identified in the table below represent an aggregation of capital commitments for specific projects for Fiscal Years 2000-2003. This Current Capital Plan reflects the most recent (April 1999) revision of expected expenditures. For a number of reasons, including unforeseen inflation and changes in plans, actual costs may vary from the estimates set forth below.

Current Capital Plan

System Funds (in thousands)	2000	2001	2002	2003	Total
Water Supply & Transmission	\$ 229,440	\$ 232,060	\$ 210,000	\$ 182,500	\$ 854,000
Water Distribution	348,278	268,032	211,673	163,004	990,987
Water Pollution Control	847,631	806,899	1,090,500	759,680	3,504,710
Sewers	272,674	164,042	133,878	109,051	679,645
Equipment	86,129	36,126	22,173	17,887	162,315
Total	\$1,784,152	\$1,507,159	\$1,668,224	\$1,232,122	\$6,191,657

Capital Improvement Plan

in millions



The CIP is divided into five project types. Each is discussed below separately.

Water Supply and Transmission

This component of the CIP includes approximately \$939 million for Stages I and II of New York City's Water Tunnel No. 3, to augment transmission capacity from the watersheds into the City.

Steady progress on the construction of Tunnel No. 3 has resulted in several significant milestones. Most recently the construction workers, known as sandhogs, achieved the "holing-through" of the Queens portion of the tunnel 700 feet underground. A holing-through occurs when two construction crews simultaneously work towards each other to speed the progress of construction. This technique requires precise planning and engineering to avoid tunnel misalignment. The two construction teams met within a few inches of each other after tunneling without landmarks through solid granite for over five miles. The Queens leg of Tunnel No. 3 is an 11-mile-long part of Stage 2 that runs from the Queens neighborhood of Maspeth through Woodside and Astoria. With the excavation milestone complete on this part of the tunnel, the process to completely line it with special concrete will begin.

Construction of Stage 2 of Tunnel No. 3 will continue towards its expected operational date of 2008. The remaining section of Stage II undergoing excavation is the Manhattan leg, which stretches for seven miles through lower Manhattan. After Stage 2 comes on-line and it begins to deliver water, DEP will have achieved full redundancy of Tunnels No. 1 and 2. This will allow the DEP to inspect and repair these tunnels for the first time since they were put into operation in 1917 and 1936, respectively.

Water Distribution

The System's drinking water is rated among the best in the country. To ensure its continuing quality, and to comply with Federal standards, DEP is pursuing a comprehensive program to halt further environmental deterioration in the increasingly urbanized Croton watershed, and to prevent similar problems in the still relatively pristine Catskill and Delaware watersheds.

The CIP contains \$2.2 billion for the protection, expansion, and distribution of the City's water supply. The CIP provides funding for the construction of a full-scale filtration plant for the Croton watershed system at a cost of \$921 million. The Program calls for \$369

million to be committed to on-going water quality preservation programs to ensure the continued purity of the water supply. This includes the reconstruction of a City-owned upstate water pollution control plant located in the watershed to meet the new proposed watershed regulations (the reconstruction of seven other City-owned plants in the watershed already having been completed) and the acquisition of environmentally sensitive property in the upstate watershed.

Water Pollution Control

To improve the quality of the City's estuaries and to implement long-range land-based solutions to sludge disposal, an end-product of the sewage treatment process, \$4.3 billion is allocated to water pollution control programs. Combined Sewer Overflow ("CSO") is currently a source of pollution in the City's waters. CSO occurs during and after rainstorms, when the flow of waste water and storm water in the sewers exceeds the treatment capacity of a sewage treatment plant and therefore enters surrounding waterways. DEP's Program includes over \$700 million for the abatement of CSO's. Some of the funds allocated to the abatement of CSO's are being used to explore various alternatives to the construction of retention tanks. Results from this and other projects and studies will drive future abatement efforts.

DEP has renegotiated the consent decree governing the City's long-term biosolids disposal plan. DEP does not have to construct biosolids processing facilities, but will continue contracting with private firms to dispose of the City's biosolids in a cost-effective manner. Funds totaling \$20 million will be used for the design and construction of docking facilities to transport de-watered biosolids. The Water Pollution Control Program includes \$1.8 billion allocated to begin the upgrade of Newtown Creek Water Pollution Control Plant to full secondary treatment, complete upgrades to treatment capacity at two plants and to address odor concerns at two other plants. Another significant program included in the CIP is \$550.7 million to be used for the reconstruction and modernization of ten water pollution control plants so that these plants continue to meet strict guidelines contained in State operating permits.

Sewers

Approximately \$1.4 billion will be committed over the next ten years to replace existing sewers in areas requiring increased capacity, to extend sewers to unserved or underserved areas, and to replace failing, flawed, or collapsed sewer mains.

Equipment

Programs in this category of the CIP include the installation of water meters, the procurement of vehicles and equipment, management information systems, and utility relocation for sewers and water mains. A total of \$240 million has been committed to these projects.

DEP is currently evaluating replacement cycles of existing meters as well as the installation of meters as it completes the installation of meters for all residential and commercial customers. This program to promote water conservation and equity allows DEP to charge its customers on the basis of actual usage rather than by formula based on property characteristics.

Funding Sources

In fiscal year 1999, the Authority issued \$536.0 million of water and sewer revenue bonds directly to the public and \$279.9 million Clean Water and Drinking Water Revolving Fund bonds in conjunction with the New York State Environmental Facilities Corporation (“EFC”). The bond proceeds financed infrastructure improvements to New York City’s water and sewer system.

Highlights of the financing program in 1999 include continued low interest costs on Authority borrowing and the Authority’s first use of federally taxable bonds. In EFC transactions, the Authority maximized the utilization of the Clean Water and Drinking Water Revolving Funds in an effort to minimize the costs of financing its ten-year Capital Improvement Program.

On August 4, 1998, in the first transaction of fiscal year 1999, the Authority issued the 1999 Series 1 and Series 2 bonds with a principal amount of \$279.9 million through EFC. This transaction marked the second time the Authority accessed both the Clean and Drinking Water Revolving Funds in a single issue. Of the total



Croton System Reservoir

proceeds, \$116.7 million was allocated to Clean Water projects and \$152.4 million toward Drinking Water projects. The true interest cost (“TIC”) of this transaction was 4.99 percent with a maximum yield of 5.20 percent in both the 2019 and 2020 maturities. The average life of this financing was 12.9 years. Taking into account EFC subsidies and costs, the final net interest cost to the Authority was 2.98 percent.

The Authority’s next transaction occurred on October 21, 1999, with the 1999 Series A bond sale totaling approximately \$301.5 million. The 1999 Series A bonds came to market with credit rating upgrades from three major rating agencies. Fitch IBCA elevated its rating to “AA-” from “A,” Moody’s Investors Service increased its rating to “A1” from “A2,” and Standard and Poor’s raised its rating to “A” from “A-.” In addition, the Authority received a new rating of “AA-” from a fourth rating agency, Duff & Phelps. The unanimous upgrades highlighted the Authority’s credit strengths. Proceeds from the 1999 Series A bond sale were used to defease a portion of the Authority’s Commercial Paper Series 1 and Series 3. The Authority’s TIC for this financing was 5.13 percent with a maximum yield of 5.11 percent in the 2027 maturity and an average life of 30.7 years.

The Authority priced its next financing, the 1999 Series B and Series C bonds with a par amount of \$234.6 million, on May 18, 1999. The Series C bonds, which accounted for \$13.3 million of the transaction’s total par amount, marked the first issuance of federally taxable bonds by the Authority. In addition to the capital raised through this bond issuance, the Authority contributed \$85 million in equity to the overall plan of financing. Proceeds from the Series C bonds and the Authority’s equity contribution were used to advance refund outstanding high interest rate debt that was not advance refundable on a tax-exempt basis. Proceeds from the Series B bonds were used to defease a portion of the Authority’s outstanding Series 5 Commercial Paper and advance refund outstanding high interest rate bonds. Taking into account the Authority’s equity contribution, the savings from the refunding of outstanding long-term debt equaled a net present value of \$15.8 million or 10 percent of refunded bonds. The TIC for this financing was 5.22 percent with a maximum tax-exempt yield of 5.29 percent in the 2029 maturity and an average life of 9.57 years.

Bonds issued by the Authority in fiscal year 1999 were characterized by strong investor interest and low comparative yields. The strength of the credit was confirmed in September 1999, when both Moody’s Investors Service and Standard & Poor’s assigned positive outlook ratings to the Authority’s bonds.

Operating Results

A comparative analysis of revenue for the years ended June 30, 1999 and 1998 is shown by major category on the following schedule.

	1999	1998	Percent Increase (Decrease)
Water supply and distribution	\$ 583,394	560,956	4.0%
Sewer collection and treatment	857,204	819,662	4.6
Other operating revenues	85,903	102,540	(16.2)
Total operating revenues	1,526,501	1,483,158	2.9%
Investment income	81,465	93,883	(13.2)
Total revenues	\$1,607,966	1,577,041	2.0%

Water rates were increased in Fiscal year 1999 by 4.0%, resulting in an increase of 2.9% in operating revenues. Water consumption from 1998 to 1999 increased by 3.7%. Investment income declined by 13.2% due primarily to a decrease in construction funds available for investment.

A comparative analysis of expenses for the years ended June 30, 1999 and 1998 is shown by major category on the following schedule.

	1999	1998	Percent Increase (Decrease)
Water transmission and distribution	\$ 233,221	211,015	(10.5%)
Sewage collection systems	300,406	320,659	(6.3)
City agency support	31,879	34,191	(6.8)
Fringe benefits	58,950	51,500	14.5
Judgements and claims	5,330	28,944	(81.6)
Total operations and maintenance	\$ 629,786	646,309	(2.6%)
Provision for uncollectible accounts	103,960	149,748	(30.6)
Rental payment to the City	147,866	176,482	(16.2)
Administration and general	10,879	11,217	(3.0)
Depreciation and amortization	380,023	281,943	34.8
Interest expense	476,675	465,819	2.3
Total expenses	\$1,749,189	1,731,518	1.0%



Total operating expenses decreased by \$16.5 million or 2.6%. More than half of the decrease was due to judgements and claims settlements for water main breaks paid in 1998 that occurred in prior years. Such claims cannot be estimated at the time of the incidents.

The provision for uncollectible accounts decreased from \$150 to \$104 million. The provision was decreased in part because of improvements in collections of customer accounts in 1999.

In accordance with the terms of the Lease, the rental payment to the City decreased from \$176 million to \$148 million. This covers the actual debt service payments made by the City for general obligation bonds issued on behalf of the System. These bonds were issued prior to the commencement of the Lease dated July 1, 1985.

Depreciation and Amortization Expense increased by nearly \$100 million or 35%, due primarily to the completion of a major section of the Third Water Tunnel.

Debt Administration

At June 30, 1999 the total outstanding debt of the System was \$9.4 billion, of which \$600 million was Commercial Paper. The remaining \$8.8 billion consisted of variable and fixed rate bonds maturing in varying installments through 2031. The total outstanding long term debt at June 30, 1999 was as follows:

Issue Date	Amount (thousands)
1999	\$ 1,433,198
1998	1,938,861
1997	1,065,125
1996	1,004,610
1995 and Prior	3,329,916
Total revenues	\$ 8,771,710

Outstanding obligations of the System received rating increases from all the major rating services in October 1998. The current ratings are “A1” by Moody’s Investors Service, Inc., “A” by Standard & Poor’s Rating Group, “AA-” by Fitch IBCA and “AA-” from Duff & Phelps. This is a first-time rating from Duff & Phelps. The ratings from Fitch IBCA and Duff & Phelps recognize the Authority as an asset-backed credit. Debt Coverage for 1999 was 337%.

Cash Management

Both the Authority and the Board have funds which are invested. The Authority's investments must conform to the policies set forth in the Authority's Investment Guidelines, dated April 17, 1998. Specifically, the Authority may invest in any bonds or other obligations which constitute direct obligations of, or are guaranteed by, the United States of America, including obligations of any agency, corporation or instrumentality thereof; direct obligations of, or obligations guaranteed by, the State of New York or direct obligations of any agency or public authority thereof, provided such obligations are rated in one of the two highest rating categories by a Rating Agency; bankers' acceptances or certificates of deposit issued by a commercial bank, with its principal place of business within the State of New York and having capital or surplus in excess of \$100 million; corporate securities, including commercial paper and fixed income obligations, rated by a Rating Agency in its highest category for comparable types of obligations; or repurchase agreements collateralized by obligations of the Federal government.

The Authority employs various methods for the investment of its funds: The Authority's management is responsible for the investment of certain funds, the Authority utilizes an investment manager for the active management of some funds, and finally, the Authority also invests in forward purchase agreements and a guaranteed investment contract. The Board makes its own investments through the City Comptroller's investment group.

Funds are invested for periods of one day up to fifteen years based upon cash flow requirements and subject to the restrictions on investments set forth in the Authority's General Bond Resolution. Daily cash from user payments is received into a lock box by the Board and is transferred daily to the Authority for debt service payments and to the City Comptroller to pay for the operations and maintenance of the System. No cash is retained by the Board until all requirements for debt service, operations and maintenance, and rental payments are met. Any surplus cash over these requirements is retained by the Board for use in the following year to pay required deposits.

Risk Management

In accordance with the Lease, the Board is required to reimburse the City for any judgment or settlement paid by the City arising out of a tort claim to the extent that the City's liability is related to capital improvements and the operation or maintenance of the System. However, in no event shall the payment made to the City, in any fiscal year, exceed an amount equal to 5% of the aggregate revenues shown on the last year-end audited financial statements of the System. In addition, the System is required to reimburse the City, to the extent requested by the City, for the payment of any judgment or settlement arising out of a contract claim with respect to the construction of capital improvements. In addition, the City has agreed, subject to certain conditions, to indemnify the Authority, the Board, and their staffs 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.



Independent Audit

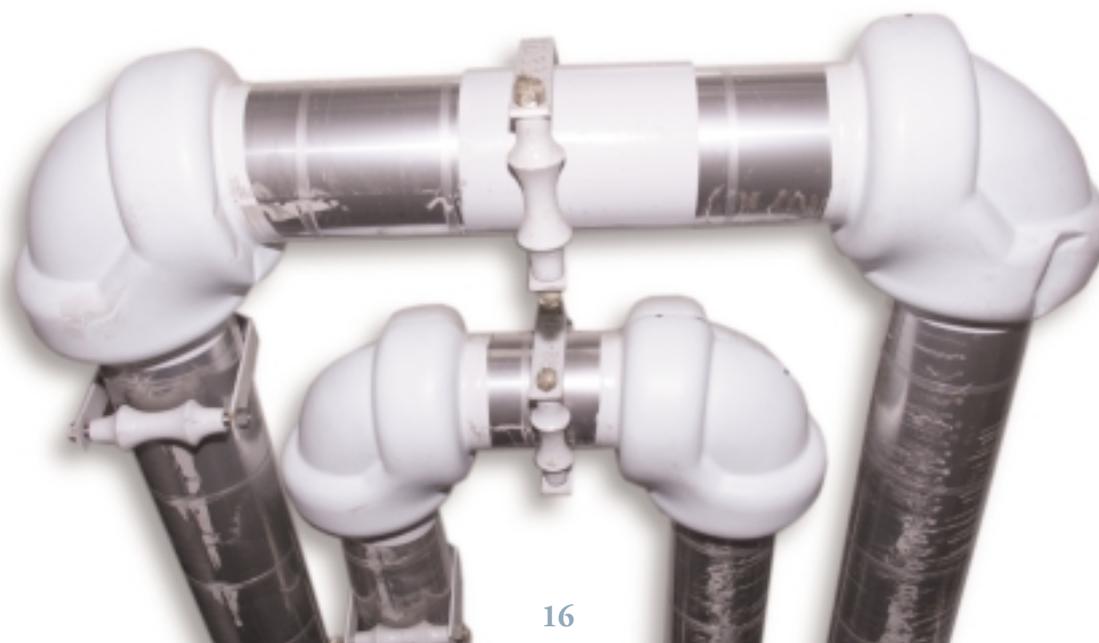
Section 6.11 (B) of the Financing Agreement by and among the City, the Authority and the Board dated as of July 1, 1985 requires that the Authority shall submit to the Mayor, the Comptroller and the Director of Management and Budget of the City audited annual financial statements of the Authority and the Board. The financial section of the 1998 Comprehensive Annual Financial Report begins with the report of our independent auditors, KPMG LLP. This report expresses an unqualified opinion as to the fairness of the presentation of our financial statements.

Awards

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to The New York City Water and Sewer System for its comprehensive annual financial report (CAFR) for the fiscal years ended June 30, 1995, 1996, 1997, and 1998.

In order to be awarded a Certificate of Achievement, a government unit must publish an easily readable and efficiently organized comprehensive annual financial report, whose contents conform to program standards. The CAFR must satisfy both generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year only. We believe our current report continues to conform to the Certificate of Achievement program requirements, and we are submitting it to GFOA.





The preparation of this Comprehensive Annual Financial Report has been accomplished by the staff of the New York City Municipal Water Finance Authority with the assistance of the New York City Comptroller's Office. We wish to acknowledge the dedicated effort of the staff of the Authority, especially Patrick McCoy, Manager of Investor Relations, Joanne Feld, Assistant Treasurer, Michael Seltzer, Assistant Comptroller, Emily Raimos, Assistant Manager of Investor Relations, Nguyen Huynh and Julio Cortez, Financial Analysts, and Bruce Goodman of the New York City Comptroller's Office, in bringing together information from numerous sources to produce this document. Their work ensures that this report presents fairly and accurately the financial position and the results of operations of the New York City Water and Sewer System.

Respectfully submitted,

Mark Page
Executive Director

Valerie Mehallow
Comptroller

Principal Officials

of the New York City Water and Sewer System

New York City Municipal Water Finance Authority

BOARD OF DIRECTORS

John P. Cahill	<i>ex officio</i> Member
Charles E. Dorkey III	Member
Andrew S. Eristoff	<i>ex officio</i> Member
Robert M. Harding	<i>ex officio</i> Member
Arthur B. Hill	Member
Joel A. Miele Sr., P.E.	<i>ex officio</i> Member
James P. Stuckey	Member

STAFF

Mark Page	Executive Director
Marjorie E. Henning	Secretary
Alan Anders	Treasurer
Valerie Mehallow	Comptroller

New York City Water Board

MEMBERS

Susan Millington Campbell	Member
Leroy Carmichael	Member
Mark R. Hellerer	Chairman
Amaziah Howell	Member
Agustin Rivera	Member
David B. Rosenauer	Member
James T.B. Tripp	Member

STAFF

Diana Chapin, Ph.D.	Executive Director
William Kusterbeck	Treasurer
Albert F. Moncure, Jr.	Secretary

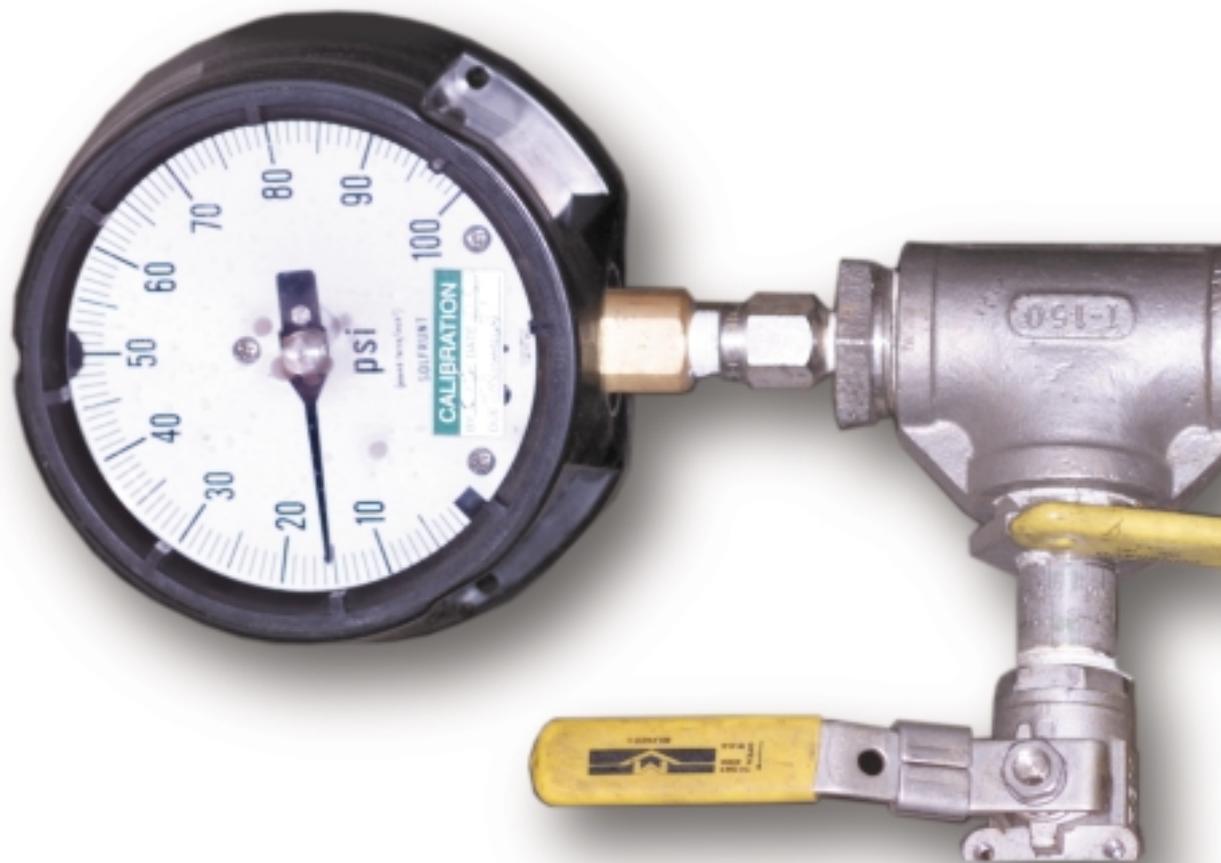
Principal Officials

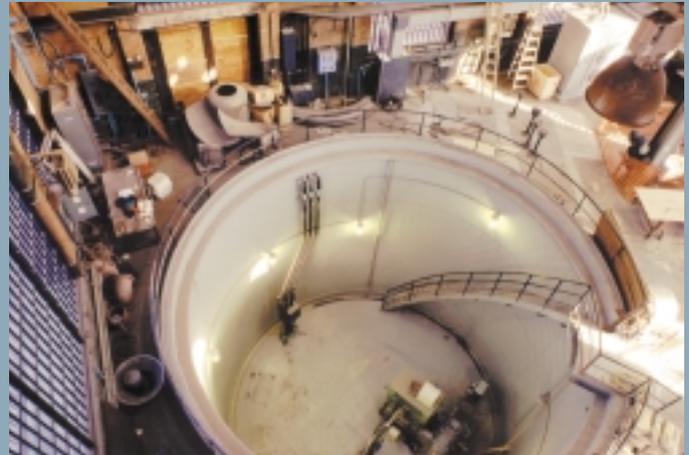
of the New York City Water and Sewer System

New York City Department of Environmental Protection

OFFICERS

Joel A. Miele Sr., P.E.	Commissioner
Diana Chapin, Ph.D.	First Deputy Commissioner
Charles G. Sturken	Chief of Staff/Special Counsel
Robert Adamski, P.E.	Deputy Commissioner, Bureau of Wastewater Pollution Control
Robert Gaffoglio, P.E.	Deputy Commissioner, Bureau of Environmental Engineering
Douglas F. Greeley, P.E.	Deputy Commissioner, Bureau of Water and Sewer Operations
Lawrence E. Schatt	Deputy Commissioner, Bureau of Customer and Conservation Services
William N. Stasiuk, P.E., Ph.D.	Deputy Commissioner, Bureau of Water Supply, Quality and Protection





The City's Department of Environmental Protection completed the restoration of the Gowanus Canal's "flushing tunnel," in April 1999. The tunnel conveys fresh water from Buttermilk Channel into the head of Gowanus Canal. In 1992, DEP began designing the repair and restoration of the flushing tunnel and construction began in 1995. The pump (above right) brings harbor water to the Canal at an average rate of 200 million gallons a day.



