



Boston Water & Sewer Commission Capital Improvement Program 2022-2024 Executive Summary

The Boston Water and Sewer Commission (“the Commission” or “BWSC”) is a body politic and corporate and political subdivision of the Commonwealth created by Chapter 436 of the Acts of 1977 (“Enabling Act”). The Enabling Act abolished the water and sewer divisions within the City of Boston Public Works Department and transferred the ownership, operation and control of the water, sewer and storm drain systems to the Commission. As a public instrumentality, the Commission performs an essential public function in providing water and sewer services to the residents of the City of Boston. The Act authorizes the Commission to construct and make improvements to the water and sewer systems, establish and collect rates and charges for its services and finance its operations and improvements through revenue collections and the sale of bonds and notes payable solely from the Commission’s revenues. The Act further provides that any revenue surplus earned by the Commission in any Fiscal Year shall be credited to the next year’s rates or returned to the City of Boston. Since its inception, the Commission has generated a surplus in each year of its operations and has credited the surplus to the reduction of the next year’s rates.

The Enabling Act and the Commission’s General Revenue Bond Resolution adopted December 6, 1984 (“the Resolution”) require the Commission, on an annual basis, to develop a three-year Capital Improvement Program (“CIP”). Information generated by the Commission’s ongoing monitoring programs for the systems and from various engineering data files, together with information concerning the development needs of the City, is used to compile a list of pipes, conduits, transmission mains and other system components to be either renewed, replaced, relocated or added to the systems each year. The CIP outlines the schedule and implementation of the capital projects necessary to maintain and improve the water and sewer systems for the ensuing three-year period. Due to pace of project implementation, the actual expenditures are currently expected to occur over a longer period of time. While there can be no assurance that projections for the projects included in the 2022-2024 CIP will not be exceeded or that additional projects will not be required, the Commission believes the amounts set forth the 2022-2024 Capital Improvement Program are reasonable for such projects.

The Commission in compliance with the requirements of the Enabling Act and the Resolution, project costs of the Commission’s Capital Improvement Program from Fiscal Years



2022 through 2024 total approximately \$236.8 million.

Since the Commission’s inception in 1977, the Commission has set forth its Capital Improvement Plan to provide for long-term capital improvements to its water distribution and sewer collection systems, governed by a core commitment to prudent fiscal management. Comprehensive and well-planned water distribution system maintenance and planning has sustained superior water service for our customers and resulted in a low incidence of system failures. The Commission has also led the industry in implementing effective water conservation measures, including dedication to deploying the most efficient technologies and practices enabling the Commission to maximize cost savings.

The Commission utilizes effective conservation measures through continued efforts to eliminate leaks across the system through advanced leak detection technology and proactive maintenance of the system’s water mains.

Discussion of Management Objectives and Accomplishments

The Commission was created to maintain and improve the long-term quality and reliability of water and sewer services for all users in the City and to assure adequate funding for operation and maintenance of the systems. For the purposes of this document, “Systems” include the water distribution system (including potable water and fire suppression facilities) and sewer system (including separate sanitary sewers, separate stormwater drains and combined sewers) and the related appurtenances and fixtures. The Commission is committed to four primary goals:

- **To maintain and improve the water distribution and wastewater collection systems.** The Commission is committed to various improvements to the Water Distribution and Sewer Systems, including following an aggressive renewal and replacement program, reducing unaccounted for water, encouraging conservation and improving the environment. The Commission is also committed to meeting and exceeding the requirements of all federal and state water and wastewater laws, regulations and technical standards.
- **To establish and administer a billing and collections system that is fair and efficient.** The Commission has worked to establish a rate structure that fully and fairly reflects its costs, properly distributes the financial obligation concerning its customer base and encourages water conservation. The metering, billing, and collection process is a central focus of the Commission's full management team, and the Commission is committed to maintaining its strong record in that area.
- **To maintain a strong financial structure.** The Commission has consistently employed conservative financial projections and budgeting assumptions, maintained adequate reserves, and struck a reasonable balance between debt funding and rate funding of capital expenses.
- **To sustain the effectiveness of investments / compliance of regulations.** The Commission is committed to complying with all its regulatory obligations under federal and state laws, including the Safe Drinking Water Act ("SDWA") and Clean Water Act ("CWA") with its National Pollutant Discharge Elimination System ("NPDES") permitting obligations for both its stormwater systems and combined sewer systems. Compliance obligations also extend to meeting and exceeding the goals and requirements of the Boston Harbor Decree and the Consent Decree executed in 2012 with the Environmental Protection Agency ("EPA") related to stormwater discharges.

In planning its CIP, the Commission balances the recognized need for ongoing renewal and replacement and preservation of its Systems with the desirability of specific improvements to accommodate development or redevelopment plans for the city. Wherever feasible, capital improvements are scheduled in coop-

eration with the street rebuilding and reconstruction activities of the City's Department of Public Works, the Boston Planning and Development Agency and the Commonwealth of Massachusetts Highway Department.

Objectives

The overall objectives of the Commission's 2022-2024 CIP are to ensure the delivery of high-quality potable water for consumption and fire protection, as well as the efficient collection of sewage for transport and delivery to a treatment facility or for approved discharge. In addition, the CIP includes projects to improve overall efficiency of the Commission and to enhance the Commission's ability to provide services to its customers.

The Stormwater category was created in 2017 that focuses on Stormwater management. The primary purpose of the Stormwater category in the 2022-2024 CIP is to participate in the Boston Harbor pollution abatement projects and implement green infrastructure to improve the water quality of discharges to the local receiving waters. The goal is also to study existing conditions and make recommendations for placement of best management practices designed to promote improved water quality, ensure compliance with state and federal regulations, minimize flooding, and strategically manage Stormwater throughout the City of Boston.

CIP expenditures are divided into four categories: Water Distribution System projects, Sewer System projects, Support projects and Stormwater projects. Water Distribution System projects account for \$92.9 million, or 39.3% of the 2022-2024 CIP. Sewer System projects comprise \$110.9 million, or 46.8%, Support projects total \$24.4 million, or 10.3% of the expenditures outlined in the program, and Stormwater projects account for \$8.6 million, or 3.6% of the 2022-2024 CIP.

Total capital expenditures of \$107.4 million are outlined for 2022. Water Distribution projects comprise \$38.6 million or 35.9%, Sewer System projects account for \$50.8 million or 47.4%, Support projects account for \$13.4 million, or 12.4% of the 2022 amount. Stormwater projects totaling \$4.6 million consist of the remaining 4.3% of the 2022 amount.

Tables 1 and 2 represent the cash flow expenditures and funding sources for the Commission's 2022-2024 CIP.

2022-2024 CIP Cash Flows

Table 1

PROGRAM	2022	2023	2024	TOTAL
Water	\$ 38,565,000	\$ 30,469,000	\$ 23,905,000	\$ 92,939,000
Sewer	\$ 50,847,000	\$ 36,346,000	\$ 23,700,000	\$110,893,000
Support	\$ 13,350,000	\$ 6,697,000	\$ 4,364,000	\$ 24,411,000
Stormwater	\$ 4,635,000	\$ 2,480,000	\$ 1,450,000	\$ 8,565,000
TOTAL	\$107,397,000	\$ 75,992,000	\$ 53,419,000	\$236,808,000

NOTE: Although expenditures decrease from periods 2023 to 2024, it is anticipated that funding for 2024 will be equal or greater than funding presented in 2024. The decrease in 2024 is primarily due to the CIP being a one-year cash flow, over a three-year budget period.

CIP expenditures are funded by four funding sources: Bonds, Rate Revenue, the MWRA funded Local Water System Assistance Program (LWSAP) and the MWRA funded I/I Local Financial Assistance Program (MWII). In 2021, the MWRA instituted a new assistance program for the identification and removal of lead from water pipes. This program is called the Lead Service Line Replacement Loan Program (MWLLP). Costs for this program are associated under the MWRA Water Assistance Program. Bonds funded projects account for \$130.3 million, or 55.0% of the 2022-2024 CIP. Rate funded projects

comprise of \$62.7 million, or 26.5%, MWRA funded Water projects total \$19.9 million, or 8.4% of the expenditures outlined in the program, and MWRA funded Sewer projects account for \$23.8 million, or 10.1% of the 2022-2024 CIP.

Total capital expenditures of \$107.4 million are outlined for 2022. Bond funded projects comprise \$64.9 million or 60.5%, Rate funded projects account for \$24.4 million or 22.8%, MWRA Water projects account for \$9.5 million or 8.9% of the 2022 amount and I/I projects total \$8.5 million consist of the remaining 7.9% of the 2022 amount.

2022-2024 CIP Funding Sources

Table 2

PROGRAM	2022	2023	2024	TOTAL
BWSC Bonds	\$ 64,935,000	\$ 40,495,000	\$ 24,874,000	\$ 130,304,000
Rate Revenue	\$ 24,435,000	\$ 22,163,000	\$ 16,136,000	\$ 62,734,000
MWRA Water Assistance	\$ 9,514,000	\$ 5,161,000	\$ 5,197,000	\$ 19,872,000
MWRA I/I Assistance	\$ 8,513,000	\$ 8,173,000	\$ 7,212,000	\$ 23,898,000
TOTAL	\$107,397,000	\$ 75,992,000	\$ 53,419,000	\$ 236,808,000

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Project Highlights

The Commission's CIP includes projects to improve the overall efficiency and to enhance the Commission's ability to provide services to its customers. The projects included in this CIP are intended to accomplish these objectives in the most efficient and cost-effective manner. The Commission intends to enhance Boston's water and sewer infrastructure with several targeted projects included in the 2022-2024 Capital Improvement Program. Some of the major projects are listed below:

- Water Main Rehabilitation in Dorchester & South Boston
- Water Main Replacement in City Proper
- Water Main Valve Replacement
- Rehabilitation of the New Boston Main Interceptor (NBMI)
- Sewer Renewal & Replacement in Fenway
- Sewer Renewal & Replacement in Roslindale, Hyde Park & Mattapan
- Installation of Tide-gates Citywide
- Sewer Separation and System Improvements in South Boston
- Sewer Separation in Roxbury
- Sewer Separation in East Boston
- City-wide Illegal Connections Investigations
- Dorchester Interceptor – Relief Sewer
- Upgrades to Union Park Pumping Station & Satellite Stations
- Projects affiliated with the Consent Decree; includes cleaning and televising 90 miles of sewer and drains
- Implement Stormwater/Green Infrastructure Program designed to improve water quality, the environment and manage stormwater resources
- Improvements of Information Technology

NOTE: The full description and forecasted budgets of individual projects are available in the Sewer R & R, Sewer Separation, Sewer Special, and Stormwater sections of the complete 2022-2024 CIP at www.bwsc.org. ■

BWSC 2022 CIP Upcoming Projects

Water Main Replacement 2022

<u>Neighborhood</u>	<u>Length</u>	<u>Cost</u>	<u>Award Date</u>
Dorchester / Fenway / S. Boston	4,300 ft.	\$7.7 M	April, 2022
Back Bay	3,600 ft.	\$3 M	May, 2022
City Proper - Central	4,900 ft.	\$11.6 M	May, 2022
South End Phase I	7,400 ft.	\$9 M	June, 2022
Bunker Hill Ave - Charlestown	8,800 ft.	\$7.5 M	July, 2022
Rutherford Ave - Charlestown	11,800 ft.	\$7.5 M	July, 2022
South Boston	12,500 ft.	\$10.1 M	Sept, 2022
<u>Totals</u>	<u>53,300 ft.</u>	<u>\$56.4 M</u>	

Sewer and Drain Replacement 2022

<u>Neighborhood</u>	<u>Length</u>	<u>Cost</u>	<u>Award Date</u>
Fenway	8,400 ft.	\$8.8 M	May, 2022
North Allston	9,400 ft.	\$5.2 M	July, 2022
Mattapan Rehab	20,800 ft.	\$6.4 M	Aug, 2022
Charlestown – City Sq	3,800 ft.	\$4.2 M	Sept, 2022
Brighton/Roxbury Relay	3,900 ft.	\$4 M	Sept, 2022
Citywide Rehab	6,800 ft.	\$8 M	Oct, 2022
South Boston Tidegates	N/A	\$0.5 M	Dec, 2022
<u>Totals</u>	<u>53,100 ft.</u>	<u>\$37.1 M</u>	