

BOSTON WATER AND SEWER COMMISSION

Financial Statements, Required Supplementary Information
and Other Supplemental Information

December 31, 2023 and 2022

(With Independent Auditor's Report Thereon)

BOSTON WATER AND SEWER COMMISSION

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INDEPENDENT AUDITOR'S REPORT

To the Commissioners of
Boston Water and Sewer Commission:

Report on the Audit of the Financial Statements

Opinions

We have audited the accompanying financial statements of the business-type activity and the aggregate remaining fund information of Boston Water and Sewer Commission ("Commission") as of and for the year ended December 31, 2023, and the related notes to the financial statements, which collectively comprise the Boston Water and Sewer Commission's basic financial statements as listed in the table of contents.

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the business-type activity and the aggregate remaining fund information of the Commission, as of December 31, 2023, and the respective changes in net position, and, where applicable, cash flows thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinions

We conducted our audit in accordance with auditing standards generally accepted in the United States of America ("GAAS") and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the Commission and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Boston Water and Sewer Commission's ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinions. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS and *Government Auditing Standards* will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS and *Government Auditing Standards*, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Boston Water and Sewer Commission's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Boston Water and Sewer Commission's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and the required supplementary information as listed in the table of contents be presented to supplement the basic financial statements. Such information is the responsibility of management and, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplementary Information

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the Boston Water and Sewer Commission's basic financial statements. The accompanying supplemental schedules listed in the table of contents are presented for purposes of additional analysis and are not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the information is fairly stated in all material respects in relation to the financial statements.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated August 19, 2024, on our consideration of the Boston Water and Sewer Commission's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Boston Water and Sewer Commission's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering Boston Water and Sewer Commission's internal control over financial reporting and compliance.

A handwritten signature in blue ink that reads "Withum Smith + Brown, PC". The signature is written in a cursive, flowing style.

August 19, 2024

BOSTON WATER AND SEWER COMMISSION

Management's Discussion and Analysis

Required Supplementary Information

December 31, 2023 and 2022

(Unaudited)

Overview

Upon its creation in 1977, Boston Water and Sewer Commission (the "Commission") assumed the responsibility to provide water distribution, wastewater collection and storm water drainage services in the City of Boston (the "City").

The Commission has realized a rate basis surplus from its operation in each year since its inception. In accordance with the Boston Water and Sewer Reorganization Act of 1977 (the Enabling Act), the Commission applies audited surpluses to reduce its rates in succeeding years.

To accommodate the rate making process, the Commission follows the accounting standards set forth in Governmental Accounting Standards Board Statement No. 62 ("GASB 62"), *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements*. GASB 62 allows certain (a) revenues provided for future allowable costs to be deferred until the costs are incurred (deferred credits) and (b) costs incurred to be capitalized if future recovery is reasonably assured (deferred charges).

Overview of the Financial Statements

The Financial Statements: The financial statements are designed to provide readers with a broad overview of the Commission's finances and are comprised of three basic statements.

The *Statements of Net Position* present information on all of the Commission's assets, deferred outflows of resources, liabilities, and deferred inflows of resources with the difference reported as *net position*.

The *Statements of Revenues, Expenses and Changes in Net Position* present information showing how the Commission's net position changed during the most recent fiscal year.

The *Statements of Cash Flows* are reported on the direct method. The direct method of cash flow reporting portrays net cash flows from operations as major classes of operating receipts and disbursements.

Fiduciary Funds – The Commission reports the other post-employment benefit ("OPEB") trust fund as separate statements of fiduciary net position and statements of changes in fiduciary net position. Fiduciary funds are used to account for resources held for the benefit of parties outside the Commission. Fiduciary funds are not reflected in the Commission's business type financial statements because the resources of these funds are not available to support the Commission's own programs. The Fiduciary Fund Financial Statements can be found immediately following the Statements of Cash Flows.

The financial statements can be found on pages 10 through 14 of this report.

Notes to the financial statements: The notes provide additional information that is essential to a full understanding of the data provided in the financial statements. The notes provide information regarding both the accounting policies and procedures the Commission has adopted as well as additional detail of certain amounts contained in the financial statements. The notes to the financial statements can be found on pages 15 through 51 of this report.

BOSTON WATER AND SEWER COMMISSION

Management's Discussion and Analysis

Required Supplementary Information

December 31, 2023 and 2022

(Unaudited)

Condensed Financial Information

(in thousands)

	<u>2023</u>	<u>2022</u>	<u>2021</u>
Current assets	\$ 372,767	353,904	334,901
Capital assets, net	<u>1,618,787</u>	<u>1,532,236</u>	<u>1,497,563</u>
Total assets	<u>1,991,554</u>	<u>1,886,140</u>	<u>1,832,464</u>
Total deferred outflows	<u>113,317</u>	<u>141,030</u>	<u>100,007</u>
Current liabilities	170,829	118,499	86,286
Noncurrent liabilities	<u>565,589</u>	<u>609,343</u>	<u>615,280</u>
Total liabilities	<u>736,418</u>	<u>727,842</u>	<u>701,566</u>
Total deferred inflows	<u>959,885</u>	<u>890,763</u>	<u>829,287</u>
Net position:			
Net investment in capital assets	1,002,875	944,499	898,140
Restricted	124,554	118,764	114,057
Unrestricted net deficit	<u>(718,859)</u>	<u>(654,698)</u>	<u>(610,579)</u>
Total net position	<u>\$ 408,570</u>	<u>408,565</u>	<u>401,618</u>

During the year, the Commission saw an increase in total assets and total liabilities, resulting in an increase in total net position of \$5 thousand, or 0.1%. In 2022, net position totaled \$408.6 million, an increase of \$6.9 million, or 1.7% from 2021. The Commission's 2023 operations resulted in a rate basis surplus of \$1,065,859 compared to \$758,941 in 2022.

Since inception, the Commission has invested in various capital assets, including capital improvement projects, machinery and equipment, buildings, and improvements. These investments, net of accumulated depreciation, totaled \$1.6 billion at December 2023, which is 5.6% higher than in 2022. In 2022, these investments total \$1.5 billion, an increase of \$34.7 million, or 2.3% over the 2021 total investment in capital assets. These increases in capital assets are the result of continuous upgrades of the Commission owned water and sewer infrastructure.

Total operating revenues in 2023 were \$463.5 million, which is 1.0% greater than in 2022. Total operating revenues in 2022 were \$458.9 million, which is 10.7% greater than 2021. Operating revenues consist of water and sewer revenue, fire pipe revenue and other income. Water and sewer revenue in 2023 and 2022 represented 97.3% and 97.2% of total operating revenues, respectively. The increases in 2023 and 2022 operating revenues were primarily driven by a 1.5% and 4.5% average rate increase, respectively.

BOSTON WATER AND SEWER COMMISSION

Management's Discussion and Analysis

Required Supplementary Information

December 31, 2023 and 2022

(Unaudited)

Total operating expenses in 2023 were \$391.3 million, which represents an increase of 0.2% from 2022. The increase in 2023 operating expenses was primarily due to additional depreciation of 3.8%, or \$1.0 million. Total operating expenses in 2022 were \$390.4 million, which represents an increase of 5.8% from 2021. This increase in 2022 operating expenses was primarily due to a combined additional spending of 6.9%, or \$21.7 million in three-line items (operations, maintenance and Massachusetts Water Resources Authority ("MWRA") assessment). Operating expenses consist of operations and maintenance, MWRA assessment, depreciation and amortization. The MWRA assessment is the largest expense incurred by the Commission, representing 63.7% and 63.4% in 2023 and 2022, respectively, of total operating expenses.

In 2023 and 2022, 84% of water provided by MWRA was billable to customers. Since its inception, the Commission has maintained the percentage of billable water at 78% and is continuing to take steps to improve the amount of billable water, including replacement of old and defective meters and implementation of a comprehensive leak detection and repair program.

Condensed Financial Information

(in thousands)

	<u>2023</u>	<u>2022</u>	<u>2021</u>
Operating revenues:			
Water and sewer usage	\$ 450,881	445,984	402,667
Fire pipe	5,428	5,328	5,222
Other	7,170	7,670	6,780
Operating expenses	<u>(391,319)</u>	<u>(390,390)</u>	<u>(369,045)</u>
Excess operating revenues	72,160	68,592	45,624
Investment income	12,970	6,992	4,075
Interest expense	<u>(14,673)</u>	<u>(14,622)</u>	<u>(15,585)</u>
Total nonoperating net expense	<u>(1,703)</u>	<u>(7,630)</u>	<u>(11,510)</u>
Excess revenues before capital grants, contributions and transfer requirements	70,457	60,962	34,114
Capital grants and contributions	7,404	13,665	17,803
Excess revenues used to fund reserves and other deferrals	(77,550)	(67,386)	(41,031)
Change in accumulated revenues used to offset future rates	<u>(306)</u>	<u>(294)</u>	<u>(93)</u>
Change in net position	5	6,947	10,793
Net position, beginning of year	<u>408,565</u>	<u>401,618</u>	<u>390,825</u>
Net position, end of year	<u>\$ 408,570</u>	<u>408,565</u>	<u>401,618</u>

BOSTON WATER AND SEWER COMMISSION

Management's Discussion and Analysis

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December 31, 2023 and 2022

(Unaudited)

Capital Assets

In fiscal year 2023, major Commission project additions totaled \$80.8 million, of which \$43.8 million was financed with bond proceeds. Major project expenditures (in millions) are as follows:

Relay of water mains	\$	39.1
Rehabilitation/replacement of sewers or storm drains		29.0
Infiltration and inflow		0.1
Meter replacement		0.4
Stormwater		12.2
	\$	<u>80.8</u>

The Commission's 2024-2026 capital budget includes projected expenditures of \$318.0 million for infrastructure and capital projects. The major projects are for the rehabilitation of water mains and the replacement/rehabilitation of the sewer system. Some water projects are financed on a pay-as-you go basis combined with interest free loans for water rehabilitation provided by the MWRA. Most of the sewer improvements, along with the installation of a new radio frequency meter reading system, will be financed through bond proceeds. However, there are sewer improvements that are funded through the utilization of the MWRA loan programs. Please refer to footnote 4 for more detailed capital asset activity.

Debt Plan

The Commission is empowered by the Enabling Act to issue bonds and notes payable solely constituted on the general obligation of the Commission. The Commission has no legal restrictions concerning the amount of debt, which it may have outstanding, subject to the coverage requirements described below.

The Commission issues General Revenue Bonds to finance portions of its capital improvement projects. The Commission's 2024-2026 capital budget, which totals \$318.0 million, anticipates that projects totaling \$116.4 million, or 36.6% of the Commission's 2024-2026 capital budget, will be funded from bond proceeds. The 2024 budget for debt service is \$50.2 million including \$43.5 million for bonds. Please refer to footnote 5 for more detailed long-term debt information.

BOSTON WATER AND SEWER COMMISSION

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The Commission currently has seven series of General Revenue Bonds outstanding at the end of 2023, totaling approximately \$466.0 million as follows (in millions):

2014 Series A	\$	57.0
2015 Series A		59.8
2016 Series A		40.6
2016 Series B		48.1
2018 Series A		66.4
2021 Series A		153.9
2021 Series B		40.2
	\$	<u>466.0</u>

Debt Service Coverage Requirements

The Commission’s bond covenants require that rates and charges be at least sufficient to provide revenues: (i) to pay all current expenses of the Commission, (ii) to pay the principal of, premium if any, and interest on all bonds issued by the Commission as they become due and payable, (iii) to create and maintain such reasonable reserves as may be reasonably required by any trust agreement or resolution securing bonds, (iv) to provide funds for paying the cost of all necessary repairs, replacements and renewal of the systems and (v) to pay or provide for any and all amounts which the Commission may be obligated to pay or provide for by law or contract. The Commission is also required to establish and maintain rates and charges at levels sufficient so that total net revenues in each year during which bonds are outstanding will equal at least 125% of: (1) the bond debt service requirement during such year less (2) the amount, if any, of bond proceeds available to pay interest becoming due in such year on bonds outstanding as of the first day of such year. The Commission has exceeded the 125% debt service coverage requirement of the Resolution in each year since its inception in 1977.

Additional Bonds and Refunding Bonds

The Enabling Act permits the issuance of additional bonds for paying the cost of any project, making deposits in various funds established under the Enabling Act, paying costs of issuance, paying the principal, premium and interest on any notes issued in anticipation of additional bonds, or any combination of the above.

Refunding bonds may also be issued by the Commission only upon certifying that the aggregate debt service in each fiscal year in which Refunding Bonds are outstanding will not be increased because of the issuance of the Refunding Bonds; provided that, in lieu of such certification, the Commission may deliver to the Trustee certificates satisfying the conditions described above for the issuance of additional bonds.

BOSTON WATER AND SEWER COMMISSION

Management's Discussion and Analysis

Required Supplementary Information

December 31, 2023 and 2022

(Unaudited)

Budgets and Rates

The Commission is required by law to be self-sustaining to set its rates at a level sufficient to cover expenses and debt service requirements each year.

In 2006, the Commission modified its inclining block rate structure. The number of rate blocks was reduced from ten to six, thereby making the structure easier to understand for customers while still promoting water conservation and generating sufficient revenue. In 2023 and 2022, the Commission increased its water and sewer rates by an average of 1.5% and 4.5%, respectively. The major reasons behind these increases were: (i) the increase in assessment paid to the MWRA, and (ii) the decline in water sales due to general water conservation efforts of individuals and businesses throughout the City.

Effective January 1, 2024, the Commission increased its water and sewer rates by an average of 1.4%.

On April 1, 2024, the Commission began charging for stormwater. The stormwater charge is a charge for all parcels in the City of Boston with greater than 400 square feet of impervious (hard/impermeable) surface. The stormwater charge will be charged per Equivalent Residential Unit (ERU). Each ERU is equal to 2,164 square feet of impervious surface. The rate per ERU will be \$8.98 per month. The stormwater charge will be implemented as follows: (1) All one to six unit residential properties will be charged only one ERU per month, (2) all other parcels will be charged per ERU based on the amount of square feet of impervious area. The total amount of impervious area will be divided by 2,164 and rounded to the next whole number to calculate the number of ERUs a parcel will be charged.

Credit Ratings

The Commission's revenue bonds are rated "Aa1" by Moody's Investors Service, "AAA" by Standard and Poor's and "AA+" by Fitch Ratings for all bonds issued before 2016.

Contacting the Commission's Financial Management

This report is designed to provide our bondholders, customers and other interested parties with a general overview of the Commission's finances and to demonstrate the Commission's accountability for the revenue it receives. If you have questions about this report or need additional information, contact Boston Water and Sewer Commission Finance Department in writing at 980 Harrison Avenue, Boston, MA 02119, or by telephone at 617-989-7000, or on the web at www.bwsc.org.

BOSTON WATER AND SEWER COMMISSION

Statements of Net Position
December 31, 2023 and 2022

Assets	2023	2022
Current assets:		
Cash and cash equivalents	\$ 16,506,540	15,608,812
Restricted cash and investments (Notes 5 and 11)	283,196,811	270,886,915
Accounts receivable, net:		
Customers, less allowances of \$2,465,779 in 2023 and in 2022, respectively (Note 1)	34,910,522	31,818,585
Unbilled revenues, less allowances of \$1,702,361 in 2023 and 2022	36,886,575	34,335,488
Prepaid expenses	1,266,844	1,253,897
Total current assets	<u>372,767,292</u>	<u>353,903,697</u>
Noncurrent assets:		
Capital assets (Note 4):		
Depreciable, net	1,405,742,279	1,404,256,601
Nondepreciable	213,045,569	127,979,477
Total noncurrent assets	<u>1,618,787,848</u>	<u>1,532,236,078</u>
Total Assets	<u>1,991,555,140</u>	<u>1,886,139,775</u>
Deferred Outflows of Resources		
Deferred charges (Note 2)	<u>113,317,057</u>	<u>141,030,508</u>
Liabilities		
Current liabilities:		
Payable from current assets:		
Accounts payable	36,872,345	24,179,236
Other accrued liabilities	17,206,515	22,651,912
Commercial paper notes (Note 6)	80,000,000	35,000,000
Interim loan	1,607,750	—
Current portion of long-term notes (Note 5)	6,664,823	6,138,087
Current portion of revenue bonds (Note 5)	28,477,208	30,529,476
Total current liabilities	<u>170,828,641</u>	<u>118,498,711</u>
Noncurrent liabilities:		
Long-term notes (Note 5)	33,686,478	30,646,513
Revenue bonds, net (Note 5)	456,297,157	487,674,381
Net pension liability (Note 9)	38,989,860	46,855,560
Net OPEB liability (Note 10)	32,062,928	39,616,243
Other long-term liabilities	4,552,128	4,550,357
Total noncurrent liabilities	<u>565,588,551</u>	<u>609,343,054</u>
Total Liabilities	<u>736,417,192</u>	<u>727,841,765</u>
Deferred Inflows of Resources		
Deferred credits and reserves (Note 3)	<u>959,885,444</u>	<u>890,763,421</u>
Commitments and contingencies (Notes 12 and 14)		
Net Position		
Net position:		
Net investment in capital assets	1,002,874,524	944,498,467
Restricted for debt service	52,738,942	51,804,373
Restricted for capital assets	247,895	542,177
Restricted for debt covenants	71,567,315	66,418,203
Unrestricted net deficit	(718,859,115)	(654,698,123)
Total Net Position	<u>\$ 408,569,561</u>	<u>408,565,097</u>

See accompanying notes to financial statements.

BOSTON WATER AND SEWER COMMISSION
Statements of Revenues, Expenses and Changes in Net Position
Years Ended December 31, 2023 and 2022

	2023	2022
Operating revenues:		
Water and sewer usage (Note 1)	\$ 450,880,932	445,984,547
Fire pipe	5,428,308	5,327,520
Other	7,169,673	7,670,726
Total operating revenues	463,478,913	458,982,793
Operating expenses:		
Operations	102,039,950	104,906,679
Maintenance	11,863,427	12,480,425
MwRA assessment (Note 7)	249,344,505	245,958,491
Depreciation and amortization	28,071,213	27,044,814
Total operating expenses	391,319,095	390,390,409
Excess operating revenues	72,159,818	68,592,384
Nonoperating revenue (expense):		
Investment income	12,970,575	6,991,769
Interest expense	(14,672,877)	(14,622,176)
Total nonoperating net expense	(1,702,302)	(7,630,407)
Excess revenues before capital grants and contributions and transfer requirements	70,457,516	60,961,977
Capital grants and contributions: (Note 1)	7,404,139	13,665,469
Excess revenues before transfer requirements	77,861,655	74,627,446
Excess revenues used to fund reserves and other deferrals (Note 3)	(77,550,273)	(67,386,201)
Change in accumulated revenues used to offset future rates (Note 3)	(306,918)	(294,178)
Changes in net position	4,464	6,947,067
Net position, beginning of year	408,565,097	401,618,030
Net position, end of year	\$ 408,569,561	408,565,097

See accompanying notes to financial statements.

BOSTON WATER AND SEWER COMMISSION

Statements of Cash Flows

Years Ended December 31, 2023 and 2022

	<u>2023</u>	<u>2022</u>
Cash flows from operating activities:		
Receipts from customers	\$ 457,835,889	454,018,649
Payments to suppliers	(280,080,224)	(285,945,748)
Payments to employees	(76,420,404)	(80,686,907)
Net cash provided by operating activities	<u>101,335,261</u>	<u>87,385,994</u>
Cash flows from investing activities:		
Investment income	12,970,575	6,991,769
Sales of investments	231,314,205	208,835,273
Purchases of investments	(229,731,376)	(231,314,205)
Net cash provided by (applied to) investing activities	<u>14,553,404</u>	<u>(15,487,163)</u>
Cash flows from capital and related financing activities:		
Purchase of capital assets	(111,793,857)	(61,205,541)
Proceeds from long-term notes	9,704,787	3,569,490
Payment of long-term notes	(6,138,086)	(6,835,211)
Payment of revenue bonds	(30,225,000)	(26,140,000)
Proceeds from commercial paper	45,000,000	20,000,000
Proceeds from interim loan	1,607,750	—
Capital grants and contributions	7,404,139	13,665,469
Payment of interest	(16,657,945)	(23,723,310)
Net cash applied to capital and related financing activities	<u>(101,098,212)</u>	<u>(80,669,103)</u>
Net increase (decrease)	<u>14,790,453</u>	<u>(8,770,272)</u>
Cash and cash equivalents, beginning of year	<u>109,286,971</u>	<u>118,057,243</u>
Cash and cash equivalents, end of year	<u>\$ 124,077,424</u>	<u>109,286,971</u>
Reconciliation of operating income to net cash provided by operating activities:		
Excess operating revenues	\$ 72,159,818	68,592,384
Adjustment to reconcile operating income to net cash:		
Depreciation and amortization	28,071,213	27,044,814
Bad debts	101,914	550,528
Deferred outflows of resources	17,566,874	(42,117,491)
Change in assets and liabilities:		
Accounts receivable, net	(3,193,851)	(1,633,464)
Unbilled revenues	(2,551,087)	(3,881,208)
Prepaid expenses	(12,947)	(330,195)
Accounts payable	9,863,983	2,797,847
Other accrued liabilities	(5,253,412)	9,202,111
Other long-term liabilities	1,771	1,182,863
Net pension activity	(7,865,700)	25,198,645
Net OPEB activity	(7,553,315)	779,160
Net cash provided by operating activities	<u>\$ 101,335,261</u>	<u>87,385,994</u>
Cash and cash equivalents are comprised of the following:		
Cash and cash equivalents	\$ 16,506,540	15,608,812
Money market in restricted cash and investments	58,445,701	50,386,915
Cash in restricted cash and investments	49,125,183	43,291,244
Total	<u>\$ 124,077,424</u>	<u>109,286,971</u>

See accompanying notes to financial statements.

BOSTON WATER AND SEWER COMMISSION
 Statements of Fiduciary Net Position
 Other Post-Employment Benefits ("OPEB") Trust Fund
 December 31, 2023 and 2022

Assets		
	2023	2022
Cash and cash equivalents	\$ 2,790,996	—
Investments:		
Mutual funds	9,700,772	8,554,304
Equity	15,904,583	15,426,405
Fixed income	13,577,493	8,225,603
Pooled index fund	8,180,601	6,504,134
Receivable	4,000,000	3,500,000
Total Assets	54,154,445	42,210,446
Net Position		
Restricted for OPEB purposes	54,154,445	42,210,446
Total Net Position	\$ 54,154,445	42,210,446

See accompanying notes to financial statements.

BOSTON WATER AND SEWER COMMISSION
 Statements of Changes in Fiduciary Net Position
 Other Post-Employment Benefits ("OPEB") Trust Fund
 Years Ended December 31, 2023 and 2022

ADDITIONS:	<u>2023</u>	<u>2022</u>
Contributions:		
Employer	\$ 10,397,949	10,373,789
Total Contributions	<u>10,397,949</u>	<u>10,373,789</u>
Investment earnings:		
Investment income	5,123,050	(3,683,330)
Less investment expenses	(54,072)	(54,040)
Total net investment income	<u>5,068,978</u>	<u>(3,737,370)</u>
Total additions	<u>15,466,927</u>	<u>6,636,419</u>
DEDUCTIONS:		
Benefit payments	<u>3,522,928</u>	<u>3,249,909</u>
Change in Net Position	11,943,999	3,386,510
Net Position Restricted for OPEB		
Beginning of Year	<u>42,210,446</u>	<u>38,823,936</u>
End of Year	<u>\$ 54,154,445</u>	<u>42,210,446</u>

See accompanying notes to financial statements.

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements

December 31, 2023 and 2022

(1) Organization, Basis of Presentation, and Summary of Significant Accounting Policies

Boston Water and Sewer Commission (the "Commission") has the responsibility to provide water and wastewater services on a fair and equitable basis in the City of Boston (the "City") as required under the Boston Water and Sewer Reorganization Act of 1977 (the "Enabling Act").

Under the Enabling Act, the Commission is subject to regulation with respect to rates, accounting and other matters, where applicable, by the board of commissioners (the "Board"). The Board is appointed by the City's Mayor, subject to confirmation by the City Council. It regulates the rates that the Commission can charge its customers for water and sewer usage. The rates charged to customers are based on the cash requirements to cover the Commission's operations, debt service, and reserve contributions. To comply with the external financial reporting requirements of the Board, the accompanying financial statements are presented on a basis that is consistent with United States of America generally accepted accounting principles ("GAAP") for regulated utilities (i.e., the accrual basis of accounting and the capital maintenance measurement focus).

To accommodate the rate-making process, the Commission follows the accounting standards set forth in Governmental Accounting Standards Board Statement No. 62 ("GASB 62"), *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements*. GASB 62 allows certain Board-approved (a) revenues provided for future allowable costs to be deferred until the costs are incurred (deferred credits) and (b) costs incurred to be capitalized if future recovery is reasonably assured (deferred charges). Revenues and expenses appearing in the supplemental schedules of revenues and expenses – rate basis are presented in the same format as utilized in the Commission's operational budgeting and rate-setting process. The revenues and expenses shown on the statements of revenues and expenses are presented on a GAAP basis. Reconciliation between the revenues and expenses of these two operating statements for the year ended December 31, 2023 is provided below:

	Revenues	Expenses
As presented in the statements of revenues and expenses:		
Operating revenues/expenses	\$ 463,478,913	391,319,095
Investment income/interest expense	12,970,575	14,672,877
Total	476,449,488	405,991,972
Reclassifications and deferrals:		
Contributions to reserves	—	19,912,000
GAAP adjustments	(16,412,068)	(16,412,068)
Excess bond payments over depreciation and amortization	—	9,817,518
Investment income (escrowed funds)	(2,560,717)	—
Capital expenditures	—	37,611,693
Excess revenue used to offset current rates	758,943	—
Other deferrals	—	248,672
As presented in the supplemental schedule of revenues and expenses - rate basis	\$ 458,235,646	457,169,787

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2023 and 2022

(1) **Organization, Basis of Presentation, and Summary of Significant Accounting Policies - Continued**

The Enabling Act requires that any net surplus, as defined by the rate-setting process, be either turned over to the City or applied to offset water and sewer rates for the following year. The Commission has applied \$1,065,859 and \$758,941 for the years ended December 31, 2023 and 2022, respectively, to offset rates in the respective subsequent years.

(a) *Revenue Billings*

Water and sewerage fees are billed to users of the systems on a monthly-cycle basis. Revenues are accrued for periods between the termination of billings for the various cycles and the end of the year. Some adjustments are made on a post-billing basis that reduce the number of total billings. The total customer bills outstanding as of December 31, 2023 and 2022 were approximately \$37.4 and \$34.3 million, respectively. These net billing amounts are reduced by an allowance for uncollectible accounts of approximately \$2.5 million in 2023 and 2022, and to arrive at the net accounts receivable. Charges for water and sewer services provided, but unbilled, at year end are estimated based on historical usage. The calculation is reduced by an allowance for the adjustment of approximately \$1.7 million in 2023 and 2022 to arrive at the net accounts receivable.

(b) *Investments*

Investments are stated at fair value. Fair value is based on quoted market prices.

The Commission categorizes the fair value measurements of its investments based on the hierarchy established by generally accepted accounting principles as prescribed by the GASB. The fair value hierarchy, which has three levels, is based on the valuation inputs used to measure an asset's fair value: Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs. The Commission does not have any investments that are measured using Level 2 or 3 inputs as disclosed in Note 11.

(c) *Capital Assets*

Capital assets are stated at historical cost. Depreciation is provided on the straight-line method based upon the estimated useful lives of the various classes of assets. Maintenance and repairs are charged to expense as incurred. Major renewals or betterments over \$500 are capitalized and depreciated over their estimated useful lives. Maintenance and repairs are expensed as incurred, and improvements are capitalized.

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2023 and 2022

(1) Organization, Basis of Presentation, and Summary of Significant Accounting Policies - Continued

(d) *Compensated Absences*

Employees of the Commission accumulate unused sick time (subject to certain limitations) to be used later or a percentage paid in cash upon voluntary resignation and/or retirement from the Commission (subject to Commission policies and/or bargaining agreements). The liability for vacation leave is based on the amount earned but not used; for sick leave, it is based on a percentage of the amount accumulated at the statement of net position dates that would be paid to employees on termination. The liability for each amount is calculated based on the pay or salary rates in effect as of the date of the statement of net position and is included as other liabilities.

(e) *Business-Type Activity Accounting*

Business-type activity funds distinguish operating revenues and expenses from non-operating items. Operating revenues and expenses result from providing services relating to ongoing operations. All revenues and expenses not meeting this definition are reported as non-operating revenues and expenses.

(f) *Fiduciary Fund*

The fiduciary fund financial statements are reported using the economic resources measurement focus on the accrual basis of accounting. Under this method, revenues are recognized when earned and expenses are recorded when liabilities are incurred. The Commission reports as a fiduciary fund the other post-employment benefit (“OPEB”) trust fund which is used to account for contributions and investment income restricted to pay medical and life insurance benefits. Further information on the significant accounting policies for the OPEB trust fund may be found in Note 10 of the basic financial statements. Fiduciary funds are not reflected in the Commission’s business type financial statements because the resources of these funds are not available to support the Commission’s own programs.

(g) *Depreciation*

The Commission provides for depreciation using the straight-line method. Estimated useful lives used in computing depreciation are as follows:

	<u>Years</u>
Water:	
Works	100
Meters	10
Hydrants	40
Sewerage:	
Works	75
Pumping station	35
Buildings	40
Other	4 to 14

(h) *Cash and Cash Equivalents*

The Commission considers all highly liquid, short-term cash investments with original maturities of three months or less to be cash equivalents for purposes of the statements of cash flows.

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2023 and 2022

(1) Organization, Basis of Presentation, and Summary of Significant Accounting Policies - Continued

(i) *Deferred Inflows of Resources and Deferred Outflows of Resources*

Deferred inflows and outflows represent the consumption or acquisition of net position applicable to a future reporting period. These are typically items of an asset or liability nature for which an exchange transaction is not inherent to their realization or liquidation value.

(j) *Pensions*

For purposes of measuring the net pension liability, deferred outflows of resources and deferred inflows of resources related to pensions and pension expense, information about the fiduciary net position of the Boston Retirement System ("BRS"), and the additions to/deductions from the Commission's fiduciary net position have been determined on the same basis as they were reported by the BRS. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with benefit terms. Investments are reported at fair value.

(k) *Other Postemployment Benefits ("OPEB")*

For purposes of measuring the net OPEB liability, deferred outflows of resources and deferred inflows of resources related to OPEB and OPEB expense, information about the fiduciary net position of the Boston Water and Sewer OPEB Trust (the "Plan"), and additions to/deductions from Plan's fiduciary net position have been determined on the same basis as they are reported by the Plan. For this purpose, the Plan recognizes benefit payments when due and payable in accordance with the benefit terms. Investments are generally reported at fair value.

(l) *Net Position*

Resources are classified for accounting purposes into the following categories:

Net Investment in Capital Assets: Capital assets, net of accumulated depreciation and outstanding principal balances of debt attributable to the acquisition, construction, or improvement of those assets. Deferred outflows of resources and deferred inflows of resources that are attributable to the acquisition, construction, or improvement of those assets or related debt are included in this component of net position.

Restricted – Expendable: Net position whose use is subject to externally imposed conditions that can be fulfilled by the actions of the Commission or by the passage of time.

Unrestricted: All other categories of net position. Unrestricted net position may be designated by the Commission.

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2023 and 2022

(1) Organization, Basis of Presentation, and Summary of Significant Accounting Policies - Continued

(m) *Use of Estimates*

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions about future events. These estimates and assumptions affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements, as well as reported amounts of revenues and expenses during the reporting period. Management evaluates the estimates and assumptions on an ongoing basis using historical experience and other factors that management believes to be reasonable under the circumstances. Adjustments to estimates and assumptions are made as facts and circumstances require. As future events and their effects cannot be determined with certainty, actual results may differ from the estimates used in preparing the accompanying financial statements.

(n) *Contributions in Aid of Construction*

Contributions in aid of construction (“CIAC”) are additions and/or upgrades to infrastructure made by customers or developers that have been assigned to the Commission upon completion of the applicable project. Historically, CIAC has not been material to the financial statements and the contribution is not recorded. The Commission accepts the responsibility for the ongoing maintenance of CIAC.

(o) *Capital Contributions*

Capital contributions consist of special grants or loan subsidies received from the Massachusetts Water Resource Authority (“MWRA”) along with funds received from property owners and developers to assist the Commission in development of its infrastructure.

(p) *New Government Accounting Pronouncements*

GASB Statement 100 – *Accounting Changes and Error Corrections* is effective for periods beginning after June 15, 2023. The objective of this Statement is to enhance accounting and financial reporting requirements for accounting changes and error corrections to provide more understandable, reliable, relevant, consistent, and comparable information for making decisions or assessing accountability.

GASB Statement 101 – *Compensated Absences* is effective for reporting periods beginning after December 15, 2023. The objective of this Statement is to better meet the information needs of financial statement users by updating the recognition and measurement guidance for compensated absences. That objective is achieved by aligning the recognition and measurement guidance under a unified model and by amending certain previously required disclosures.

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2023 and 2022

(1) Organization, Basis of Presentation, and Summary of Significant Accounting Policies - Continued

(p) New Government Accounting Pronouncements – continued

GASB Statement 102 – *Certain Risk Disclosures* is effective for reporting periods beginning after June 15, 2024. The requirements of this Statement will improve financial reporting by providing users of financial statements with essential information that currently is not often provided. The disclosures will provide users with timely information regarding certain concentrations or constraints and related events that have occurred or have begun to occur that make a government vulnerable to a substantial impact.

GASB Statement 103 – *Financial Reporting Model Improvements* is effective for reporting periods beginning after June 15, 2025. The objective of this Statement is to improve key components of the financial reporting model to enhance its effectiveness in providing information that is essential for decision making and assessing a government’s accountability. This Statement also addresses certain application issues.

Management has not completed its review of the requirements of these standards and their applicability.

(2) Deferred Outflows of Resources

Deferred outflows of resources represent the consumption of net position by the Commission that are applicable to future reporting periods. Deferred outflows of resources have a positive effect on net position, like assets. In accordance with GASB 62, pension obligations will be recovered through future rates or matched against credits related to the specific costs in the future.

The following is a summary of deferred outflows of resources as of December 31,:

	<u>2023</u>	<u>2022</u>
Cost to be recovered through future revenues:		
Pension obligation	\$ 38,989,860	46,855,560
OPEB obligation	32,062,928	39,616,243
Pension:		
Net difference between projected and actual earnings on pension plan investments	11,258,810	17,410,463
Differences between expected and actual experience in the total pension liability	2,908,967	3,529,506
Changes in assumptions	2,087,019	3,193,008
OPEB:		
Net difference between projected and actual earnings on OPEB plan investments	1,295,130	3,581,502
Differences between expected and actual experience in the total OPEB liability	4,481,574	5,228,503
Changes in assumptions	5,751,172	5,722,716
Deferred loss on defeasance	<u>14,481,597</u>	<u>15,893,007</u>
Total:	<u>\$ 113,317,057</u>	<u>141,030,508</u>

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2023 and 2022

(3) Deferred Inflows of Resources

In accordance with GASB 62, certain revenues and expenditures that would otherwise be included in the statements of revenues and expenses may be applied to future operations.

These items are identified on the statements of revenues and expenses as excess revenues used to fund reserves and other deferrals and are included on the statements of net position in deferred credits and reserves and are as follows for the years ended December 31,:

	<u>2023</u>	<u>2022</u>
Contributions to reserves	\$ 19,912,000	26,034,000
Principal payments on long-term debt	36,363,087	32,975,211
Capital expenditures	37,611,693	21,021,614
Depreciation and amortization	(20,074,622)	(18,003,986)
Investment income on project and escrow funds	2,201,332	538,605
Other	1,536,783	4,820,757
	<u>\$ 77,550,273</u>	<u>67,386,201</u>

The components of deferred credits and reserves for the years ended December 31, have been designated as follows:

	<u>2023</u>	<u>2022</u>
Debt service	\$ 235,266,286	\$ 214,884,944
Capital improvements	722,215,057	662,898,266
Pension:		
Pension related	12,724,644	18,915,624
Differences between expected and actual experience - pension	3,167,043	4,781,624
Changes of assumptions	363,110	435,732
OPEB:		
OPEB Related	6,543,332	8,648,495
Differences between expected and actual experience in the total OPEB liability	482,884	603,605
Changes of assumptions	4,501,660	5,280,621
Working capital	(28,684,431)	(28,684,431)
Self-insurance	2,240,000	2,240,000
	<u>958,819,585</u>	<u>890,004,480</u>
Reduction of future rates	<u>1,065,859</u>	<u>758,941</u>
Total	<u>\$ 959,885,444</u>	<u>\$ 890,763,421</u>

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2023 and 2022

(4) Capital Assets

The cost and activities of water and sewer capital assets and their related accumulated depreciation at December 31, are as follows:

	Balance at December 31, 2022	Additions	Disposals	Reclassifications	Balance at December 31, 2023
Capital assets, not being depreciated:					
Land	\$ 5,884,243	—	—	—	5,884,243
Construction in progress	122,095,234	106,842,359	—	(21,776,267)	207,161,326
Total capital assets, not being depreciated	127,979,477	106,842,359	—	(21,776,267)	213,045,569
Capital assets, being depreciated:					
Buildings and improvements	70,050,685	33,310	—	1,929,089	72,013,084
Machinery and equipment	53,283,756	7,143,204	—	—	60,426,960
Infrastructure	1,790,626,263	604,110	—	19,847,178	1,811,077,551
Total capital assets, being depreciated	1,913,960,704	7,780,624	—	21,776,267	1,943,517,595
Less: accumulated depreciation for:					
Buildings and improvements	38,698,487	1,858,618	—	—	40,557,105
Machinery and equipment	41,314,816	3,798,191	—	—	45,113,007
Infrastructure	429,690,800	22,414,404	—	—	452,105,204
Total accumulated depreciation	509,704,103	28,071,213	—	—	537,775,316
Total capital assets being depreciated, net	1,404,256,601	(20,290,589)	—	21,776,267	1,405,742,279
Capital assets, net	\$ 1,532,236,078	86,551,770	—	—	1,618,787,848

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2023 and 2022

(4) Capital Assets - Continued

	Balance at December 31, 2021	Additions	Disposals	Reclassifications	Balance at December 31, 2022
Capital assets, not being depreciated:					
Land	\$ 5,884,243	—	—	—	5,884,243
Construction in progress	141,936,124	56,992,316	—	(76,833,206)	122,095,234
Total capital assets, not being depreciated	147,820,367	56,992,316	—	(76,833,206)	127,979,477
Capital assets, being depreciated:					
Buildings and improvements	68,214,142	72,152	—	1,764,391	70,050,685
Machinery and equipment	48,976,794	4,306,962	—	—	53,283,756
Infrastructure	1,715,210,857	346,591	—	75,068,815	1,790,626,263
Total capital assets, being depreciated	1,832,401,793	4,725,705	—	76,833,206	1,913,960,704
Less: accumulated depreciation for:					
Buildings and improvements	37,052,762	1,645,725	—	—	38,698,487
Machinery and equipment	37,650,177	3,664,639	—	—	41,314,816
Infrastructure	407,956,350	21,734,450	—	—	429,690,800
Total accumulated depreciation	482,659,289	27,044,814	—	—	509,704,103
Total capital assets being depreciated, net	1,349,742,504	(22,319,109)	—	76,833,206	1,404,256,601
Capital assets, net	\$ 1,497,562,871	34,673,207	—	—	1,532,236,078

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2023 and 2022

(5) Long-Term Obligations

Long-term liabilities at December 31, consist of:

	Balance at December 31, 2022	Additions	Reductions	Balance at December 31, 2023	Current Portion
Notes payable:					
Long-term notes	\$ 36,784,600	9,704,787	(6,138,086)	40,351,301	6,664,823
Revenue bonds	496,200,000	—	(30,225,000)	465,975,000	25,750,000
Revenue bonds premiums	22,003,857	—	(3,204,492)	18,799,365	2,727,208
Total notes payable and bonds	<u>554,988,457</u>	<u>9,704,787</u>	<u>(39,567,578)</u>	<u>525,125,666</u>	<u>35,142,031</u>
Other long-term liabilities:					
Net pension liability	46,855,560	—	(7,865,700)	38,989,860	—
Net OPEB liability	39,616,243	—	(7,553,315)	32,062,928	—
Other long-term liabilities	4,550,357	1,771	—	4,552,128	—
Total other long-term liabilities	<u>91,022,160</u>	<u>1,771</u>	<u>(15,419,015)</u>	<u>75,604,916</u>	<u>—</u>
Total long-term liabilities	\$ <u>646,010,617</u>	<u>9,706,558</u>	<u>(54,986,593)</u>	<u>600,730,582</u>	<u>35,142,031</u>

	Balance at December 31, 2021	Additions	Reductions	Balance at December 31, 2022	Current Portion
Notes payable:					
Long-term notes	\$ 40,050,321	3,569,490	(6,835,211)	36,784,600	6,138,087
Revenue bonds	522,340,000	—	(26,140,000)	496,200,000	27,325,000
Revenue bonds premiums	25,822,522	—	(3,818,665)	22,003,857	3,204,476
Total notes payable and bonds	<u>588,212,843</u>	<u>3,569,490</u>	<u>(36,793,876)</u>	<u>554,988,457</u>	<u>36,667,563</u>
Other long-term liabilities:					
Net pension liability	21,656,915	25,198,645	—	46,855,560	—
Net OPEB liability	38,837,083	779,160	—	39,616,243	—
Other long-term liabilities	3,367,494	2,816,539	(1,633,676)	4,550,357	—
Total other long-term liabilities	<u>63,861,492</u>	<u>28,794,344</u>	<u>(1,633,676)</u>	<u>91,022,160</u>	<u>—</u>
Total long-term liabilities	\$ <u>652,074,335</u>	<u>32,363,834</u>	<u>(38,427,552)</u>	<u>646,010,617</u>	<u>36,667,563</u>

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2023 and 2022

(5) Long-Term Obligations - Continued

(a) Revenue Bonds

The Commission issues revenue bonds to support various projects. As set forth by the Commission's bond resolution, revenue bonds are secured by all revenues of the Commission as well as deposits held in certain reserve funds. The following is a summary of revenue bond activity for the year ended December 31, (amounts in thousands).

Description	Balance at December 31, 2022	Additions	Reductions	Balance at December 31, 2023	Amounts due within one year
Revenue bonds:					
1994 Series A, bearing a variable interest rate based on the daily Municipal Market Data scale issued August 20, 1994, maturing 1995 to 2024	\$ 5,600	—	5,600	—	—
2012 Series A, bearing interest ranging from 3.0% to 5.0% issued June 6, 2012, maturing 2015 to 2023	7,875	—	7,875	—	—
2014 Series A, bearing interest ranging from 3.0% to 5.0% issued July 22, 2014, maturing 2017 to 2044	58,000	—	1,000	57,000	1,000
2015 Series A, bearing interest ranging from 3.0% to 5.0% issued August 5, 2015, maturing 2023 to 2028	72,760	—	13,010	59,750	13,255
2016 Series A, bearing interest ranging from 3.0% to 5.0% issued September 13, 2016, maturing 2020 to 2031	40,600	—	—	40,600	—
2016 Series B, bearing interest ranging from 3.0% to 5.0% issued September 13, 2016, maturing 2017 to 2046	48,635	—	500	48,135	500
2018 Series A, bearing interest ranging from 3.0% to 5.0% issued May 30, 2018, maturing 2020 to 2048	66,900	—	500	66,400	500
2021 Series A, bearing interest ranging from 0.29% to 3.0% issued July 7, 2021, maturing 2021 to 2037	155,600	—	1,740	153,860	9,995
2021 Series B, bearing interest ranging from 2.0% to 5.0% issued July 7, 2021, maturing 2021 to 2051	40,230	—	—	40,230	500
	<u>496,200</u>	<u>—</u>	<u>30,225</u>	<u>465,975</u>	<u>25,750</u>
Unamortized issue premiums/discounts	22,003	—	3,204	18,799	2,727
Net revenue bonds	\$ <u>518,203</u>	<u>—</u>	<u>33,429</u>	<u>484,774</u>	<u>28,477</u>

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2023 and 2022

(5) Long-Term Obligations - Continued

(a) Revenue Bonds - continued

Description	Balance at December 31, 2021	Additions	Reductions	Balance at December 31, 2022	Amounts due within one year
Revenue bonds:					
1994 Series A, bearing a variable interest rate based on the daily Municipal Market Data scale issued August 20, 1994, maturing 1995 to 2024	\$ 8,100	—	2,500	5,600	2,700
2012 Series A, bearing interest ranging from 3.0% to 5.0% issued June 6, 2012, maturing 2015 to 2023	15,460	—	7,585	7,875	7,875
2014 Series A, bearing interest ranging from 3.0% to 5.0% issued July 22, 2014, maturing 2017 to 2044	58,700	—	700	58,000	1,000
2015 Series A, bearing interest ranging from 3.0% to 5.0% issued August 5, 2015, maturing 2023 to 2028	72,760	—	—	72,760	13,010
2016 Series A, bearing interest ranging from 3.0% to 5.0% issued September 13, 2016, maturing 2020 to 2031	52,820	—	12,220	40,600	—
2016 Series B, bearing interest ranging from 3.0% to 5.0% issued September 13, 2016, maturing 2017 to 2046	49,135	—	500	48,635	500
2018 Series A, bearing interest ranging from 3.0% to 5.0% issued May 30, 2018, maturing 2020 to 2048	67,400	—	500	66,900	500
2021 Series A, bearing interest ranging from 0.29% to 3.0% issued July 7, 2021, maturing 2021 to 2037	157,335	—	1,735	155,600	1,740
2021 Series B, bearing interest ranging from 2.0% to 5.0% issued July 7, 2021, maturing 2021 to 2051	40,630	—	400	40,230	—
	<u>522,340</u>	<u>—</u>	<u>26,140</u>	<u>496,200</u>	<u>27,325</u>
Unamortized issue premiums/discounts	25,822	—	3,819	22,003	3,204
Net revenue bonds	\$ <u>548,162</u>	<u>—</u>	<u>29,959</u>	<u>518,203</u>	<u>30,529</u>

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2023 and 2022

(5) Long-Term Obligations - Continued

(a) Revenue Bonds - continued

Debt principal and interest maturities for future years as of December 31, 2023 are as follows (amounts in thousands):

	Revenue bonds	
	Principal	Interest
2024	\$ 25,750	14,844
2025	29,235	13,985
2026	26,960	12,881
2027	27,370	11,804
2028	28,185	10,780
2029-2033	108,900	42,329
2034-2038	90,560	29,235
2039-2043	77,555	16,007
2044-2048	47,215	4,220
2049-2051	4,245	189
	<u>\$ 465,975</u>	<u>156,274</u>

Amortization expense for losses on bond refunding and amortization income of bond issuance premiums which are recorded as interest for the years ended December 31, 2023 and 2022 totaled \$(3,204,492) and \$(2,322,421), respectively.

The Commission is required to maintain a Senior Debt Service Reserve Fund of an amount at least equal to the sum of the maximum amount of principal, or sinking fund payments, and interest due in the current or immediately succeeding year on the outstanding senior bonds issued as "fixed rate bonds", net of any accrued interest from the sale of any such bonds. As of December 31, 2023 and 2022, approximately \$44.3 million has been deposited into the Senior Debt Service Reserve Account. This account is included with restricted cash and investments on the statements of net position.

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2023 and 2022

(5) Long-Term Obligations - Continued

(b) Prior Year Debt Refunding (Defeasements)

In the aggregate, \$321,350,000 and \$340,430,000 remains outstanding at December 31, 2023 and 2022, respectively, on bond issues that were defeased “in-substance” in prior years.

(c) Restricted Cash and Investments

The Commission has established both trustee and non-trustee funds with investments, principally short-term securities, which are restricted for payment of specified liabilities, capital projects, or other costs of operations. The components of the trustee and non-trustee investments at December 31, are as follows:

	2023	2022
Trustee:		
U.S. Government agency obligations	\$ 146,382,282	137,605,990
Money market	53,818,802	48,706,250
Repurchase agreements	8,416,250	8,416,250
	208,617,334	194,728,490
Non-trustee:		
U.S. Government agency obligations	—	3,007,350
Cash	49,125,183	43,291,244
Money market	4,626,899	1,680,665
Open-ended mutual funds	20,827,395	28,179,166
	74,579,477	76,158,425
Restricted cash and investments	283,196,811	270,886,915
Less non-trustee cash	(49,125,183)	(43,291,244)
Trustee and non-trustee investments	\$ 234,071,628	227,595,671

(d) Long-Term Notes Payable

The Commission has entered into various interest-free loan agreements with Massachusetts Water Resource Authority (the "MWRA"). Under these agreements, the Commission is required to repay these loans in annual installments as part of the MWRA’s Infiltration/Inflow Local Financial Assistance Program (“I/I”), Lead Loan Program (“LLP”), and System Assistance Program (“SAP”). These programs are designed to assist service area communities with sewer system rehabilitation.

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2023 and 2022

(5) Long-Term Obligations - Continued

(d) Long-Term Notes Payable - continued

The following is a summary of long-term note activities with MWRA for the years ended December 31,:

Description	Balance at December 31, 2022	Additions	Reductions	Balance at December 31, 2023	Amounts due within one year
MWRA I/I Program Phase IX, interest free, due November 15, 2031	\$ 3,815,190	—	452,264	3,362,926	452,264
MWRA I/I Program Phase X, interest free, due November 15, 2033	2,706,990	523,350	476,261	2,754,079	302,478
MWRA SAP Program, interest free, due November 15, 2033	27,057,743	9,387,000	5,068,633	31,376,110	5,563,589
MWRA LLP. Program, interest free, due May 15, 2032	3,204,677	—	346,491	2,858,186	346,492
Total long-term notes	<u>\$ 36,784,600</u>	<u>9,910,350</u>	<u>6,343,649</u>	<u>40,351,301</u>	<u>6,664,823</u>
Description	Balance at December 31, 2021	Additions	Reductions	Balance at December 31, 2022	Amounts due within one year
MWRA I/I Program Phase VIII, interest free, due May 15, 2022	\$ 206,022	—	206,022	—	—
MWRA I/I Program Phase IX, interest free, due November 15, 2033	4,622,114	—	806,924	3,815,190	452,264
MWRA I/I Program Phase X, interest free, due May 15, 2032	—	2,706,990	—	2,706,990	270,699
MWRA SAP Program, interest free, due Aug 15, 2028	32,619,766	—	5,562,023	27,057,743	5,068,632
MWRA LLP. Program, interest free, due May 15, 2032	2,602,419	862,500	260,242	3,204,677	346,492
Total long-term notes	<u>\$ 40,050,321</u>	<u>3,569,490</u>	<u>6,835,211</u>	<u>36,784,600</u>	<u>6,138,087</u>

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2023 and 2022

(5) Long-Term Obligations - Continued

(d) Long-Term Notes Payable - continued

Debt principal for future years as of the year ended December 31, are as follows (amounts in thousands):

2024	6,665
2025	6,066
2026	5,678
2027	5,291
2028	4,898
2029-2033	11,753
	<u>40,351</u>
	<u>\$ 40,351</u>

(6) Short-Term Obligations

(a) Commercial Paper

The Commission issues commercial paper notes for financing capital expenditures. The following represents the Commission's commercial paper notes outstanding as of the years ended December 31,:

<u>Description</u>	<u>Balance at December 31, 2022</u>	<u>Additions</u>	<u>Reductions</u>	<u>Balance at December 31, 2023</u>
Commercial paper notes, Bank of America program due November 14, 2023 through January 11, 2024	\$ 35,000,000	45,000,000	—	80,000,000
Total commercial paper	<u>\$ 35,000,000</u>	<u>45,000,000</u>	<u>—</u>	<u>80,000,000</u>

<u>Description</u>	<u>Balance at December 31, 2021</u>	<u>Additions</u>	<u>Reductions</u>	<u>Balance at December 31, 2022</u>
Commercial paper notes, Bank of America program due December 6, 2022 through March 6, 2023	\$ 15,000,000	20,000,000	—	35,000,000
Total commercial paper	<u>\$ 15,000,000</u>	<u>20,000,000</u>	<u>—</u>	<u>35,000,000</u>

Subsequent to year end the Commission permanently financed all outstanding commercial paper as part of the 2024 Series A General Revenue Bonds (Senior Series) (See Note 15).

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2023 and 2022

(6) Short-Term Obligations - Continued

(b) Interim Loan

During 2023, the Commission entered into a loan agreement with the Massachusetts Clean Water Trust (“MCWT”) to finance the elimination of lead water services in Boston. The interim loan interest rate is 0% with no payments due until the balance is converted into a long-term note with a portion subject to forgiveness.

Description	Balance at December 31, 2022	Additions	Reductions	Balance at December 31, 2023
Massachusetts Clean Water Trust interim note CW-20-50	\$ —	1,607,750	—	1,607,750
Total interim notes	\$ —	1,607,750	—	1,607,750

(7) Massachusetts Water Resources Authority

The Commission obtains water supply and sewer treatment services from MWRA and is assessed a portion of the MWRA's actual operating and capital expenses. The assessment is based on the MWRA's fiscal year (July 1 to June 30), and payments are due to MWRA in ten equal installments excluding the months of January and July. Details of the MWRA assessments included in the statements of revenue and expenses at December 31, are as follows:

	2023	2022
Assessments based on:		
Water usage	\$ 100,337,622	96,676,398
Wastewater usage	149,006,883	149,282,093
Total	\$ 249,344,505	245,958,491

(8) Transactions with the City of Boston

Departments of the City of Boston were billed approximately \$5.0 million and \$5.7 million during 2023 and 2022, respectively, based on actual consumption.

The City provides services to the Commission, including paving and facilities. Operating costs billed to the Commission by the City were approximately \$366,000 and \$418,000 during the years ended December 31, 2023 and 2022, respectively, and capital costs billed by the City were approximately \$8,700 and \$128,000 during the years ended December 31, 2023 and 2022, respectively.

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2023 and 2022

(9) Pension Benefits

(a) *Description of the State-Boston Retirement System Plan*

The Commission contributes to the Boston Retirement System (“BRS”), a cost-sharing, multi-employer qualified defined benefit public employee retirement system established under Chapter 32 of the Massachusetts General Laws (“MGL”) and a member of the Massachusetts Contributory Retirement System (the "System"). Under a cost-sharing plan, pension obligations for employees of all employers are pooled and plan assets are available to pay the benefits of the employees of any participating employer providing pension benefits through the plan, regardless of the status of the employers’ payment of its pension obligation to the plan. The System provides retirement, disability, and death benefits to plan members and beneficiaries. Chapter 32 of the MGL assigns authority to establish and amend benefit provisions of the plan.

A complete set of financial statements for BRS for the fiscal year ended December 31, 2023 can be obtained through the BRS, Boston City Hall, Room 816, Boston, MA 02201 or by accessing the website www.boston.gov/departments/retirement#financials-and-investments.

(b) *Benefit Provisions*

Participation in the System is mandatory for all permanent, full-time, and certain part-time employees immediately upon the commencement of employment. Participants who resign from employment or are receiving workers’ compensation benefits, and who are not eligible to receive a retirement allowance, are entitled to request a refund of their total contributions. In addition, those participants that resign voluntarily with less than ten years of service are entitled to receive 3% per year interest; all others receive interest which has accrued on their cumulative deductions at the regular interest rate (0.1% at December 31, 2023 and 2022).

Employees with ten or more years of service, having attained age 55, are entitled to pension benefits; an earlier retirement is allowed upon completion of twenty years of service. The System provides for retirement allowance benefits up to a maximum of 80% of a participant’s highest consecutive three-year average annual rate of regular compensation (highest consecutive five-year average for those members who join the System on or after April 2, 2012). Benefit payments are based upon a participant’s age, length of creditable service, level of compensation and group classification. Participants become vested after ten years of creditable service. Effective July 1, 1998, Chapter 32 of the MGL assigns authority to establish and amend benefits provisions and grant cost-of-living increases for the plan to the BRS.

If a member in service dies due to causes unrelated to his or her job, the surviving spouse and/or surviving dependent children may receive benefits based on the member’s length of service, contributions and age, either in a lump sum or in the form of an annuity. In the event there are no spouse and/or dependent children named, other beneficiaries may be entitled to a lump-sum distribution. Participants who become permanently and totally disabled from further duty may be eligible to receive accident or ordinary disability retirement benefits.

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2023 and 2022

(9) Pension Benefits - Continued

(b) Benefit Provisions - Continued

Accident disability is provided to members with incapacitation resulting from a work-related injury or hazard. Generally, annual pension benefits are provided based on 72% of the annual rate of regular compensation. Ordinary disability is available to any member whose permanent incapacitation is not work related and has completed ten years of creditable service. Such benefits are provided as if the member had attained the age of 55 (or actual age if over 55) based on the amount of creditable service earned. Limits are placed on how much an employee receiving disability benefits can earn from other sources while collecting a disability retirement pension.

(c) Contributions

Plan members are required to contribute to the BRS at rates ranging from 5% to 9% of annual covered compensation. Employees hired on or after January 1, 1979 contribute an additional 2% of earnings in excess of \$30,000 per year. The Commission is required to pay into the BRS its share of the remaining system-wide actuarially determined contribution accepted by PERAC plus administration costs, which are apportioned among the employers based on active covered payroll. The contributions of plan members and the Commission are governed by Chapter 32 of the MGL. The Commission's actual contributions to the plan for the years ended December 31, 2023, 2022 and 2021 amounted to \$9,835,748, \$15,723,881, and \$5,464,716, respectively, representing its contractually required contribution for each year along with any additional funds to reduce the unfunded liability. Employer required contributions, based on actuarially determined amounts, aggregated \$6,283,662, \$6,744,090, and \$6,542,535, or 15.0%, 18.4% and 17.3% of covered payroll in 2023, 2022 and 2021, respectively.

The Commission's funding policies have been established by Chapter 32 of the MGL. The Legislature has the authority to amend these policies. The annuity portion of the Commission's retirement allowance is funded by employees, who contribute a percentage of their regular compensation. Costs of administering the plan are funded out of plan assets. Member contributions vary depending on their date of membership:

<u>Hire Date</u>	<u>Percentage of Compensation</u>
Prior to 1975	5% of regular compensation
1975-1983	7% of regular compensation
1984 to 6/30/1996	8% of regular compensation
7/1/1996 to present	9% of regular compensation

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2023 and 2022

(9) Pension Benefits - Continued

(d) Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources

At December 31, 2023 and 2022, the Commission reported a liability of \$39.0 million and \$46.9 million, respectively, for its proportionate share of the net pension liability related to its participation in BRS. The net pension liability as of December 31, 2023 and 2022, the reporting date, was measured as of December 31, 2023 and 2022, respectively, the measurement date, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of January 1, 2022, rolled forward to December 31, 2023 and 2022, respectively. At December 31, 2023 and 2022, the Commission's proportion was 3.52% and 3.61%, respectively.

The Commission follows the accounting standards set forth in GASB 62, and therefore provides for recovery of these pension liability costs as a deferred outflow of resources to be collected over the life of the liability to which it relates.

At December 31, 2023 and 2022, the Commission reported deferred outflows of resources and deferred inflows of resources related to pensions as follows:

	2023	2022
<u>Deferred Outflows of Resources</u>		
Net difference between projected and actual earnings on pension plan investments	\$ 11,258,810	17,410,463
Differences between expected and actual experience	2,908,967	3,529,506
Changes in assumptions	2,087,019	3,193,008
Total	\$ 16,254,796	24,132,977
 <u>Deferred Inflows of Resources</u>		
Changes in assumptions	\$ 363,110	435,732
Differences between expected and actual experience	3,167,043	4,781,624
Total	\$ 3,530,153	5,217,356

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2023 and 2022

(9) Pension Benefits - Continued

(d) Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources - Continued

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized as increases (decreases) in pension expense as follows:

Years Ended	
<u>December 31,</u>	
2024	\$ 3,528,613
2025	3,916,700
2026	5,305,093
2027	(509,104)
2028	483,341
	<u>\$ 12,724,643</u>

(e) Actuarial Assumptions

The total pension liability as of December 31, 2023 and 2022 was determined using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	3.00%
Salary increases	4.00%
Investment rate of return	7.00%
Post-retirement cost of living adjustment	3% of first \$15,000 (\$14,000 in 2021)

For 2023 and 2022, mortality rates for pre-retirees, healthy retirees and disabled retirees were based on Pub-2010 General Employee, Healthy Retiree and Contingent Survivor Amount-Weighted Mortality Tables set forward one year projected generationally using Scale MP-2019.

The actuarial assumptions used in the valuations involve estimates of the reported amounts and assumptions about probability of occurrence of events far into the future. Amounts determined regarding the net pension liability are subject to continual revision as actual results are compared with past expectations and new projections are made.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future rates of return are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future rates of return by the target asset allocation percentage.

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2023 and 2022

(9) Pension Benefits - Continued

(e) Actuarial Assumptions - continued

Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of December 31, 2023 are summarized in the following table:

<u>Asset Class</u>	<u>Target Allocation</u>	<u>Long-Term Expected Real Rate of Return</u>
Domestic equity	32.00%	6.29%
International developed markets equity	21.00%	6.39%
High-yield fixed income	3.00%	3.43%
Core fixed income	15.00%	1.72%
Emerging market debt	5.00%	3.53%
Real estate	10.00%	3.24%
TIPS	5.00%	1.72%
Hedge fund, GTAA, Risk parity	5.00%	2.87%
Private equity	4.00%	9.43%
Total	<u>100.00%</u>	

Best estimates of arithmetic real rates of return for each major asset class included in the pension plan's target asset allocation as of December 31, 2022 are summarized in the following table:

<u>Asset Class</u>	<u>Target Allocation</u>	<u>Long-Term Expected Real Rate of Return</u>
Domestic equity	32.00%	6.59%
International developed markets equity	15.00%	6.87%
International emerging markets equity	6.00%	8.30%
Core fixed income	15.00%	1.53%
Emerging market debt	5.00%	3.54%
Real estate	10.00%	3.44%
TIPS	3.00%	1.44%
Hedge fund, GTAA, Risk parity	5.00%	3.06%
Private equity	9.00%	9.49%
Total	<u>100.00%</u>	

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2023 and 2022

(9) Pension Benefits - Continued

(f) Discount Rate

The discount rate used to measure the total pension liability was 7.00% for 2023 and 2022. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made at the current contribution rates and employer contributions will be made at the actuarially determined contractually required rates. Based on these assumptions, the net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity of the Net Pension Liability to Changes in the Discount Rate

The following tables illustrate the sensitivity of the net pension liability, calculated using the discount rate of 7% for the years ended December 31, 2023 and 2022, respectively, as well as what the net pension liability would be if it were calculated using a discount rate that is one-percentage-point lower or one-percentage-point higher than the current rate:

	2023	
	Current Discount	
1.00% Decrease	Rate	1.00% Increase
<u>(6.00%)</u>	<u>(7.00%)</u>	<u>(8.00%)</u>
\$59,552,374	\$38,989,860	\$21,479,409
	2022	
	Current Discount	
1.00% Decrease	Rate	1.00% Increase
<u>(6.00%)</u>	<u>(7.00%)</u>	<u>(8.00%)</u>
\$67,027,387	\$46,855,560	\$29,685,081

(10) Postemployment Benefits other than Pensions (OPEB)

(a) Plan Description

The Commission sponsors and participates in an Other Postemployment Benefit ("OPEB") Trust plan, a single-employer defined benefit healthcare plan ("OPEB Plan"), that provides healthcare and insurance benefits to participating retirees and their beneficiaries. The OPEB Plan provides healthcare benefits to current and future retirees, and their dependents/beneficiaries in accordance with Massachusetts General Laws Chapter 32B.

The OPEB Plan is administered by the Commission and does not issue stand-alone financial statements.

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2023 and 2022

(10) Postemployment Benefits other than Pensions (OPEB) - Continued

(b) *Benefits Provided*

Medical and prescription drug benefits are provided to all eligible retirees not enrolled in Medicare through a variety of plans offered by a variety of third-party insurers. Medical and prescription drug benefits are provided to retirees enrolled in Medicare through supplemental and Medicare Advantage plans offered by Blue Cross Blue Shield of Massachusetts, Harvard Pilgrim HealthCare, and Tufts Health Plan.

Groups 1 and 2 retirees, with at least 10 years or 20 years of creditable service, are eligible at age 55 or any age, respectively. Group 4 retirees with at least 10 years or 20 years of creditable service are eligible at age 45 or any age, respectively. Retirees on accidental disability retirement are eligible at any age, while ordinary disability requires 10 years of creditable service. The surviving spouse is eligible to receive pre and post retirement death benefits, as well as medical and prescription drug coverage.

Employer and employee contribution rates are governed by the respective collective bargaining agreements. The OPEB Plan is currently funded on a pay-as-you-go basis plus periodic advance funding contributions as amounts are available. The employers and plan members share the cost of benefits. As of December 31, 2022, the valuation date for years ended December 31, 2023 and 2022, respectively, the plan members contribute 12% to 29.5% of the monthly premium cost, depending on the plan in which they are enrolled. The Commission contributes the balance of the premium cost. For the years ended December 31, 2023 and 2022, the Commission's average contribution rate was 24.87% and 28.27%, respectively, of covered-employee payroll.

(c) *Employees Covered by Benefit Terms*

As of December 31, 2022, the date of the latest actuarial valuation, plan participation consisted of:

Active employees	315
Retirees and beneficiaries	<u>360</u>
Total	<u>675</u>

(d) *Net OPEB Liability and Actuarial Assumptions*

The Commission's net OPEB liability of \$32,062,928 and \$39,616,243 was measured as of December 31, 2023 and 2022, respectively, and was determined by an actuarial valuation as of December 31, 2022. The total OPEB liability in the most recent actuarial valuation was determined using the following key actuarial assumptions applied to all periods included in the measurement, unless otherwise specified:

Payroll Growth:	3.00% for both periods
Salary Increases:	4.00% for both periods
Discount Rate:	6.50% for 2023; 6.00% for 2022
Investment Rate of Return:	6.50% for 2023; 6.00% for 2022

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2023 and 2022

(10) Postemployment Benefits other than Pensions (OPEB) - Continued

(d) Net OPEB Liability and Actuarial Assumptions - continued

For 2023, health care trend rates non-Medicare are 6.875%, decreasing by 0.25% for nine years and then by 0.125% to an ultimate level of 4.5% per year. For self-funded Medicare plans with PDP, 6.875% for one year, then 20.716% for one year, then 12.000% for one year, then 5.875% decreasing by 0.25% for five years and 0.125% for one year to an ultimate level of 4.50% per year. For fully insured Medicare plans, 6.875% for one year, then 6.625% for one year, then 14.7170% for one year, then 8% for one year, then 5.875% decreasing by 0.25% for five years and 0.125% for one year to an ultimate level of 4.50% per year. For Medicare Part B, the valuation used a health care trend rate of 4.5% per year. Retiree contributions are expected to increase with health care trend rates.

For 2022, health care trend rates for Medicare and non-Medicare are 6.875%, decreasing by 0.25% for nine years and then by 0.125% to an ultimate level of 4.5% per year. For Medicare Part B, the valuation used a health care trend rate of 4.5% per year. Retiree contributions are expected to increase with health care trend rates.

For 2023 and 2022, mortality rates for pre-retirees, healthy retirees and disabled retirees were based on Pub-2010 General Employee, Healthy Retiree and Contingent Survivor Amount-Weighted Mortality Tables set forward one year projected generationally using Scale MP-2021 and MP-2019, respectively.

The long-term expected rate of return on OPEB plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of OPEB plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation subtracting expected investment expenses and a risk margin.

The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	2023	
	Target Allocation	Long-Term Expected Real Rate of Return
Domestic equity	35.00%	6.59%
International developed markets equity	8.50%	6.87%
International emerging markets equity	3.50%	8.30%
Private equity	20.00%	9.49%
Core fixed income	26.00%	1.53%
Hedge fund, GTAA, risk parity	7.00%	3.06%
Total	100.00%	

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2023 and 2022

(10) Postemployment Benefits other than Pensions (OPEB) - Continued

(d) Net OPEB Liability and Actuarial Assumptions - continued

<u>Asset Class</u>	<u>2022</u>	
	<u>Target Allocation</u>	<u>Long-Term Expected Real Rate of Return</u>
Domestic equity	38.00%	6.59%
International developed markets equity	10.50%	6.87%
International emerging markets equity	4.50%	8.30%
TIPS	7.00%	1.44%
Core fixed income	20.00%	1.53%
Hedge fund, GTAA, risk parity	20.00%	3.06%
Total	<u>100.00%</u>	

The discount rate used to measure the total OPEB liability was 6.50% and 6.00% as of December 31, 2023 and 2022, respectively. The OPEB plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on OPEB plan investment was applied to all periods of projected benefit payments to determine the total OPEB liability.

The components of the net OPEB liability for the Plan as of December 31, 2023:

Total OPEB liability	\$ 86,217,373
Fiduciary net position	<u>(54,154,445)</u>
Commission's net OPEB liability	<u>\$ 32,062,928</u>
 Fiduciary net position as a percentage of the total OPEB liability	 62.81%

The components of the net OPEB liability for the Plan as of December 31, 2022:

Total OPEB liability	\$ 81,826,689
Fiduciary net position	<u>(42,210,446)</u>
Commission's net OPEB liability	<u>\$ 39,616,243</u>
 Fiduciary net position as a percentage of the total OPEB liability	 51.59%

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2023 and 2022

(10) Postemployment Benefits other than Pensions (OPEB) - Continued

(e) Change in the Net OPEB Liability

	<u>Total OPEB Liability</u>	<u>Plan Fiduciary Net Position</u>	<u>Net OPEB Liability</u>
Balances at December 31, 2022	\$ 81,826,689	\$ 42,210,446	\$ 39,616,243
Changes for the year:			
Service cost	1,851,144	-	1,851,144
Interest	4,916,522	-	4,916,522
Contributions - employer	-	10,397,949	(10,397,949)
Net investment income	-	5,068,978	(5,068,978)
Differences between expected and actual experience	-	-	-
Changes of assumptions	1,145,946	-	1,145,946
Benefit payments	<u>(3,522,928)</u>	<u>(3,522,928)</u>	<u>-</u>
Net changes	<u>4,390,684</u>	<u>11,943,999</u>	<u>(7,553,315)</u>
Balances at December 31, 2023	<u>\$ 86,217,373</u>	<u>\$ 54,154,445</u>	<u>\$ 32,062,928</u>
	<u>Total OPEB Liability</u>	<u>Plan Fiduciary Net Position</u>	<u>Net OPEB Liability</u>
Balances at December 31, 2021	\$ 77,661,019	\$ 38,823,936	\$ 38,837,083
Changes for the year:			
Service cost	2,407,433	-	2,407,433
Interest	4,708,030	-	4,708,030
Contributions - employer	-	10,373,789	(10,373,789)
Net investment income	-	(3,737,370)	3,737,370
Differences between expected and actual experience	5,975,433	-	5,975,433
Changes of assumptions	(5,675,317)	-	(5,675,317)
Benefit payments	<u>(3,249,909)</u>	<u>(3,249,909)</u>	<u>-</u>
Net changes	<u>4,165,670</u>	<u>3,386,510</u>	<u>779,160</u>
Balances at December 31, 2022	<u>\$ 81,826,689</u>	<u>\$ 42,210,446</u>	<u>\$ 39,616,243</u>

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2023 and 2022

(10) Postemployment Benefits other than Pensions (OPEB) - Continued

(f) Sensitivity Analysis

The following presents the Commission's net OPEB liability as well as what the Commission's net OPEB liability would be if it were calculated using a discount rate that is 1% lower or 1% higher than the current discount rate as well as if the healthcare cost trend rates were 1% lower or higher than the current healthcare cost trend rates (the health care rate is disclosed on page 39):

		2023		
		<u>Discount Rate</u>		
		<u>1.00% Decrease (5.50%)</u>	<u>Current Rate (6.50%)</u>	<u>1.00% Increase (7.50%)</u>
Net OPEB Liability		\$43,294,626	\$32,062,928	\$22,721,229
		<u>Health Care Rate</u>		
		<u>1.00% Decrease</u>	<u>Trend Rate</u>	<u>1.00% Increase</u>
Net OPEB Liability		\$20,676,638	\$32,062,928	\$46,050,908
		2022		
		<u>Discount Rate</u>		
		<u>1.00% Decrease (5.00%)</u>	<u>Current Rate (6.00%)</u>	<u>1.00% Increase (7.00%)</u>
Net OPEB Liability		\$50,603,167	\$39,616,243	\$30,506,029
		<u>Health Care Rate</u>		
		<u>1.00% Decrease</u>	<u>Trend Rate</u>	<u>1.00% Increase</u>
Net OPEB Liability		\$29,144,382	\$39,616,243	\$52,499,423

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2023 and 2022

(10) Postemployment Benefits other than Pensions (OPEB) - Continued

(g) OPEB Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to OPEB

The Commission follows the accounting standards set forth in GASB 62, and therefore provides for recovery of these OPEB liability costs as a deferred outflow of resources to be collected over the life of the liability to which it relates. At December 31, 2023 and 2022, the Commission reported deferred outflows of resources and deferred inflows of resources related to OPEB as follows:

	<u>2023</u>	<u>2022</u>
<u>Deferred Outflows of Resources</u>		
Change in assumptions	\$ 5,751,172	5,722,716
Net difference between projected and actual earnings on OPEB plan investments	1,295,130	3,581,502
Difference between projected and actual earnings on OPEB plan investments	<u>4,481,574</u>	<u>5,228,503</u>
Total	<u>\$ 11,527,876</u>	<u>14,532,721</u>
 <u>Deferred Inflows of Resources</u>		
Change in assumptions	\$ 4,501,660	5,280,621
Difference between expected and actual experience	<u>482,884</u>	<u>603,605</u>
Total	<u>\$ 4,984,544</u>	<u>5,884,226</u>

Amounts reported as deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized in OPEB expense as follows:

<u>Years Ended December 31,</u>	
2024	\$ 1,525,378
2025	1,375,167
2026	1,754,825
2027	531,734
2028	1,155,007
Thereafter	<u>201,221</u>
	<u>\$ 6,543,332</u>

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2023 and 2022

(11) Deposit and Investment Risks

(a) *Custodial Credit Risk*

Custodial credit risk is the risk that in the event of bank failure, the Commission's deposits may not be returned. Certain of the Commission's deposits are fully insured by FDIC insurance or collateralized with securities held by the Commission or the Commission's agent in the Commission's name. The Commission does not have a formal policy for managing custodial credit risk of deposits. As of December 31, 2023 and 2022, the cash balances of uninsured and uncollateralized deposits totaled \$58,462,390 and \$50,386,915, respectively. All the Commission's investments are held by a third party in the name of the Commission.

(b) *Investment Policy*

Investment of Commission funds is governed by federal and state laws and is restricted to permitted investments as defined by the Commission's General Revenue Bond Resolution and Supplemental Resolutions. Revenues generated from the investment of Commission funds reduce the amount the Commission must charge to its customers, while any investment losses would negatively affect the Commission's general rates and charges. Consequently, the Commission adheres to an investment policy that will maintain a fully invested, diversified portfolio with the objective of achieving the highest yield that is attainable in conjunction with a very low risk of loss of capital. The basic criteria that will be used in making investment decisions includes the evaluation of risk/reward tradeoffs, historical price spreads between different securities, the slope of the yield curve and the anticipated cash flows of the different investment accounts of the Commission.

Current permitted investments under the General Revenue Bond Resolution include:

1. Any bond or other obligation to which principal and interest are unconditionally guaranteed by the United States of America.
2. Any bond or other obligation of any state, agency or local government unit of any state which are:
 - A. Noncallable.
 - B. Fully collateralized by funds consisting of cash, bonds or obligations of one of the above.
3. Public Housing bonds secured by the United States of America, certain notes issued by public agencies or municipalities fully secured by the United States of America or obligations issued by State or public agencies or municipalities carrying the highest bond rating.
4. Obligations of any state to which the full faith and credit of the state is pledged and are within the two highest bond ratings.
5. Prime Commercial Paper rated A – 1 or P – 1.
6. Shares of money market funds that are open ended and rated A or better, or money market funds of banks meeting specific criteria.

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2023 and 2022

(11) Deposit and Investment Risk - Continued

(b) Investment Policy - continued

7. Certificates of Deposit issued by banks insured by the FDIC, which are fully secured by obligations described in 1 or 2 above.
8. Repurchase Agreements fully collateralized by obligations described in 1 or 2 above.
9. Futures contracts traded on an exchange for investments described in 1, 2, 3, and 4 above.
10. Investments in commercial paper cannot exceed \$15 million per issuance.

Further, all investments of the Commission are held in the Commission's name by a third party.

(c) Interest Rate Risk

The Commission's guidelines do not specifically address limits on maturities as a means of managing its exposure to fair value losses arising from changing interest rates. The following is a listing of the Commission's fixed income investments and related maturity schedule (in years) as of December 31,:

Investment type	2023				
	Fair value	Less than 1	1 – 5	6 – 10	More than 10
U.S. Government agencies	\$ 146,382,283	—	50,897,564	40,800,241	54,684,478
Guaranteed investment contract	8,416,250	—	8,416,250	—	—
Money market	58,445,700	58,445,700	—	—	—
Open ended mutual funds	20,827,395	20,827,395	—	—	—
	<u>\$ 234,071,628</u>	<u>79,273,095</u>	<u>59,313,814</u>	<u>40,800,241</u>	<u>54,684,478</u>

Investment type	2022				
	Fair value	Less than 1	1 – 5	6 – 10	More than 10
U.S. Government agencies	\$ 140,613,340	—	49,581,306	39,062,696	51,969,338
Guaranteed investment contract	8,416,250	—	—	8,416,250	—
Money market	50,386,915	50,386,915	—	—	—
Open ended mutual funds	28,179,166	28,179,166	—	—	—
	<u>\$ 227,595,671</u>	<u>78,566,081</u>	<u>49,581,306</u>	<u>47,478,946</u>	<u>51,969,338</u>

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2023 and 2022

(11) Deposit and Investment Risk - Continued

(d) Credit Risk

The Commission follows its investment policy listed above in regard to the creditworthiness of its investments. The Commission's fixed income investments as of December 31, 2023 and 2022 were rated by Standard and Poor's rating scale and/or an equivalent national rating organization, and the ratings are presented below using the Standard and Poor's rating scale:

<u>Investment type</u>	2023			
	<u>Fair value</u>	<u>AAA</u>	<u>AA</u>	<u>Not rated</u>
U.S. Government agencies	\$ 146,382,283	130,175,861	—	16,206,422
Guaranteed investment contract	8,416,250	—	—	8,416,250
Money market	58,445,700	58,445,700	—	—
Open ended mutual funds	20,827,395	20,827,395	—	—
	<u>\$ 234,071,628</u>	<u>209,448,956</u>	<u>—</u>	<u>24,622,672</u>

<u>Investment type</u>	2022			
	<u>Fair value</u>	<u>AAA</u>	<u>AA</u>	<u>Not rated</u>
U.S. Government agencies	\$ 140,613,340	124,219,267	—	16,394,073
Guaranteed investment contract	8,416,250	—	—	8,416,250
Money market	50,386,915	—	50,386,915	—
Open ended mutual funds	28,179,166	28,179,166	—	—
	<u>\$ 227,595,671</u>	<u>152,398,433</u>	<u>50,386,915</u>	<u>24,810,323</u>

As of December 31, 2023, and 2022, the Commission had \$16,206,422 and \$16,394,073, respectively, of unrated investments that are explicitly guaranteed by the U.S. Government.

The Commission's investment policy does not offer specific limitations in regard to the concentration of risk, except that a single investment in commercial securities cannot be more than \$15 million. The Commission has individual investments that at fair value exceed 5% of the total investments balance at December 31, 2023 and 2022. Individually, these investments in money market funds range between \$13 million and \$30 million for 2023 and \$18 million and \$23 million for 2022. In the aggregate, they approximate \$43 million and \$62 million for the years ended December 31, 2023 and 2022, respectively.

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2023 and 2022

(11) Deposit and Investment Risk - Continued

(e) OPEB Trust Fund

Custodial Credit Risk

As discussed in Note 11(a), all the OPEB Trust investments are held by a third party in the name of the Commission.

Interest Rate Risk

The following is a listing of the Commission's fixed income investments and related maturity schedule (in years) as of December 31,:

Investment type	Fair value	2023			
		Less than 1	1 – 5	6 – 10	More than 10
U.S. Government agencies	\$ 2,297,963	—	1,202,524	774,643	320,796
Open ended mutual funds	11,279,530	211,937	3,733,888	6,414,234	919,471
	\$ 13,577,493	211,937	4,936,412	7,188,877	1,240,267
		2022			
Investment type	Fair value	Less than 1	1 – 5	6 – 10	More than 10
U.S. Government agencies	\$ 2,212,059	—	1,102,046	805,633	304,380
Open ended mutual funds	6,043,544	74,536	2,223,114	3,745,894	—
	\$ 8,255,603	74,536	3,325,160	4,551,527	304,380

Credit Risk

As of December 31, 2023 and 2022, the OPEB Trust Fund all investments are held by issuers greater than 5% of total investments.

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2023 and 2022

(11) Deposit and Investment Risk - Continued

(e) OPEB Trust Fund - continued

The OPEB Trust's fixed income investments as of December 31, 2023 and 2022 were rated by Standard and Poor's rating scale and/or an equivalent national rating organization, and the ratings are presented below using the Standard and Poor's rating scale:

<u>Investment type</u>	2023				
	<u>Fair value</u>	<u>Aaa-A3</u>	<u>Baa1-B3</u>	<u>Caa1-Caa3</u>	<u>Not rated</u>
U.S. Government agencies	\$ 2,297,963	2,297,963	—	—	—
Open ended mutual funds	11,279,530	6,908,594	3,979,848	244,298	146,790
	<u>\$ 13,577,493</u>	<u>9,206,557</u>	<u>3,979,848</u>	<u>244,298</u>	<u>146,790</u>

<u>Investment type</u>	2022				
	<u>Fair value</u>	<u>Aaa-A3</u>	<u>Baa1-B3</u>	<u>Caa1-Caa3</u>	<u>Not rated</u>
U.S. Government agencies	\$ 2,212,059	2,212,059	—	—	—
Open ended mutual funds	6,043,544	5,902,050	141,494	—	—
	<u>\$ 8,255,603</u>	<u>8,114,109</u>	<u>141,494</u>	<u>—</u>	<u>—</u>

Fair Value

The OPEB Trust Fund has the following fair value measurements as of December 31,:

Assets at Fair Value as of December 31, 2023

	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>	<u>Total</u>
Mutual funds	\$ 9,700,772	\$ -	\$ -	\$ 9,700,772
Equities	15,904,583	-	-	15,904,583
Fixed income	-	13,577,493	-	13,577,493
Pooled index funds	-	<u>8,180,601</u>	-	<u>8,180,601</u>
Total Assets at Fair Value	<u>\$ 25,605,355</u>	<u>\$ 21,758,094</u>	<u>\$ -</u>	<u>\$ 47,363,449</u>

Assets at Fair Value as of December 31, 2022

	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>	<u>Total</u>
Mutual funds	\$ 8,554,304	\$ -	\$ -	\$ 8,554,304
Equities	15,426,405	-	-	15,426,405
Fixed income	-	8,225,603	-	8,225,603
Pooled index	-	<u>6,504,134</u>	-	<u>6,504,134</u>
Total Assets at Fair Value	<u>\$ 23,980,709</u>	<u>\$ 14,729,737</u>	<u>\$ -</u>	<u>\$ 38,710,446</u>

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2023 and 2022

(12) Commitments

The Commission has an ongoing Capital Improvement Program. In connection therewith, the Commission has entered into various contracts for the design and construction of its infrastructure. Commitments under these contracts aggregate approximately \$114.4 million as of December 31, 2023.

The Commission has committed to capital improvement projects of approximately \$232.6 million for 2024 through 2025, which are primarily related to enhance the operation of the water and sewer system, including reducing pollution to Boston Harbor and neighboring waterways. Of this amount, approximately \$156.0 million represents extension and improvement projects and \$76.6 million represents renewal and replacement projects. The extension and improvement projects will be 38% funded by federal, state and Massachusetts Water Resources Authority grants and loans. The remainder will be funded from the Commission's operating revenues and borrowings, as needed.

(13) Risk Management and Other Insurance

The Commission is completely self-insured for unemployment benefits. The Commission's workers' compensation is self-insured with a self-insured retention of \$750,000 per accident, supplemented with excess coverage at statutory limits purchased through an outside carrier. For general liability, the Commission's self-insured retention is \$1 million per occurrence and is supplemented by \$10 million of excess coverage. Under the sections of the Model Water and Sewer Act, the Commission's maximum tort liability is \$100,000 per claimant.

The Commission maintains other insurance coverage as follows:

<u>Policy type</u>	<u>Coverage</u>
Automobile Liability	Combined single limit of \$1 million/accident, supplemented with excess coverage of \$10 million
Property	Aggregate limit of \$250 million blanket building and contents per occurrence with a \$25,000 deductible each occurrence on most perils.
Public Officials	Coverage of \$5 million each act, \$1,000,000 self-insurance retention each claim.
Employment Practices	Coverage of \$5 million annual aggregate via layered policies, \$500,000 self-insurance retention each claim.
Fiduciary	\$5 million annual aggregate, with \$10,000 deductible each claim.
Crime	Employee dishonesty coverage of \$5 million, with \$25,000 deductible each loss.
Cyber Risk	\$4 million annual aggregate with \$50,000 deductible each claim.

Insurance claims for all policies have not exceeded coverage in the past three years.

Liabilities for self-insured claims are reported if it is probable that a loss has been incurred and the amount can be reasonably estimated. The Commission has established a liability reserve based on historical trends along with attorney's and independent insurance reserve appraiser's estimate of pending matters and lawsuits in which the Commission is involved.

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2023 and 2022

(13) Risk Management and Other Insurance - Continued

Changes for the years ended December 31, are as follows:

	<u>2023</u>	<u>2022</u>
Beginning balance of reserves	\$ 4,550,357	3,367,494
Payment of claims attributable to events of both current and prior years:		
Workers' compensation	-	-
General liability	544,137	1,663,275
Incurred claims	<u>(542,366)</u>	<u>(480,412)</u>
Ending balance of reserves	\$ <u>4,552,128</u>	<u>4,550,357</u>

(14) Contingencies

(a) Legal

The Commission is involved in ordinary and routine litigation and other matters related to its operations and the establishment of rates. Management believes that the resolution of these matters will not materially affect the financial position of the Commission.

The Commission has received federal and state grants for specific purposes that are subject to review and audit by the grantor agencies. Such audits could lead to requests for reimbursement to the grantor agency for expenditures disallowed under terms of the grant. The Commission believes such disallowances, if any, will not be significant.

(b) Pollution Remediation Obligations

GASB Statement No. 49, *Accounting and Financial Reporting by Employers for Pollution Remediation Obligations*, requires governments to reasonably determine potential polluted sites and provide guidance to recognize Pollution Remediation Obligations ("PRO") components as liability. The Commission evaluated their pollution remediation events and determined that the PRO liability as of December 31, 2023, as well as the PRO payments made during 2023 and 2022, were not material to the Commission's financial statements.

(c) Environmental Protection Agency

During 2012, the Commission entered into a consent decree with the Conservation Law Foundation, Inc. ("CLF") and the United States Environmental Protection Agency in settlement of a suit originally brought by the CLF alleging violations of the Commission's National Pollution Discharge Elimination System Permit. The consent decree required the Commission to pay approximately \$374,000 of penalties and reimbursed legal fees and established goals. Failure to meet these goals will subject the Commission to penalties calculated on a daily basis until the goal is achieved. The decree also calls for other payments if the Commission does not meet specific expenditure levels. For 2023, the Commission believes they have achieved the goals set forth in the decree. In accordance with GASB 49, the achievement of these goals is a part of the Commission's ongoing operations and is not accrued as a PRO.

BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2023 and 2022

(15) Subsequent Event

In March 2024, the Commission issued \$82,110,000 General Revenue Bonds (Senior Series) 2024 Series A. The bonds were issued (i) to permanently finance certain capital improvements previously financed by outstanding commercial paper issued by the Commission; (ii) to provide funds for certain additional capital improvements; (iii) to provide for a deposit to the Senior Debt Service Reserve Fund established under the Resolution; and (iv) to provide for costs of issuance of the 2024 Series A Bonds.

In April 2024, the Commission began charging certain customers for stormwater. The charge is calculated based on the customer's property impervious area. The charge aims to fund the City's compliance with the Clean Water Act and a Consent Decree with the Conservation Law Foundation and the US Environmental Protection Agency (Note 14).

Independent Auditor's Report on Internal Control over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with *Government Auditing Standards*

INDEPENDENT AUDITOR'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH GOVERNMENT AUDITING STANDARDS

To the Commissioners of
Boston Water and Sewer Commission:

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the business-type activity and the aggregate remaining fund information of Boston Water and Sewer Commission (the "Commission"), as of and for the year ended December 31, 2023 and the related notes to the financial statements, which collectively comprise the Commission's basic financial statements, and have issued our report thereon dated August 19, 2024.

Report on Internal Control over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Commission's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Commission's internal control. Accordingly, we do not express an opinion on the effectiveness of the Commission's internal control.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements, on a timely basis. *A material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected, on a timely basis. *A significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses or significant deficiencies may exist that were not identified.

Report on Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Commission's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the financial statements. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Withum Smith & Brown, PC

August 19, 2024

**REQUIRED SUPPLEMENTARY
INFORMATION**

BOSTON WATER AND SEWER COMMISSION

Schedule of Proportionate Share of the Net Pension Liability (Unaudited)

Boston Retirement System

Year ended Valuation date Measurement date	December 31, 2023		December 31, 2022		December 31, 2021		December 31, 2020		December 31, 2019		December 31, 2018		December 31, 2017		December 31, 2016		December 31, 2015		
	December 31, 2023	January 1, 2022	December 31, 2022	January 1, 2022	December 31, 2021	January 1, 2020	December 31, 2020	January 1, 2018	December 31, 2019	January 1, 2018	December 31, 2018	January 1, 2016	December 31, 2017	January 1, 2016	December 31, 2016	January 1, 2014	December 31, 2015		
Commission's proportion of the net pension liability	3.52%	3.61%	3.77%	3.76%	4.13%	4.28%	4.20%	4.20%	4.20%	4.20%	4.20%	4.20%	4.20%	4.20%	4.20%	4.20%	4.20%	2.60%	
Commission's proportionate share of the net pension liability	\$ 38,989,860	\$ 46,855,560	\$ 21,656,915	\$ 29,011,883	\$ 34,808,595	\$ 40,448,003	\$ 25,976,537	\$ 26,503,599	\$ 38,931,280	\$ 38,931,280	\$ 40,448,003	\$ 25,976,537	\$ 26,503,599	\$ 38,931,280	\$ 38,931,280	\$ 38,931,280	\$ 38,931,280	\$ 38,931,280	\$ 38,931,280
Commission's covered payroll	\$ 41,815,040	\$ 36,695,765	\$ 37,976,646	\$ 38,809,388	\$ 35,533,839	\$ 35,472,896	\$ 34,743,487	\$ 33,407,151	\$ 31,361,504	\$ 31,361,504	\$ 35,472,896	\$ 34,743,487	\$ 33,407,151	\$ 31,361,504	\$ 31,361,504	\$ 31,361,504	\$ 31,361,504	\$ 31,361,504	\$ 31,361,504
Commission's proportionate share of the net pension asset as a percentage of its covered payroll	93.24%	127.69%	57.03%	74.75%	97.96%	114.03%	74.77%	79.34%	124.14%	124.14%	114.03%	74.77%	79.34%	124.14%	124.14%	124.14%	124.14%	124.14%	124.14%
Plan fiduciary net position as a percentage of the total pension liability	79.26%	74.06%	87.23%	82.04%	77.87%	72.89%	81.49%	79.44%	69.20%	69.20%	72.89%	81.49%	79.44%	69.20%	69.20%	69.20%	69.20%	69.20%	69.20%

Notes:
This schedule is presented to illustrate the requirement to show information for 10 years. However, until a full 10-year trend is compiled, information is presented for those years in which information is available.

See accompanying notes to the required supplemental information.

BOSTON WATER AND SEWER COMMISSION

Schedule of Pension Contributions (Unaudited)

Boston Retirement System

For the Years Ended December 31,

	2023	2022	2021	2020	2019	2018	2017	2016	2015
Contractually required contribution	\$ 6,283,662	6,744,090	6,542,535	6,208,445	5,951,949	4,868,286	4,667,585	4,918,577	3,994,268
Contributions in relation to the contractually required contribution	9,835,748	15,723,881	5,464,716	2,800,819	3,166,395	7,507,131	4,129,227	11,057,791	7,907,306
Contribution deficiency (excess)	\$ (3,552,086)	(8,979,791)	1,077,819	3,407,626	2,785,554	(2,638,845)	538,358	(6,139,214)	(3,913,038)
Commission's covered payroll	\$ 41,815,040	36,695,765	37,976,646	38,809,388	35,533,839	35,472,896	34,743,437	33,407,151	31,361,504
Contribution as a percentage of covered-payroll	23.5%	42.8%	14.4%	7.2%	8.9%	21.2%	11.9%	33.1%	25.2%

Notes:
Employers participating in the Boston Retirement System are required by MA General Laws, Section 32, to contribute an actuarially determined contribution rate each year.

This schedule is presented to illustrate the requirement to show information for 10 years. However, until a full 10-year trend is compiled, information is presented for those years in which information is available.

See accompanying notes to the required supplemental information.

BOSTON WATER AND SEWER COMMISSION

Notes to the Required Supplementary Information - Boston Retirement System (Unaudited)

December 31, 2023 and 2022

Note 1 - **Change in Assumptions**

Fiscal year December 31, 2023

- None

Fiscal year December 31, 2022

- The generational mortality improvement scale was updated from Scale MP-2019 to Scale MP-2021.

Fiscal year December 31, 2021

- None

Fiscal year December 31, 2020

- The net investment return assumption was lowered from 7.25% to 7.00%.
- The salary increase assumption was lowered from 4.50% to 4.00% per year.
- The wage inflation assumption was lowered from 3.50% to 3.00% per year.
- The mortality assumption for non-disabled participants was updated from RP-2014 Blue Collar Employee and Healthy Annuitant Mortality Tables set forward one year for female participant projected generationally using Scale MP-2017 to the Pub-2010 General Employee, Healthy Retiree and Contingent Survivor Amount-Weighted Mortality Tables set forward one year projected generationally using Scale MP-2019.
- The mortality assumption for disabled participants was updated from RP-2014 Blue Collar Employee and Healthy Annuitant Mortality Tables set forward one year projected generationally using Scale MP-2017 to the Pub-2010 General Employee, Healthy Retiree and Contingent Survivor Amount-Weighted Mortality Tables set forward one year projected generationally using Scale MP-2019.

Fiscal year December 31, 2019

- None

Fiscal year December 31, 2018

- None

Fiscal year December 31, 2017

- The investment return assumption was reduced from 7.50% to 7.25%.

Fiscal year December 31, 2016

- None

Fiscal year December 31, 2015

- None

BOSTON WATER AND SEWER COMMISSION

Schedule of the Changes in Total OPEB Liability and Related Ratios (Unaudited)

Other Postemployment Benefit ("OPEB") Trust

Year ended	December 31, 2023	December 31, 2022	December 31, 2021	December 31, 2020	December 31, 2019	December 31, 2018
Total OPEB liability:						
Service cost	\$ 1,851,144	\$ 2,407,433	\$ 2,041,742	\$ 2,190,830	\$ 2,134,311	\$ 2,069,043
Interest	4,916,522	4,708,030	4,210,950	4,891,289	4,646,844	4,394,786
Change in benefit terms	-	-	-	(10,574,843)	-	-
Differences between expected and actual experience	-	5,975,433	-	(965,764)	-	-
Change in assumptions	1,145,946	(5,675,317)	7,630,285	(292,259)	(264,108)	-
Benefit payments	<u>(3,522,928)</u>	<u>(3,249,909)</u>	<u>(3,064,401)</u>	<u>(2,887,704)</u>	<u>(2,783,496)</u>	<u>(2,480,017)</u>
Net change in total OPEB liability	4,390,684	4,165,670	10,818,576	(7,638,451)	3,733,551	3,983,812
Total OPEB liability, beginning of year	<u>81,826,689</u>	<u>77,661,019</u>	<u>66,842,443</u>	<u>74,480,894</u>	<u>70,747,343</u>	<u>66,763,531</u>
Total OPEB liability, end of year	<u>86,217,373</u>	<u>81,826,689</u>	<u>77,661,019</u>	<u>66,842,443</u>	<u>74,480,894</u>	<u>70,747,343</u>
Plan fiduciary net position:						
Contributions - employer	10,397,949	10,373,789	6,958,809	3,867,341	4,200,341	6,301,842
Net investment income	5,068,978	(3,737,370)	3,955,845	1,155,302	4,519,177	(596,759)
Benefit payments	<u>(3,522,928)</u>	<u>(3,249,909)</u>	<u>(3,064,401)</u>	<u>(2,887,704)</u>	<u>(2,783,496)</u>	<u>(2,480,017)</u>
Net change in plan fiduciary net position	11,943,999	3,386,510	7,850,253	2,134,939	5,936,022	3,225,066
Plan fiduciary net position, beginning of year	<u>42,210,446</u>	<u>38,823,936</u>	<u>30,973,683</u>	<u>28,838,744</u>	<u>22,902,722</u>	<u>19,677,656</u>
Plan fiduciary net position, end of year	<u>54,154,445</u>	<u>42,210,446</u>	<u>38,823,936</u>	<u>30,973,683</u>	<u>28,838,744</u>	<u>22,902,722</u>
Net OPEB liability, end of year	<u>\$ 32,062,928</u>	<u>\$ 39,616,243</u>	<u>\$ 38,837,083</u>	<u>\$ 35,868,760</u>	<u>\$ 45,642,150</u>	<u>\$ 47,844,621</u>
Plan fiduciary net position as a percentage of the total OPEB liability	62.81%	51.59%	49.99%	46.34%	38.72%	32.37%
Covered payroll	\$ 41,815,040	\$ 36,695,765	\$ 37,976,646	\$ 38,809,388	\$ 35,533,839	\$ 35,472,896
Net OPEB liability as a percentage of covered payroll	76.68%	107.96%	102.27%	92.42%	128.45%	134.88%

Notes:

This schedule is presented to illustrate the requirement to show information for 10 years. However, until a full 10-year trend is compiled, information is presented for those years in which information is available.

This schedule is presented using the optional format of combining the required schedules in paragraphs 57a and 57b of GASB 75.

BOSTON WATER AND SEWER COMMISSION

Schedule of OPEB Contributions (Unaudited)

Other Postemployment Benefit ("OPEB") Trust

For the Years Ended December 31,

	2023	2022	2021	2020	2019	2018
Actuarially determined contribution	\$ 6,975,377	\$ 5,156,298	\$ 4,256,512	\$ 4,077,414	\$ 4,859,090	\$ 4,688,044
Contribution in relation to the actuarially determined contribution	<u>10,397,949</u>	<u>10,373,789</u>	<u>6,958,809</u>	<u>3,867,341</u>	<u>4,200,341</u>	<u>6,301,842</u>
Contribution deficiency (excess)	<u>\$ (3,422,572)</u>	<u>\$ (5,217,491)</u>	<u>\$ (2,702,297)</u>	<u>\$ 210,073</u>	<u>\$ 658,749</u>	<u>\$ (1,613,798)</u>
Covered payroll	\$ 41,815,040	\$ 36,695,765	\$ 37,976,646	\$ 38,809,388	\$ 35,533,839	\$ 35,472,896
Contributions as a percentage of covered-payroll	24.87%	28.27%	18.32%	9.96%	11.82%	17.77%

Notes:

This schedule is presented to illustrate the requirement to show information for 10 years. However, until a full 10-year trend is compiled, information is presented for those years in which information is available.

The actuarial methods and assumptions used to calculate the total OPEB liability are described in Note 10 to the financial statements.

BOSTON WATER AND SEWER COMMISSION

Notes to the Required Supplementary Information -
Other Postemployment Benefit ("OPEB") Trust (Unaudited)

December 31, 2023 and 2022

Note 1 - **Change in Assumptions**

Fiscal year December 31, 2023

- The discount rate was increased from 6.00% to 6.50%.
- The Medicare trend assumptions were revised to reflect the estimated impact of the Inflation Reduction Act on Medicare plans.
- Contributions were updated to reflect known contribution cost sharing increases.

Fiscal year December 31, 2022

- The mortality projection scale was updated.
- Per capita health care costs, retiree contributions, and trends were updated.

Fiscal year December 31, 2021

- The discount rate was lowered from 6.25% to 6.00%.

Fiscal year December 31, 2020

- The per capita health care costs, retiree contributions, and trend assumptions were updated.
- The mortality assumptions were updated to the Pub-2010 headcount-weighted mortality tables related by the Society of Actuaries in 2019.
- The discount rate was lowered from 6.50% to 6.25%.

Fiscal year December 31, 2019

- The excise tax on high cost health plans was repealed effective December 20, 2019 and as such was removed from the valuation.

Fiscal year December 31, 2018

- None

SUPPLEMENTAL SCHEDULES

BOSTON WATER AND SEWER COMMISSION
Supplemental Schedules of Revenues and Expenses – Rate Basis
For the Years Ended December 31,

	<u>2023</u>	<u>2022</u>
Revenues:		
Water revenue	\$ 183,566,041	179,012,241
Sewer revenue	267,314,891	262,396,440
Subtotal	<u>450,880,932</u>	<u>441,408,681</u>
Less:		
Adjustments	12,902,529	14,062,606
Discounts	3,407,625	3,440,140
Bad debt	101,914	550,528
Subtotal	<u>16,412,068</u>	<u>18,053,274</u>
Net billed charges	434,468,864	423,355,407
Prior year surplus	758,941	464,760
Miscellaneous revenues:		
Late charge revenue	2,208,594	2,082,882
Investment income	8,201,266	4,370,282
Fire pipe revenue	5,428,308	5,327,520
Other income	7,169,673	7,670,726
Total revenues	<u>458,235,646</u>	<u>443,271,577</u>
Direct operating expenses:		
Salaries and wages	61,641,458	63,762,998
Overtime wages	2,586,246	1,676,989
Fringe benefits	9,087,147	8,309,345
Supplies and materials	2,563,779	2,711,659
Repairs and maintenance	11,863,427	12,480,425
Utilities	1,568,410	1,535,354
Professional services	5,013,560	3,741,496
Space and equipment rentals	309,224	339,060
Other services	1,643,931	1,271,151
Insurance	1,207,580	1,101,718
Travel and training	64,318	64,899
Damage claims	217,726	2,374,320
Inventory	19,158	5,848
Capital outlay	95,103	81,320
Total direct operating expenses	<u>97,881,067</u>	<u>99,456,582</u>
Nonoperating expenses:		
MWRA assessment	249,344,505	245,958,491
Capital improvements	37,516,591	20,940,294
Principal payments	36,363,087	32,975,211
Interest expense	15,948,521	16,944,597
Deposits to reserve funds	19,912,000	26,034,000
SDWA assessment	204,016	203,461
Total nonoperating expenses	<u>359,288,720</u>	<u>343,056,054</u>
Total current expenses	<u>457,169,787</u>	<u>442,512,636</u>
Current year rate surplus	\$ <u>1,065,859</u>	<u>758,941</u>

This supplemental schedule presents the Commission's revenues and expenses on the basis that is presented in the Commission's budget and rate-setting documents. See Note 1 in the notes to the basic financial statements for the differences between this supplemental schedule and GAAP.

See accompanying Independent Auditor's Report.