

**BOSTON WATER AND SEWER COMMISSION**

Financial Statements, Required Supplementary Information  
and Other Supplemental Information

December 31, 2020 and 2019

(With Independent Auditors' Report Thereon)

# BOSTON WATER AND SEWER COMMISSION

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## **INDEPENDENT AUDITORS' REPORT**

To the Commissioners of  
Boston Water and Sewer Commission  
Boston, Massachusetts

### **Report on the Financial Statements**

We have audited the accompanying 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 years ended December 31, 2020 and 2019, and the related notes to the financial statements, which collectively comprise the Commission's basic financial statements as listed in the table of contents.

### **Management's Responsibility for the Financial Statements**

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes 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.

### **Auditors' Responsibility**

Our responsibility is to express opinions on these financial statements based on our audits. We conducted our audits in accordance with 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. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

## **Opinions**

In our opinion, the financial statements referred to above present fairly, in all material respects, the net position and fiduciary net position of Boston Water and Sewer Commission as of December 31, 2020, and 2019, and the respective changes in net position and fiduciary net position and cash flows thereof for the years then ended in accordance with accounting principles generally accepted in the United States of America.

## **Other Matters**

### *Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that 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, although not a part of the basic financial statements, is required by the Government 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 historic 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 with 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.

### *Other 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 financial statements. The information has been subjected to the auditing procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the 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 31, 2021, on our consideration of 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 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 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 the Boston Water and Sewer Commission's internal control over financial reporting and compliance.



**Certified Public Accountants  
Braintree, Massachusetts**

August 31, 2021

## BOSTON WATER AND SEWER COMMISSION

Management's Discussion and Analysis

Required Supplementary Information

December 31, 2020 and 2019

(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 finances and are comprised of three basic statements.

The *Statements of Net Position* presents 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* presents information showing how the Commission's net position changed during the most recent fiscal year.

The *Statements of Cash Flows* is 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 financial statements.

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 48 of this report.

## BOSTON WATER AND SEWER COMMISSION

### Management's Discussion and Analysis

#### Required Supplementary Information

December 31, 2020 and 2019

(Unaudited)

### Condensed Financial Information

(in thousands)

	<u>2020</u>	<u>2019</u>	<u>2018</u>
Current assets	\$ 311,314	323,923	332,759
Capital assets, net	1,472,358	1,445,700	1,416,709
Total assets	<u>1,783,672</u>	<u>1,769,623</u>	<u>1,749,468</u>
Total deferred outflows	<u>90,555</u>	<u>99,774</u>	<u>122,720</u>
Current liabilities	112,449	79,515	61,726
Noncurrent liabilities	587,234	630,154	671,319
Total liabilities	<u>699,683</u>	<u>709,669</u>	<u>733,045</u>
Total deferred inflows	<u>783,719</u>	<u>764,291</u>	<u>747,028</u>
Net position:			
Net investment in capital assets	878,726	856,310	800,309
Restricted	114,653	113,573	111,813
Unrestricted net deficit	<u>(602,554)</u>	<u>(574,446)</u>	<u>(520,007)</u>
Total net position	<u>\$ 390,825</u>	<u>395,437</u>	<u>392,115</u>

During the year, the Commission saw an increase in total assets and a decrease in total liabilities, resulting in a decrease in total net position of \$4.6 million, or 1.2%. In 2019, net position totaled \$395.4 million, an increase of \$3.3 million, or 0.9% from 2018. The Commission's 2020 operations resulted in a rate basis surplus of \$371,904 compared to \$689,553 in 2019.

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 \$1.5 billion at December 2020, which is 1.8% higher than in 2019. In 2019, these investments totaled \$1.4 billion, an increase of \$29.0 million, or 2.1% over the 2018 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 2020 were \$393.3 million, which is 1.7% greater than in 2019. Total operating revenues in 2019 were \$386.6 million, which is 1.8% greater than 2018. Operating revenues consist of water and sewer revenue, late charge revenue, fire pipe revenue and other income. Water and sewer revenue in 2020 and 2019 represented 92.5% and 95.7% of total operating revenues, respectively. The increases in 2020 and 2019 operating revenues were primarily driven by a 7.90% and 2.85% average rate increase, respectively.

## BOSTON WATER AND SEWER COMMISSION

### Management's Discussion and Analysis

#### Required Supplementary Information

December 31, 2020 and 2019

(Unaudited)

Total operating expenses in 2020 were \$356.5 million, which represents an increase of 1.7% from 2019. The increase in 2020 operating expenses was primarily due to a combined additional spending of 4.4%, or \$3.0 million in three-line items (operations, maintenance, and Massachusetts Water Resources Authority ("MWRA") assessment). Total operating expenses in 2019 were \$350.6 million, which represents an increase of 3.5% from 2018. This increase in 2019 operating expenses was primarily due to a combined additional spending of 3.2%, or \$9.9 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 67.7% and 67.3% in 2020 and 2019, respectively, of total operating expenses.

In both 2020 and 2019, 85% 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)

	2020	2019	2018
Operating revenues:			
Water and sewer usage	\$ 363,852	370,105	367,443
Other	29,490	16,543	12,418
Operating expenses	(356,455)	(350,596)	(339,050)
Excess operating revenues	36,887	36,052	40,811
Investment income	2,514	5,602	5,491
Interest expense	(17,366)	(18,707)	(18,439)
Total nonoperating net expense	(14,852)	(13,105)	(12,948)
Excess revenues before capital grants, contributions and transfer requirements	22,035	22,947	27,863
Capital grants and contributions	2,560	13,712	5,983
Excess revenues used to fund reserves and other deferrals	(29,525)	(33,206)	(32,017)
Change in accumulated revenues used to offset future rates	318	(131)	12
Change in net position	(4,612)	3,322	1,841
Net position, beginning of year	395,437	392,115	390,274
Net position, end of year	\$ 390,825	395,437	392,115

**BOSTON WATER AND SEWER COMMISSION**

Management’s Discussion and Analysis

Required Supplementary Information

December 31, 2020 and 2019

(Unaudited)

**Capital Assets**

In fiscal year 2020, major Commission project additions totaled \$32.5 million, of which \$12.6 million was financed with bond proceeds. Major project expenditures (in millions) are as follows:

Relay of water mains	\$	14.8
Rehabilitation/replacement of sewers or storm drains		12.8
Interceptor improvements		0.0
Separation of combined sewers		3.3
Meter replacement		0.3
Stormwater		1.3
	\$	<u>32.5</u>

The Commission’s 2021-2023 capital budget includes projected expenditures of \$201.1 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 2021-2023 capital budget, which totals \$201.1 million, anticipates that projects totaling \$113.6 million, or 56.5% of the Commission’s 2021-2023 capital budget, will be funded from bond proceeds. The 2021 budget for debt service is \$51.8 million including \$45.9 million for bonds. Please refer to footnote 5 for more detailed long-term debt information.

## BOSTON WATER AND SEWER COMMISSION

### Management's Discussion and Analysis

#### Required Supplementary Information

December 31, 2020 and 2019

(Unaudited)

The Commission currently has eight series of General Revenue Bonds outstanding at the end of 2020, totaling approximately \$493.5 million as follows (in millions):

1994 Series A	\$	10.5
2009 Series B		3.8
2012 Series A		86.7
2014 Series A		99.2
2015 Series A		72.8
2016 Series A		59.7
2016 Series B		82.9
2018 Series A		77.9
	\$	<u>493.5</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, 2020 and 2019

(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 2020 and 2019, the Commission increased its water and sewer rates by an average of 7.90% and 2.85%, 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, 2021, the Commission increased its water and sewer rates by an average of 8.90%.

### **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](http://www.bwsc.org).

**BOSTON WATER AND SEWER COMMISSION**

Statements of Net Position

December 31, 2020 and 2019

Assets	2020	2019
Current assets:		
Cash and cash equivalents	\$ 11,410,613	4,636,257
Restricted cash and investments (Notes 5 and 11)	236,649,402	259,903,906
Accounts receivable, net:		
Customers, less allowances of \$2,465,797 and \$2,465,932 in 2020 and in 2019, respectively (Note 1)	34,430,503	27,778,831
Unbilled revenues, less allowances of \$1,702,361 in 2020 and 2019	27,963,579	30,737,492
Prepaid expenses	860,224	865,970
<b>Total current assets</b>	311,314,321	323,922,456
Noncurrent assets:		
Capital assets (Note 4):		
Depreciable, net	1,345,311,978	1,311,941,247
Nondepreciable	127,045,760	133,759,235
<b>Total noncurrent assets</b>	1,472,357,738	1,445,700,482
<b>Total Assets</b>	1,783,672,059	1,769,622,938
<b>Deferred Outflows of Resources</b>		
Deferred charges (Note 2)	90,554,918	99,774,382
<b>Liabilities</b>		
Current liabilities:		
Payable from current assets:		
Accounts payable	18,405,430	15,411,556
Other accrued liabilities	8,910,337	9,800,931
Commercial paper notes (Note 6)	50,000,000	20,000,000
Current portion of long-term notes (Note 5)	5,935,167	5,837,295
Current portion of revenue bonds (Note 5)	29,197,776	28,464,951
<b>Total current liabilities</b>	112,448,710	79,514,733
Noncurrent liabilities:		
Long-term notes (Note 5)	27,035,748	25,496,783
Revenue bonds, net (Note 5)	493,321,458	522,519,255
Net pension liability (Note 9)	29,011,883	34,808,595
Net OPEB liability (Note 10)	35,868,760	45,642,150
Other long-term liabilities (Note 13)	1,996,733	1,687,510
<b>Total noncurrent liabilities</b>	587,234,582	630,154,293
<b>Total Liabilities</b>	699,683,292	709,669,026
<b>Deferred Inflows of Resources</b>		
Deferred credits and reserves (Note 3)	783,718,805	764,291,295
Commitments and contingencies (Notes 12 and 14)		
<b>Net Position</b>		
Net position:		
Net investment in capital assets, net of related debt	878,725,980	856,309,985
Restricted for debt service	53,902,568	55,293,433
Restricted for capital assets	471,799	212,933
Restricted for debt covenants	60,278,650	58,066,734
Unrestricted net deficit	(602,554,117)	(574,446,086)
<b>Total Net Position</b>	\$ 390,824,880	395,436,999

See accompanying notes to financial statements.

**BOSTON WATER AND SEWER COMMISSION**  
Statements of Revenues, Expenses and Changes in Net Position  
Years ended December 31, 2020 and 2019

	<b>2020</b>	<b>2019</b>
Operating revenues:		
Water and sewer usage (Note 1)	\$ 363,851,631	370,105,182
Fire pipe	5,110,863	4,958,922
Other	24,379,632	11,584,275
<b>Total operating revenues</b>	<b>393,342,126</b>	<b>386,648,379</b>
Operating expenses:		
Operations	77,107,713	78,864,974
Maintenance	10,745,786	10,123,538
MWRA assessment (Note 7)	241,360,172	235,786,344
Depreciation and amortization	27,241,275	25,820,917
<b>Total operating expenses</b>	<b>356,454,946</b>	<b>350,595,773</b>
<b>Excess operating revenues</b>	<b>36,887,180</b>	<b>36,052,606</b>
Nonoperating revenue (expense):		
Investment income	2,513,502	5,602,152
Interest expense	(17,365,593)	(18,707,311)
<b>Total nonoperating net expense</b>	<b>(14,852,091)</b>	<b>(13,105,159)</b>
<b>Excess revenues before capital grants and contributions and transfer requirements</b>	<b>22,035,089</b>	<b>22,947,447</b>
Capital grants and contributions: (Note 1)	2,560,147	13,712,016
<b>Excess revenues before transfer requirements</b>	<b>24,595,236</b>	<b>36,659,463</b>
Excess revenues used to fund reserves and other deferrals (Note 3)	(29,525,004)	(33,205,633)
Change in accumulated revenues used to offset future rates (Note 3)	317,649	(131,347)
<b>Changes in net position</b>	<b>(4,612,119)</b>	<b>3,322,483</b>
Net position, beginning of year	395,436,999	392,114,516
<b>Net position, end of year</b>	<b>\$ 390,824,880</b>	<b>395,436,999</b>

See accompanying notes to financial statements.

**BOSTON WATER AND SEWER COMMISSION**

Statements of Cash Flows

Years ended December 31, 2020 and 2019

	<u>2020</u>	<u>2019</u>
Cash flows from operating activities:		
Receipts from customers	\$ 370,464,367	371,032,953
Payments to suppliers	(270,936,349)	(270,472,025)
Payments to employees	(54,295,774)	(53,565,036)
<b>Net cash provided by operating activities</b>	<u>45,232,244</u>	<u>46,995,892</u>
Cash flows from investing activities:		
Investment income	2,513,502	5,602,152
Sales of investments	215,917,921	241,355,673
Purchases of investments	(130,473,346)	(215,917,922)
<b>Net cash provided by investing activities</b>	<u>87,958,077</u>	<u>31,039,903</u>
Cash flows from capital and related financing activities:		
Purchase of capital assets	(53,493,375)	(54,343,853)
Proceeds from long-term notes	7,474,132	738,025
Payment of long-term notes	(5,837,295)	(6,215,529)
Payment of revenue bonds	(23,710,000)	(23,730,000)
Proceeds from commercial paper	30,000,000	20,000,000
Capital grants and contributions	2,560,147	13,712,016
Payment of interest	(21,219,503)	(22,535,578)
<b>Net cash applied to capital and related financing activities</b>	<u>(64,225,894)</u>	<u>(72,374,919)</u>
<b>Net increase</b>	68,964,427	5,660,876
Cash and cash equivalents, beginning of year	<u>102,727,691</u>	<u>97,066,815</u>
<b>Cash and cash equivalents, end of year</b>	<u>\$ 171,692,118</u>	<u>102,727,691</u>
Reconciliation of operating income to net cash provided by operating activities:		
Excess operating revenues	\$ 36,887,180	36,052,606
Adjustment to reconcile operating income to net cash:		
Depreciation and amortization	27,241,275	25,820,917
GASB 62 working capital adjustment	(19,000,000)	(4,900,000)
Bad debts	(135)	378,627
Deferred outflows of resources	17,370,223	10,527,656
Change in assets and liabilities:		
Accounts receivable, net	(6,651,537)	(6,197,135)
Unbilled revenues	2,773,913	(4,896,918)
Prepaid expenses	5,746	(225,171)
Accounts payable	2,588,718	(1,884,455)
Other accrued liabilities	(722,260)	(80,184)
Other long-term liabilities	309,223	241,828
Net pension activity	(5,796,712)	(5,639,408)
Net OPEB activity	(9,773,390)	(2,202,471)
<b>Net cash provided by operating activities</b>	<u>\$ 45,232,244</u>	<u>46,995,892</u>
Noncash capital and related financing activities:		
Retainage payable	\$ 405,156	486,709
Cash and cash equivalents are comprised of the following:		
Cash and cash equivalents	\$ 11,410,613	4,636,257
Money market in restricted cash and investments	111,267,271	53,410,685
Cash in restricted cash and investments	49,014,234	44,680,749
<b>Total</b>	<u>\$ 171,692,118</u>	<u>102,727,691</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, 2020 and 2019

<b>Assets</b>		
	<b>2020</b>	<b>2019</b>
Cash and cash equivalents	\$ 227,483	690,855
Investments:		
Mutual funds	5,352,190	5,488,828
Equity	17,387,424	17,781,879
Fixed income	8,006,586	3,727,403
Receivables	-	1,149,779
<b>Total Assets</b>	<b>30,973,683</b>	<b>28,838,744</b>
<b>Net Position</b>		
Restricted for OPEB purposes	30,973,683	28,838,744
<b>Total Net Position</b>	<b>\$ 30,973,683</b>	<b>28,838,744</b>

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, 2020 and 2019

<b>ADDITIONS:</b>	<u>2020</u>	<u>2019</u>
<b>Contributions:</b>		
Employer	\$ 3,867,341	4,200,341
<b>Total Contributions</b>	<u>3,867,341</u>	<u>4,200,341</u>
<b>Investment earnings:</b>		
Investment income	1,155,302	4,519,177
Less investment expenses	(44,195)	(45,553)
<b>Total net investment income</b>	<u>1,111,107</u>	<u>4,473,624</u>
<b>Total additions</b>	<u>4,978,448</u>	<u>8,673,965</u>
<b>DEDUCTIONS:</b>		
Benefit payments	<u>2,887,704</u>	<u>2,783,496</u>
<b>Change in Net Position</b>	2,090,744	5,890,469
<b>Net Position Restricted for OPEB</b>		
Beginning of Year	<u>28,838,744</u>	<u>22,902,722</u>
End of Year	<u>\$ 30,929,488</u>	<u>28,793,191</u>

See accompanying notes to financial statements.

**BOSTON WATER AND SEWER COMMISSION**

Notes to Financial Statements

December 31, 2020 and 2019

**(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 is 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, 2020 is provided below:

	<b>Revenues</b>	<b>Expenses</b>
As presented in the statements of revenues and expenses:		
Operating revenues/expenses	\$ 393,342,126	356,454,946
Investment income/interest expense	2,513,502	17,365,593
Total	395,855,628	373,820,539
Reclassifications and deferrals:		
Contributions to reserves	—	1,516,000
GAAP adjustments	(12,092,496)	(12,092,497)
Excess bond payments over depreciation and amortization	—	5,572,777
Interest expense (escrowed funds)	—	—
Investment income (escrowed funds)	(532,968)	—
Capital expenditures	—	15,994,961
Excess revenue used to offset current rates	689,553	—
Other deferrals	—	(1,263,967)
As presented in the supplemental schedule of revenues and expenses - rate basis	\$ 383,919,717	383,547,813

## BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2020 and 2019

### (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 \$371,904 and \$689,553 for the years ended December 31, 2020 and 2019, respectively, to offset rates in the respective subsequent years.

The Governor of Massachusetts declared a state of emergency due to the COVID-19 outbreak from March 2020 to June 2021. The operations of the Commission were deemed essential and water services were continued to be offered to customers, but the operations were still affected by the crisis as many organizations that used the Commission's services temporarily closed. Management took steps to mitigate the effects on operations. The COVID-19 crisis created volatility in the financial markets and uncertainty in the overall economy.

#### (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, 2020 and 2019 were approximately \$36.9 million and \$30.2 million, respectively. These net billing amounts are reduced by an allowance for uncollectible accounts of approximately \$2.5 million in 2020 and 2019, 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 2020 and 2019 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. The Commission capitalizes interest costs during construction of assets for its own use. No interest was capitalized in 2020 and 2019.

**BOSTON WATER AND SEWER COMMISSION**

Notes to Financial Statements - Continued

December 31, 2020 and 2019

**(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.

**(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, 2020 and 2019

### (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) *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. Significant estimates and assumptions are required as part of estimating an allowance for doubtful accounts, depreciation, amortization, net pension and OPEB liabilities, and the recoverability of long-lived assets

#### (m) *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.

## BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2020 and 2019

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

#### (n) *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.

#### (o) *Adoption of New Accounting Pronouncement*

During FY20 the Commission implemented GASB Statement No. 84, *Fiduciary Activities*. This statement established criteria for identifying and reporting fiduciary activities of all state and local governments. The Commission implemented this statement on a retrospective basis. The implementation of this statement did not have a material effect on these financial statements.

#### (p) *New Government Accounting Pronouncements*

GASB Statement 87 – *Leases* is effective for periods beginning after June 15, 2021. Implementation of this standard will require lessees to recognize on their statement of net position the rights and obligations resulting from leases categorized as operating leases as assets, liabilities, or deferred inflows / outflows of resources. It provides for an election on leases with terms of less than twelve months to be excluded from this standard. Management is in the process of evaluating this standard and has not yet determined its impact on the financial statements.

GASB Statement 89 – *Accounting for Interest Costs Incurred before the End of a Construction Period* is effective for reporting periods beginning after December 15, 2020. The objectives of this Statement are (1) to enhance the relevance and comparability of information about capital assets and the cost of borrowing for a reporting period and (2) to simplify accounting for interest cost incurred before the end of a construction period. Management has not completed its review of the requirements of this standard and its applicability.

GASB Statement 92 – *Omnibus 2020* is effective for reporting periods beginning after June 15, 2021. The objective of this Statement is to improve comparability in financial reporting for leases, pensions, OPEB, and asset retirement obligations. Management has not completed its review of the requirements of this standard and its applicability.

GASB Statement 93 – *Replacement of Interbank Offered Rates* is effective for reporting periods beginning after June 15, 2021. The objective of this Statement is to provide government entities relief with replacing or amending financial instruments for the purpose of replacing LIBOR, which is expected to cease to exist in December 2021. Before the implementation of this standard, hedge accounting terminates if material terms are amended. Management has not completed its review of the requirements of this standard and its applicability.

GASB Statement 96 – *Subscription-Based Information Technology Arrangements (SBITA)* is effective for reporting periods beginning after June 15, 2022. The objective of this Statement is to provide accounting and financial reporting guidance for transactions in which a governmental entity contracts with another party for the right to use their software. A right to use asset and a corresponding liability

**BOSTON WATER AND SEWER COMMISSION**

Notes to Financial Statements - Continued

December 31, 2020 and 2019

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

**(p) New Government Accounting Pronouncements - continued**

would be recognized for SBITAs. Management has not completed its review of the requirements of this standard and its applicability.

GASB Statement 97 – *Certain Component Unit Criteria, and Accounting and Financial Reporting for Internal Revenue Code Section 457, Deferred Compensation Plans* is effective for reporting periods beginning after June 15, 2021. The objective of this Statement is to provide financial reporting consistency in which the potential component unit does not have a governing board and the primary government performs the duties that a governing board would perform. In the absence of a governing board of the potential component unit, the situation should be treated as the same as the primary government appointing a majority of the potential component unit’s governing board. Management has not completed its review of the requirements of this standard and its applicability.

**(q) Reclassification**

Certain amounts on the 2019 financial statements have been reclassified to conform to the 2020 presentation.

**(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>2020</u>	<u>2019</u>
Cost to be recovered through future revenues:		
Pension obligation	\$ 29,011,883	34,808,595
OPEB obligation	35,868,760	45,642,150
Pension:		
Pension related	6,376,916	-
Differences between expected and actual experience in the total pension liability	322,880	387,456
Changes in assumptions	5,404,986	3,077,370
Contributions made after the plan measurement date	-	734,972
OPEB:		
OPEB related	1,711,102	1,448,552
Contributions made after the plan measurement date	-	747,500
Deferred loss on defeasance	<u>11,858,391</u>	<u>12,927,787</u>
Total:	<u>\$ 90,554,918</u>	<u>99,774,382</u>

**BOSTON WATER AND SEWER COMMISSION**

Notes to Financial Statements - Continued

December 31, 2020 and 2019

**(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>2020</u>	<u>2019</u>
Contributions to reserves	\$ 1,516,000	1,768,000
Principal payments on long-term debt	29,547,295	29,945,528
Capital expenditures	15,994,961	15,469,203
Depreciation and amortization	(18,842,466)	(18,754,445)
Investment income on project and escrow funds	1,443,163	4,408,405
Other	(133,949)	368,942
	<u>\$ 29,525,004</u>	<u>33,205,633</u>

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

	<u>2020</u>	<u>2019</u>
Debt service	\$ 167,495,770	166,197,284
Capital improvements	628,479,677	599,935,510
Pension:		
Pension related	—	1,010,645
Differences between expected and actual experience - pension	8,010,786	2,235,600
Net differences between expected and actual earnings on plan investments - pension	4,093,997	218,581
OPEB:		
Differences between expected and actual experience in the total OPEB liability	845,047	—
Changes of assumptions	453,808	231,098
Net difference between projected and actual earnings on OPEB plan investments	412,247	1,217,454
Working capital	(28,684,431)	(9,684,431)
Self-insurance	2,240,000	2,240,000
	<u>783,346,901</u>	<u>763,601,741</u>
Reduction of future rates	<u>371,904</u>	<u>689,554</u>
Total	<u>\$ 783,718,805</u>	<u>764,291,295</u>

**BOSTON WATER AND SEWER COMMISSION**

Notes to Financial Statements - Continued

December 31, 2020 and 2019

**(4) Capital Assets**

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

	<u>Balance at December 31, 2019</u>	<u>Additions</u>	<u>Disposals</u>	<u>Reclassifications</u>	<u>Balance at December 31, 2020</u>
Capital assets, not being depreciated:					
Land	\$ 5,884,243	—	—	—	5,884,243
Construction in progress	<u>127,874,992</u>	<u>50,493,005</u>	<u>—</u>	<u>(57,206,480)</u>	<u>121,161,517</u>
Total capital assets, not being depreciated	<u>133,759,235</u>	<u>50,493,005</u>	<u>—</u>	<u>(57,206,480)</u>	<u>127,045,760</u>
Capital assets, being depreciated:					
Buildings and improvements	68,112,671	—	—	—	68,112,671
Machinery and equipment	41,095,623	3,390,487	—	819,170	45,305,280
Infrastructure	<u>1,630,711,019</u>	<u>15,039</u>	<u>—</u>	<u>56,387,310</u>	<u>1,687,113,368</u>
Total capital assets, being depreciated	<u>1,739,919,313</u>	<u>3,405,526</u>	<u>—</u>	<u>57,206,480</u>	<u>1,800,531,319</u>
Less: accumulated depreciation for:					
Buildings and improvements	33,815,899	1,624,974	—	—	35,440,873
Machinery and equipment	28,091,580	5,024,790	—	—	33,116,370
Infrastructure	<u>366,070,587</u>	<u>20,591,511</u>	<u>—</u>	<u>—</u>	<u>386,662,098</u>
Total accumulated depreciation	<u>427,978,066</u>	<u>27,241,275</u>	<u>—</u>	<u>—</u>	<u>455,219,341</u>
Total capital assets being depreciated, net	<u>1,311,941,247</u>	<u>(23,835,749)</u>	<u>—</u>	<u>57,206,480</u>	<u>1,345,311,978</u>
Capital assets, net	<u>\$ 1,445,700,482</u>	<u>26,657,256</u>	<u>—</u>	<u>—</u>	<u>1,472,357,738</u>

**BOSTON WATER AND SEWER COMMISSION**

Notes to Financial Statements - Continued

December 31, 2020 and 2019

**(4) Capital Assets – Continued**

	<b>Balance at December 31, 2018</b>	<b>Additions</b>	<b>Disposals</b>	<b>Reclassifications</b>	<b>Balance at December 31, 2019</b>
Capital assets, not being depreciated:					
Land	\$ 5,884,243	—	—	—	5,884,243
Construction in progress	109,853,370	49,096,812	—	(31,075,190)	127,874,992
Total capital assets, not being depreciated	<u>115,737,613</u>	<u>49,096,812</u>	<u>—</u>	<u>(31,075,190)</u>	<u>133,759,235</u>
Capital assets, being depreciated:					
Buildings and improvements	68,112,671	—	—	—	68,112,671
Machinery and equipment	35,133,610	5,658,250	—	303,763	41,095,623
Infrastructure	1,599,882,092	57,500	—	30,771,427	1,630,711,019
Total capital assets, being depreciated	<u>1,703,128,373</u>	<u>5,715,750</u>	<u>—</u>	<u>31,075,190</u>	<u>1,739,919,313</u>
Less: accumulated depreciation for:					
Buildings and improvements	32,189,308	1,626,591	—	—	33,815,899
Machinery and equipment	24,200,408	3,891,172	—	—	28,091,580
Infrastructure	345,767,433	20,303,154	—	—	366,070,587
Total accumulated depreciation	<u>402,157,149</u>	<u>25,820,917</u>	<u>—</u>	<u>—</u>	<u>427,978,066</u>
Total capital assets being depreciated, net	<u>1,300,971,224</u>	<u>(20,105,167)</u>	<u>—</u>	<u>31,075,190</u>	<u>1,311,941,247</u>
Capital assets, net	<u>\$ 1,416,708,837</u>	<u>28,991,645</u>	<u>—</u>	<u>—</u>	<u>1,445,700,482</u>

**BOSTON WATER AND SEWER COMMISSION**

Notes to Financial Statements - Continued

December 31, 2020 and 2019

**(5) Long Term Obligations**

Long term liabilities at December 31, consist of:

	<b>Balance at December 31, 2019</b>	<b>Additions</b>	<b>Reductions</b>	<b>Balance at December 31, 2020</b>	<b>Current Portion</b>
Notes payable:					
Long-term notes	\$ 31,334,078	7,474,132	(5,837,295)	32,970,915	5,935,167
Revenue bonds	517,235,000	—	(23,710,000)	493,525,000	24,790,000
Revenue bonds premiums	33,749,206	—	(4,754,972)	28,994,234	4,407,776
Total notes payable and bonds	<u>582,318,284</u>	<u>7,474,132</u>	<u>(34,302,267)</u>	<u>555,490,149</u>	<u>35,132,943</u>
Other long-term liabilities:					
Net pension liability	34,808,595	—	(5,796,712)	29,011,883	—
Net OPEB liability	45,642,150	—	(9,773,390)	35,868,760	—
Other long-term liabilities	1,687,510	798,997	(489,774)	1,996,733	—
Total other long-term liabilities	<u>82,138,255</u>	<u>798,997</u>	<u>(16,059,876)</u>	<u>66,877,376</u>	<u>—</u>
Total long-term liabilities	<u><u>664,456,539</u></u>	<u><u>8,273,129</u></u>	<u><u>(50,362,143)</u></u>	<u><u>622,367,525</u></u>	<u><u>35,132,943</u></u>

	<b>Balance at December 31, 2018</b>	<b>Additions</b>	<b>Reductions</b>	<b>Balance at December 31, 2019</b>	<b>Current Portion</b>
Notes payable:					
Long-term notes	\$ 36,811,582	738,025	(6,215,529)	31,334,078	5,837,295
Revenue bonds	540,965,000	—	(23,730,000)	517,235,000	23,710,000
Revenue bonds premiums	38,623,318	—	(4,874,112)	33,749,206	4,754,951
Total notes payable and bonds	<u>616,399,900</u>	<u>738,025</u>	<u>(34,819,641)</u>	<u>582,318,284</u>	<u>34,302,246</u>
Other long-term liabilities:					
Net pension liability	40,448,003	—	(5,639,408)	34,808,595	—
Net OPEB liability	47,844,621	—	(2,202,471)	45,642,150	—
Other long-term liabilities	1,445,682	940,332	(698,504)	1,687,510	—
Total other long-term liabilities	<u>89,738,306</u>	<u>940,332</u>	<u>(8,540,383)</u>	<u>82,138,255</u>	<u>—</u>
Total long-term liabilities	<u><u>706,138,206</u></u>	<u><u>1,678,357</u></u>	<u><u>(43,360,024)</u></u>	<u><u>664,456,539</u></u>	<u><u>34,302,246</u></u>

**BOSTON WATER AND SEWER COMMISSION**

Notes to Financial Statements - Continued

December 31, 2020 and 2019

**(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, 2019	Additions	Reductions	Balance at December 31, 2020	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	\$ 12,700	—	2,200	10,500	2,400
2009 Series A, bearing interest ranging from 3.0% to 5.0% issued March 26, 2009, maturing 2010 to 2028	685	—	685	—	—
2009 Series B, bearing interest ranging from 3.0% to 5.0% issued March 26, 2009, maturing 2009 to 2021	7,500	—	3,660	3,840	3,840
2010 Series A, bearing interest ranging from 2.5% to 5.0% issued January 26, 2010, maturing 2010 to 2031	5,400	—	5,400	—	—
2012 Series A, bearing interest ranging from 3.0% to 5.0% issued June 6, 2012, maturing 2015 to 2037	96,475	—	9,790	86,685	10,190
2014 Series A, bearing interest ranging from 3.0% to 5.0% issued July 22, 2014, maturing 2017 to 2044	99,700	—	500	99,200	500
2015 Series A, bearing interest ranging from 3.0% to 5.0% issued August 05, 2015, maturing 2023 to 2028	72,760	—	—	72,760	—
2016 Series A, bearing interest ranging from 3.0% to 5.0% issued September 13, 2016, maturing 2020 to 2031	60,155	—	475	59,680	6,860
2016 Series B, bearing interest ranging from 3.0% to 5.0% issued September 13, 2016, maturing 2017 to 2046	83,460	—	500	82,960	500
2018 Series A, bearing interest ranging from 3.0% to 5.0% issued May 30, 2018, maturing 2020 to 2048	78,400	—	500	77,900	500
	<u>517,235</u>	<u>—</u>	<u>23,710</u>	<u>493,525</u>	<u>24,790</u>
Unamortized issue premiums/discounts	33,749	—	4,755	28,994	4,408
Net revenue bonds	<u>\$ 550,984</u>	<u>—</u>	<u>28,465</u>	<u>522,519</u>	<u>29,198</u>

**BOSTON WATER AND SEWER COMMISSION**

Notes to Financial Statements - Continued

December 31, 2020 and 2019

**(5) Long Term Obligations - Continued**

**(a) Revenue Bonds - Continued**

Description	Balance at December 31, 2018	Additions	Reductions	Balance at December 31, 2019	Amounts due within one year
Revenue bonds:					
1993 Series A, bearing interest ranging from 2.2% to 5.25% issued September 17, 1993, maturing 1993 to 2019	\$ 5,155	—	5,155	—	—
1994 Series A, bearing a variable interest rate based on the daily Municipal Market Data scale issued August 20, 1994, maturing 1995 to 2024	14,800	—	2,100	12,700	2,200
2009 Series A, bearing interest ranging from 3.0% to 5.0% issued March 26, 2009, maturing 2010 to 2028	5,085	—	4,400	685	685
2009 Series B, bearing interest ranging from 3.0% to 5.0% issued March 26, 2009, maturing 2009 to 2021	15,840	—	8,340	7,500	3,660
2010 Series A, bearing interest ranging from 2.5% to 5.0% issued January 26, 2010, maturing 2010 to 2031	5,565	—	165	5,400	5,400
2012 Series A, bearing interest ranging from 3.0% to 5.0% issued June 6, 2012, maturing 2015 to 2037	99,445	—	2,970	96,475	9,790
2014 Series A, bearing interest ranging from 3.0% to 5.0% issued July 22, 2014, maturing 2017 to 2044	99,800	—	100	99,700	500
2015 Series A, bearing interest ranging from 3.0% to 5.0% issued August 05, 2015, maturing 2023 to 2028	72,760	—	—	72,760	—
2016 Series A, bearing interest ranging from 3.0% to 5.0% issued September 13, 2016, maturing 2020 to 2031	60,155	—	—	60,155	475
2016 Series B, bearing interest ranging from 3.0% to 5.0% issued September 13, 2016, maturing 2017 to 2046	83,960	—	500	83,460	500
2018 Series A, bearing interest ranging from 3.0% to 5.0% issued May 30, 2018, maturing 2020 to 2048	78,400	—	—	78,400	500
	540,965	—	23,730	517,235	23,710
Unamortized issue premiums/discounts	38,623	—	4,874	33,749	4,754
Net revenue bonds	\$ 579,588	—	28,604	550,984	28,464

**BOSTON WATER AND SEWER COMMISSION**

Notes to Financial Statements - Continued

December 31, 2020 and 2019

**(5) Long Term Obligations - Continued**

**(a) Revenue Bonds - Continued**

Debt principal and interest maturities for future years as of December 31, 2020 are as follows (amounts in thousands):

	<b>Revenue bonds</b>	
	<b>Principal</b>	<b>Interest</b>
2021	\$ 24,790	20,394
2022	24,005	15,408
2023	25,585	18,971
2024	26,400	17,644
2025	27,825	15,740
2026-2030	117,680	63,179
2031-2035	89,710	41,305
2036-2040	76,955	25,955
2041-2045	63,815	12,208
2046-2049	16,760	1,318
	<u>\$ 493,525</u>	<u>232,122</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, 2020 and 2019 totaled \$(3,266,754) and \$(3,131,283), 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, 2020 and 2019, approximately \$45.7M and \$47.3M, respectively, 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.

**(b) Prior Year Debt Refunding (Defeasements)**

In the aggregate, \$237,625,000 and \$253,815,000 remains outstanding at December 31, 2020 and 2019, respectively, on bond issues that were defeased "in-substance" in prior years.

**BOSTON WATER AND SEWER COMMISSION**

Notes to Financial Statements - Continued

December 31, 2020 and 2019

**(5) Long Term Obligations - Continued**

**(c) Restricted Cash and Investments**

The Commission has established both trustee and nontrustee 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 nontrustee investments at December 31, are as follows:

	<u>2020</u>	<u>2019</u>
Trustee:		
U.S. Government agency obligations	\$ 44,655,700	129,438,484
Money market	109,383,468	53,191,104
Repurchase agreements	8,416,250	8,416,250
	<u>162,455,418</u>	<u>191,045,838</u>
 Nontrustee:		
U.S. Government agency obligations	—	1,466,178
Cash	49,014,234	44,693,635
Money market	1,883,803	219,581
Open-ended mutual funds	23,295,947	22,478,674
	<u>74,193,984</u>	<u>68,858,068</u>
 Restricted cash and investments	236,649,402	259,903,906
 Less nontrustee cash	<u>(49,014,234)</u>	<u>(44,693,635)</u>
 Trustee and nontrustee investments	\$ <u><u>187,635,168</u></u>	<u><u>215,210,271</u></u>

**(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), Pipeline Assistance Program ("PAP"), 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, 2020 and 2019

**(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, 2019	Additions	Reductions	Balance at December 31, 2020	Amounts due within one year
MWRA I/I Program Phase VIII, interest free, due May 15, 2022	\$ 618,064	—	206,022	412,042	206,022
MWRA I/I Program Phase IX, interest free, due Aug 15, 2029	2,124,740	—	464,322	1,660,418	464,322
MWRA S.A.P. Program, interest free, due Aug 15, 2028	27,941,732	7,474,133	4,517,410	30,898,455	5,264,823
MWRA P.A.P. Program, interest free, due August 15, 2020	649,542	—	649,542	—	—
Total long-term notes	<u>\$ 31,334,078</u>	<u>7,474,133</u>	<u>5,837,296</u>	<u>32,970,915</u>	<u>5,935,167</u>

Description	Balance at December 31, 2018	Additions	Reductions	Balance at December 31, 2019	Amounts due within one year
MWRA I/I Program Phase VIII, interest free, due May 15, 2022	\$ 824,086	—	206,022	618,064	206,022
MWRA I/I Program Phase IX, interest free, due August 15, 2029	1,777,235	738,025	390,520	2,124,740	464,322
MWRA S.A.P. Program, interest free, due August 15, 2028	32,459,142	—	4,517,410	27,941,732	4,517,410
MWRA P.A.P. Program, interest free, due August 15, 2020	1,751,119	—	1,101,577	649,542	649,541
Total long-term notes	<u>\$ 36,811,582</u>	<u>738,025</u>	<u>6,215,529</u>	<u>31,334,078</u>	<u>5,837,295</u>

**BOSTON WATER AND SEWER COMMISSION**

Notes to Financial Statements - Continued

December 31, 2020 and 2019

**(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):

2021	\$	5,935
2022		5,534
2023		4,480
2024		4,036
2025		3,437
2026-2029		9,549
	\$	<u>32,971</u>

**(6) Short-Term Obligations**

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

<u>Description</u>	<u>Balance at December 31, 2019</u>	<u>Additions</u>	<u>Reductions</u>	<u>Balance at December 31, 2020</u>
Commercial paper notes, Bank of America program due December 3, 2020 through March 3, 2021	\$ 20,000,000	30,000,000	—	50,000,000
Total short-term notes	\$ <u>20,000,000</u>	<u>30,000,000</u>	<u>—</u>	<u>50,000,000</u>

<u>Description</u>	<u>Balance at December 31, 2018</u>	<u>Additions</u>	<u>Reductions</u>	<u>Balance at December 31, 2019</u>
Commercial paper notes, Bank of America program due December 3, 2019 through March 3, 2020	\$ —	20,000,000	—	20,000,000
Total short-term notes	\$ <u>—</u>	<u>20,000,000</u>	<u>—</u>	<u>20,000,000</u>

As noted in Note 15, subsequent to year-end, the Commission repaid all outstanding commercial paper as part of the bond issuance.

**BOSTON WATER AND SEWER COMMISSION**

Notes to Financial Statements - Continued

December 31, 2020 and 2019

**(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:

	<u>2020</u>	<u>2019</u>
Assessments based on:		
Water usage	\$ 95,459,497	92,082,863
Wastewater usage	<u>145,900,675</u>	<u>143,703,481</u>
Total	<u>\$ 241,360,172</u>	<u>235,786,344</u>

**(8) Transactions with the City of Boston**

Departments of the City of Boston were billed approximately \$4.0 million and \$5.4 million during 2020 and 2019, respectively, based on actual consumption.

The City provides services to the Commission, including paving and facilities rental. Operating costs billed to the Commission by the City were approximately \$1,079,000 and \$1,198,000 during the years ended December 31, 2020 and 2019, respectively, and capital costs billed by the City were approximately \$922,000 and \$1,500,000 during the years ended December 31, 2020 and 2019, respectively.

**(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, 2020 can be obtained through the BRS, Boston City Hall, Room 816, Boston, MA 02201 or by accessing the website [www.cityofboston.gov/retirement/investment.asp](http://www.cityofboston.gov/retirement/investment.asp).

## BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2020 and 2019

### (9) Pension Benefits - Continued

#### (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, 2020 and 2019).

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.

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.

## BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2020 and 2019

### (9) Pension Benefits - Continued

#### (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, 2020, 2019 and 2018, amounted to \$2,800,819, \$3,166,395, and \$7,507,131, respectively, representing its contractually required contribution for each year along with additional funds to reduce the unfunded liability. Employer contributions, based on actuarially determined amounts, aggregated \$6,208,445, \$5,951,949, and \$4,868,286, or 16.0%, 16.8% and 13.7% of covered payroll in 2020, 2019 and 2018, respectively. At December 31, 2020 and 2019, the Commission had an immaterial deficiency in contributions covered by net excess contribution to the pension plan at December 31, 2020.

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

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

At December 31, 2020 and 2019, the Commission reported a liability of \$29.0 million and \$34.8 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, 2020 and 2019, the reporting date, was measured as of December 31, 2020 and 2019, 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, 2020 and 2018, rolled forward to December 31, 2020 and 2019, respectively. At December 31, 2020 and 2019, the Commission's proportion was 3.76 and 4.13%.

For the years ended December 31, 2020 and 2019, the Commission recognized pension expense of \$734,972 and \$915,028, 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, 2020 and 2019, the Commission reported deferred outflows of resources and deferred inflows of resources related to pensions as follows:

**BOSTON WATER AND SEWER COMMISSION**

Notes to Financial Statements - Continued

December 31, 2020 and 2019

**(9) Pension Benefits - Continued**

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

	<u>2020</u>	<u>2019</u>
<u>Deferred Outflows of Resources</u>		
Contributions subsequent to the measurement date	\$ —	734,972
Differences between expected and actual experience	322,880	387,456
Changes in assumptions	5,404,986	3,077,370
Total	<u>\$ 5,727,866</u>	<u>4,199,798</u>
 <u>Deferred Inflows of Resources</u>		
Net difference between projected and actual earnings		
on pension plan investments	\$ 4,093,997	218,581
Differences between expected and actual experience	8,010,786	2,235,600
Total	<u>\$ 12,104,783</u>	<u>2,454,181</u>

Contributions of \$0 and \$734,972 are reported as deferred outflows of resources related to pensions resulting from contributions in calendar years 2021 and 2020, respectively, after the measurement date, and will be recognized as a reduction of the net pension liability for the years ended December 31, 2021 and 2020, respectively.

Other 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:

<b>Years Ended</b>	
<b><u>June 30,</u></b>	
2021	\$ (1,213,955)
2022	(19,992)
2023	(3,188,537)
2024	(888,677)
2025	(500,590)
2026	<u>(565,166)</u>
	<u>\$ (6,376,917)</u>

## BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2020 and 2019

### (9) Pension Benefits - Continued

#### (e) Actuarial Assumptions

The total pension liability as of December 31, 2020 and 2019 was determined using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	3.00% for 2020; 3.5% for 2019
Salary increases	4.00% for 2020; 4.50% for 2019
Investment rate of return	7.00% for 2020; 7.25% for 2019
Post-retirement cost of living adjustment	3% of first \$14,000 for both periods

For 2020, 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. For 2019, mortality rates for pre-retirees, healthy retirees and disabled retirees were based on RP-2014 Blue Collar Mortality Table projected generationally using MP-2017 set forward one year for females.

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.

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, 2020 are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Domestic equity	25.00%	6.28%
International developed markets equity	14.00%	7.00%
International emerging markets equity	9.00%	8.82%
Core fixed income	18.00%	0.38%
Real estate	10.00%	3.50%
Commodities	2.00%	3.45%
Hedge fund, GTAA, Risk parity	17.00%	2.35%
Private equity	5.00%	10.11%
Total	100.00%	

**BOSTON WATER AND SEWER COMMISSION**

Notes to Financial Statements - Continued

December 31, 2020 and 2019

**(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, 2019 are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Domestic equity	24.00%	6.15%
International developed markets equity	13.00%	6.78%
International emerging markets equity	8.00%	8.65%
Core fixed income	10.00%	1.11%
High-yield fixed income	15.00%	3.51%
Real estate	8.00%	4.33%
Hedge fund, GTAA, Risk parity	17.00%	3.19%
Private equity	5.00%	9.99%
Total	100.00%	

**(f) Discount Rate**

The discount rate used to measure the total pension liability was 7.00% and 7.25% for 2020 and 2019, respectively. 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 7.00% and 7.25% for the years ended December 31, 2020 and 2019, 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:

<b>2020</b>		
<b>1.00% Decrease</b>	<b>Current Discount</b>	<b>1.00% Increase</b>
<b><u>(6.00%)</u></b>	<b><u>(7.00%)</u></b>	<b><u>(8.00%)</u></b>
\$47,778,810	\$29,011,883	\$13,091,153

**BOSTON WATER AND SEWER COMMISSION**

Notes to Financial Statements - Continued

December 31, 2020 and 2019

**(9) Pension Benefits - Continued**

*(f) Discount Rate - Continued*

	<b>2019</b>	
<b>1.00% Decrease</b>	<b>Current Discount</b>	<b>1.00% Increase</b>
<u><b>(6.25%)</b></u>	<b>Rate</b>	<u><b>(8.25%)</b></u>
\$52,937,316	\$34,808,595	\$19,435,798

**(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 Law Chapter 32B.

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

*(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, 2019 and 2017, the valuation date for years ended December 31, 2020 and 2019, the plan members contribute 12.0% 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, 2020 and 2019, the Commission's average contribution rate was 9.96% and 11.82%, respectively, of covered-employee payroll. At December 31, 2020 and 2019, the Commission has an immaterial deficiency in contributions covered by net excess contribution to the OPEB plan at December 31, 2020.

**BOSTON WATER AND SEWER COMMISSION**

Notes to Financial Statements - Continued

December 31, 2020 and 2019

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

**(c) Employees Covered by Benefit Terms**

As of December 31, 2019, the date of the latest actuarial validation, plan participation consisted of:

Actives employees	243
Retirees and beneficiaries	<u>391</u>
Total	<u>634</u>

**(d) Net OPEB Liability and Actuarial Assumptions**

The Commission's net OPEB liability of \$35,868,760 and \$45,642,150 was measured as of December 31, 2020 and 2019, respectively, and was determined by an actuarial valuation as of December 31, 2019 and 2017, respectively. 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:	6.25% for 2020; 6.50% for 2019
Investment Rate of Return:	6.25% for 2020; 6.50% for 2019

Health care trend rates for Medicare and non-Medicare are 6.875%, decreasing by 0.25% for ten years 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 2020, 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. For 2019, the mortality rates for pre-retired participants is calculated using RP-2014 Blue Collar Employee Mortality Table projected generationally with Scale MP-2017 set forward one year for females. Mortality rates for retirees and disabled participants is calculated using RP-2014 Blue Collar Annuitant Mortality Table projected generationally with Scale MP-2017 set forward one year for females.

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.

**BOSTON WATER AND SEWER COMMISSION**

Notes to Financial Statements - Continued

December 31, 2020 and 2019

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

*(d) Net OPEB Liability and Actuarial Assumptions - Continued*

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

<u>Asset Class</u>	<b>2020</b>	
	<u>Target Allocation</u>	<u>Long-Term Expected Real Rate of Return</u>
Domestic equity	24.00%	6.15%
International developed markets equity	16.00%	6.78%
International emerging markets equity	8.00%	8.65%
Core fixed income	32.00%	1.11%
Hedge fund, GTAA, risk parity	20.00%	3.19%
Total	<u>100.00%</u>	

<u>Asset Class</u>	<b>2019</b>	
	<u>Target Allocation</u>	<u>Long-Term Expected Real Rate of Return</u>
Domestic equity	30.00%	6.15%
International developed markets equity	21.00%	6.78%
International emerging markets equity	9.00%	8.65%
Core fixed income	20.00%	1.11%
Hedge fund, GTAA, risk parity	20.00%	3.19%
Total	<u>100.00%</u>	

The discount rate used to measure the total OPEB liability was 6.25% and 6.50% as of December 31, 2020 and 2019, 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.

**BOSTON WATER AND SEWER COMMISSION**

Notes to Financial Statements - Continued

December 31, 2020 and 2019

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

**(d) Net OPEB Liability and Actuarial Assumptions - Continued**

The components of the net OPEB liability for the Plan as of December 31, 2020:

Total OPEB liability	\$ 66,842,443
Fiduciary net position	<u>(30,973,683)</u>
Commission's net OPEB liability	\$ <u>35,868,760</u>
 Fiduciary net position as a percentage of the total OPEB liability	 46.34%

The components of the net OPEB liability for the Plan as of December 31, 2019:

Total OPEB liability	\$ 74,480,894
Fiduciary net position	<u>(28,838,744)</u>
Commission's net OPEB liability	\$ <u>45,642,150</u>
 Fiduciary net position as a percentage of the total OPEB liability	 38.72%

**(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, 2019	\$ 74,480,894	\$ 28,838,744	\$ 45,642,150
Changes for the year:			
Service cost	2,190,830	-	2,190,830
Interest	4,891,289	-	4,891,289
Change of benefit terms	(10,574,843)	-	(10,574,843)
Differences between expected and actual experience	(965,764)	-	(965,764)
Contributions - employer	-	3,867,341	(3,867,341)
Net investment income	-	1,155,302	(1,155,302)
Changes of assumptions	(292,259)	-	(292,259)
Benefit Payments	<u>(2,887,704)</u>	<u>(2,887,704)</u>	<u>-</u>
Net changes	<u>(7,638,451)</u>	<u>2,134,939</u>	<u>(9,773,390)</u>
Balances at December 31, 2020	\$ <u>66,842,443</u>	\$ <u>30,973,683</u>	\$ <u>35,868,760</u>

**BOSTON WATER AND SEWER COMMISSION**

Notes to Financial Statements - Continued

December 31, 2020 and 2019

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

**(e) Change in the Net OPEB Liability - Continued**

	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability
Balances at December 31, 2018	\$ 70,747,343	\$ 22,902,722	\$ 47,844,621
Changes for the year:			
Service cost	2,134,311	-	2,134,311
Interest	4,646,844	-	4,646,844
Contributions - employer	-	4,200,341	(4,200,341)
Net investment income	-	4,519,177	(4,519,177)
Changes of assumptions	(264,108)	-	(264,108)
Benefit Payments	<u>(2,783,496)</u>	<u>(2,783,496)</u>	<u>-</u>
Net changes	<u>3,733,551</u>	<u>5,936,022</u>	<u>(2,202,471)</u>
Balances at December 31, 2019	<u>\$ 74,480,894</u>	<u>\$ 28,838,744</u>	<u>\$ 45,642,150</u>

**(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 38):

<b>2020</b>			
<b>Discount Rate</b>			
	<u>1.00% Decrease (5.25%)</u>	<u>Current Rate (6.25%)</u>	<u>1.00% Increase (7.25%)</u>
Net OPEB Liability	\$44,266,173	\$35,868,760	\$28,818,802
<b>Health Care Rate</b>			
	<u>1.00% Decrease</u>	<u>Trend Rate</u>	<u>1.00% Increase</u>
Net OPEB Liability	\$27,605,482	\$35,868,760	\$45,959,680
<b>2019</b>			
<b>Discount Rate</b>			
	<u>1.00% Decrease (5.50%)</u>	<u>Current Rate (6.50%)</u>	<u>1.00% Increase (7.50%)</u>
Net OPEB Liability	\$56,336,917	\$45,642,150	\$37,016,522
<b>Health Care Rate</b>			
	<u>1.00% Decrease</u>	<u>Trend Rate</u>	<u>1.00% Increase</u>
Net OPEB Liability	\$35,180,139	\$45,642,150	\$58,919,702

**BOSTON WATER AND SEWER COMMISSION**

Notes to Financial Statements - Continued

December 31, 2020 and 2019

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

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

For the years ended December 31, 2020 and 2019, the Commission recognized OPEB expense of \$747,500 and \$1,902,500, respectively. 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, 2020 and 2019, the Commission reported deferred outflows of resources and deferred inflows of resources related to OPEB as follows:

	<u>2020</u>	<u>2019</u>
<u>Deferred Outflows of Resources</u>		
Contributions subsequent to measurement date	\$ -	747,500
 <u>Deferred Inflows of Resources</u>		
Change in assumptions	\$ 453,808	231,098
Net difference between projected and actual earnings on OPEB plan investments	412,247	1,217,454
Difference between expected and actual experience	845,047	-
Total	\$ <u>1,711,102</u>	<u>1,448,552</u>

The Commission's 2020 and 2019 contributions of \$0 and \$747,500, respectively, reported as deferred outflows of resources related to OPEB resulting from Commission contributions subsequent to the measurement date will be recognized as a reduction of the net OPEB liability in the following year. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized in OPEB expense as follows:

<b>Years Ended June 30,</b>	
2021	\$ (244,419)
2022	(244,418)
2023	(644,422)
2024	(40,056)
2025	(190,267)
Thereafter	<u>(347,520)</u>
	\$ <u><u>(1,711,102)</u></u>

## BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2020 and 2019

### (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, 2020, and 2019, the cash balances of uninsured and uncollateralized deposits totaled \$111,267,271 and \$53,410,685, 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, 2020 and 2019

**(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, 2020:

Investment type	2020				
	Fair value	Less than 1	1 - 5	6 - 10	More than 10
U.S. Government agencies	\$ 44,655,700	—	1,027,690	3,102,456	40,525,554
Guaranteed investment contract	8,416,250	—	—	8,416,250	—
Money market	111,267,271	111,267,271	—	—	—
Open ended mutual funds	23,295,947	23,295,947	—	—	—
	<u>\$ 187,635,168</u>	<u>134,563,218</u>	<u>1,027,690</u>	<u>11,518,706</u>	<u>40,525,554</u>
Investment type	2019				
	Fair value	Less than 1	1 - 5	6 - 10	More than 10
U.S. Government agencies	\$ 130,904,662	83,312,031	7,876,168	15,991,903	23,724,560
Guaranteed investment contract	8,416,250	—	—	8,416,250	—
Money market	53,410,685	53,410,685	—	—	—
Open ended mutual funds	22,478,674	22,478,674	—	—	—
	<u>\$ 215,210,271</u>	<u>159,201,390</u>	<u>7,876,168</u>	<u>24,408,153</u>	<u>23,724,560</u>

**BOSTON WATER AND SEWER COMMISSION**

Notes to Financial Statements - Continued

December 31, 2020 and 2019

**(11) Deposit and Investment Risk - Continued**

**(d) Credit Risk**

The Commission follows its investment policy listed above in regard to the credit worthiness of its investments. The Commission's fixed income investments as of December 31, 2020 and 2019 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:

<b>2020</b>				
<u>Investment type</u>	<u>Fair value</u>	<u>AAA</u>	<u>AA</u>	<u>Not rated</u>
U.S. Government agencies	\$ 44,655,700	8,531,202	—	36,124,498
Guaranteed investment contract	8,416,250	—	—	8,416,250
Money market	111,267,271	—	111,267,271	—
Open ended mutual funds	23,295,947	23,295,947	—	—
	<u>\$ 187,635,168</u>	<u>31,827,149</u>	<u>111,267,271</u>	<u>44,540,748</u>

  

<b>2019</b>				
<u>Investment type</u>	<u>Fair value</u>	<u>AAA</u>	<u>AA</u>	<u>Not rated</u>
U.S. Government agencies	\$ 130,904,662	107,180,102	—	23,724,560
Guaranteed investment contract	8,416,250	—	—	8,416,250
Money market	53,410,685	—	53,410,685	—
Open ended mutual funds	22,478,674	22,478,674	—	—
	<u>\$ 215,210,271</u>	<u>129,658,776</u>	<u>53,410,685</u>	<u>32,140,810</u>

As of December 31, 2020, and 2019, the Commission had \$36,124,498 and \$23,724,560, 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, 2020 and 2019. Individually, these investments in money market funds range between \$10 million and \$42 million for 2020 and \$11 million and \$20 million for 2019. In the aggregate, they approximate \$93 million and \$63 million for the years ended December 31, 2020 and 2019, respectively.

## BOSTON WATER AND SEWER COMMISSION

Notes to Financial Statements - Continued

December 31, 2020 and 2019

### (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 \$54.3 million as of December 31, 2020.

The Commission has committed to capital improvement projects of approximately \$143.9 million for 2021 through 2022, 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 \$106.6 million represents extension and improvement projects and \$37.3 million represents renewal and replacement projects. The extension and improvement projects will be 19% 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 worker's 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, \$6 million aggregate; \$500,000 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.

A single insurance claim has exceeded coverage by a material amount 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, 2020 and 2019

**(13) Risk Management and Other Insurance - Continued**

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

	<u>2020</u>	<u>2019</u>
Beginning balance of reserves	\$ 1,687,510	1,445,682
Payment of claims attributable to events of both current and prior years:		
Workers' compensation	-	-
General liability	438,996	940,332
Incurred claims	(129,773)	(698,504)
Ending balance of reserves	\$ <u>1,996,733</u>	<u>1,687,510</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, 2020, as well as the PRO payments made during 2020 and 2019, 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 2020, 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, 2020 and 2019

### **(15) Subsequent Event**

Subsequent to year-end, the Commission issued \$158 million in general revenue and refunding bonds (2021 Series A) and \$41 million in general revenue bonds (2021 Series B). The bonds are being issued to advance refund certain maturities of the Commission's outstanding bonds and to permanently finance certain capital improvements previously financed by outstanding commercial paper.



## **Independent Auditors' 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  
Boston, Massachusetts

We have audited, in accordance with 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 Boston Water and Sewer Commission (the "Commission") as of and for the years ended December 31, 2020 and 2019, 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 31, 2021.

### **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 opinion 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 may exist that have not been identified.

### **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.

*O'Connor + Drew, P.C.*

**Certified Public Accountants  
Braintree, Massachusetts**

August 31, 2021

**BOSTON WATER AND SEWER COMMISSION**

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

Boston Retirement System

Year ended	December 31, 2020	December 31, 2019	December 31, 2018	December 31, 2017	December 31, 2016	December 31, 2015
Valuation date	January 1, 2020	January 1, 2018	January 1, 2018	January 1, 2016	January 1, 2016	January 1, 2014
Measurement date	December 31, 2020	December 31, 2019	December 31, 2018	December 31, 2017	December 31, 2016	December 31, 2015
Commission's proportion of the net pension liability	3.76%	4.13%	4.28%	4.20%	4.20%	2.60%
Commission's proportionate share of the net pension liability	\$ 29,011,883	\$ 34,808,595	\$ 40,448,003	\$ 25,976,537	\$ 26,503,599	\$ 38,931,280
Commission's covered payroll	\$ 38,809,388	\$ 35,533,839	\$ 35,472,896	\$ 34,743,437	\$ 33,407,151	\$ 31,361,504
Commission's proportionate share of the net pension asset as a percentage of its covered-employee payroll	74.75%	97.96%	114.03%	74.77%	79.34%	124.14%
Plan fiduciary net position as a percentage of the total pension liability	82.04%	77.87%	72.89%	81.49%	79.44%	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 Year Ended December 31,

	2020	2019	2018	2017	2016	2015
Contractually required contribution	\$ 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	2,800,819	3,166,395	7,507,131	4,129,227	11,057,791	7,907,306
Contribution deficiency (excess)	\$ 3,407,626	2,785,554	(2,638,845)	538,358	(6,139,214)	(3,913,038)
Commission's covered payroll	\$ 38,809,388	35,533,839	35,472,896	34,743,437	33,407,151	31,361,504
Contribution as a percentage of covered-employee payroll	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 Required Supplementary Information -  
Boston Retirement System (Unaudited)

December 31, 2020 and 2019

Note 1 - **Change in Assumptions**

**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, 2020	December 31, 2019	December 31, 2018
Total OPEB liability:			
Service cost	\$ 2,190,830	\$ 2,134,311	\$ 2,069,043
Interest	4,891,289	4,646,844	4,394,786
Change in benefit terms	(10,574,843)	-	-
Differences between expected and actual experience	(965,764)	-	-
Change in assumptions	(292,259)	(264,108)	-
Benefit payments	<u>(2,887,704)</u>	<u>(2,783,496)</u>	<u>(2,480,017)</u>
Net change in total OPEB liability	(7,638,451)	3,733,551	3,983,812
Total OPEB liability, beginning of year	<u>74,480,894</u>	<u>70,747,343</u>	<u>66,763,531</u>
Total OPEB liability, end of year	<u>66,842,443</u>	<u>74,480,894</u>	<u>70,747,343</u>
Plan fiduciary net position:			
Contributions - employer	3,867,341	4,200,341	6,301,842
Net investment income	1,155,302	4,519,177	(596,759)
Benefit payments	<u>(2,887,704)</u>	<u>(2,783,496)</u>	<u>(2,480,017)</u>
Net change in plan fiduciary net position	2,134,939	5,936,022	3,225,066
Plan fiduciary net position, beginning of year	<u>28,838,744</u>	<u>22,902,722</u>	<u>19,677,656</u>
Plan fiduciary net position, end of year	<u>30,973,683</u>	<u>28,838,744</u>	<u>22,902,722</u>
Net OPEB liability, end of year	<u>\$ 35,868,760</u>	<u>\$ 45,642,150</u>	<u>\$ 47,844,621</u>
Plan fiduciary net position as a percent age of the total OPEB liability	46.34%	38.72%	32.37%
Covered payroll	\$ 38,809,388	\$ 35,533,839	\$ 35,472,896
Net OPEB liability as a percentage of covered payroll	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,

	2020	2019	2018
Actuarially determined contribution	\$ 4,077,414	\$ 4,859,090	\$ 4,688,044
Contribution in relation to the actuarially determined contribution	<u>3,867,341</u>	<u>4,200,341</u>	<u>6,301,842</u>
Contribution deficiency (excess)	<u>\$ 210,073</u>	<u>\$ 658,749</u>	<u>\$ (1,613,798)</u>
Covered payroll	\$ 38,809,388	\$ 35,533,839	\$ 35,472,896
Contributions as a percentage of covered-employee payroll	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 Required Supplementary Information -  
Other Postemployment Benefit ("OPEB") Trust (Unaudited)

December 31, 2020 and 2019

Note 1 - **Change in Assumptions**

**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

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

	<u>2020</u>	<u>2019</u>
Revenues:		
Water revenue	\$ 151,395,689	155,856,895
Sewer revenue	212,105,684	213,568,719
Subtotal	<u>363,501,373</u>	<u>369,425,614</u>
Less:		
Adjustments	10,720,098	10,562,235
Discounts	1,321,341	1,218,447
Bad debt	51,057	378,627
Subtotal	<u>12,092,496</u>	<u>12,159,309</u>
Net billed charges	351,408,877	357,266,305
Prior year surplus	689,553	558,206
Miscellaneous revenues:		
Late charge revenue	350,258	679,568
Investment income	1,980,534	4,609,528
Fire pipe revenue	5,110,863	4,958,922
Other income	24,379,632	11,584,275
Total revenues	<u>383,919,717</u>	<u>379,656,804</u>
Direct operating expenses:		
Salaries and wages	44,008,211	43,648,298
Overtime wages	1,229,981	1,185,585
Fringe benefits	8,652,971	8,519,218
Supplies and materials	2,195,934	2,372,934
Repairs and maintenance	10,745,786	10,123,538
Utilities	1,456,755	1,617,652
Professional services	3,288,593	3,336,607
Space and equipment rentals	291,919	331,653
Other services	1,428,584	1,773,605
Insurance	949,730	717,545
Travel and training	17,890	62,912
Damage claims	4,160	257,515
Inventory	5,840	17,870
Capital outlay	46,574	86,952
Total direct operating expenses	<u>74,322,928</u>	<u>74,051,884</u>
Nonoperating expenses:		
MWRA assessment	241,360,172	235,786,344
Capital improvements	15,948,387	15,382,251
Principal payments	29,547,295	29,945,528
Interest expense	20,632,346	21,838,594
Deposits to reserve funds	1,516,000	1,768,000
SDWA assessment	220,685	194,650
Total nonoperating expenses	<u>309,224,885</u>	<u>304,915,367</u>
Total current expenses	<u>383,547,813</u>	<u>378,967,251</u>
Current year rate surplus	\$ <u>371,904</u>	<u>689,553</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 Auditors' Report.