



MASSACHUSETTS WATER RESOURCES AUTHORITY

Deer Island
33 Tafts Avenue
Boston, MA 02128

Frederick A. Laskey
Executive Director

Chair: R. Tepper
Vice-Chair: A. Pappastergion
Secretary: B. Peña
Board Members:
P. Flanagan
J. Foti
L. Taverna
H. Vitale
J. Walsh
P. Walsh
M. White-Hammond
J. Wolowicz

BOARD OF DIRECTORS' MEETING

Telephone: (617) 242-6000
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Date: Wednesday, February 21, 2024
Time: 1:00pm
Location: Deer Island Reception/Training Building, 1st Floor
33 Tafts Avenue – Favaloro Meeting Room
Boston, MA 02128

A photo ID will be required for entry to the building.
The meeting will also be available via Webex. The Webex meeting link, event number and password to attend virtually are:

Webex meeting link (registration required):

<https://mwra.webex.com/weblink/register/r59c790b7c325ffb93175d8b84d776468>

Event number: 2340 599 5918 Password: 22124

AGENDA

I. APPROVAL OF MINUTES

II. REPORT OF THE CHAIR

III. REPORT OF THE EXECUTIVE DIRECTOR

IV. EXECUTIVE SESSION

i. Approval of January 17, 2024 Executive Session Minutes

A. Litigation

1. To Discuss Strategy with Respect to Litigation

V. WATER POLICY & OVERSIGHT

A. Information

1. Update on Lead and Copper Rule Changes

B. Contract Awards

1. Top of Shaft 5 Interim Improvements, Contract 7671, R. Zoppo Corp.

VI. ADMINISTRATION, FINANCE & AUDIT

A. Information

1. Delegated Authority Report – January 2024

2. FY2024 Second Quarter Orange Notebook

VI. ADMINISTRATION, FINANCE & AUDIT (Continued)**A. Information (Continued)**

3. FY2024 Financial Update and Summary through January 2024
4. FY2024 Mid-Year Capital Improvement Program Spending Report
5. FY2024 Community Assessment Adjustment
6. Preliminary FY2025 Water and Sewer Assessments

B. Approvals

1. Transmittal of the FY2025 Proposed Current Expense Budget (CEB)
2. Approval of the 87th Supplemental Bond Resolution
3. Delegation of Authority to Execute a Contract for the Purchase and Supply of Electricity for the Deer Island Treatment Plant

C. Contract Awards

1. Remarketing Agent for the 008 Series A-1 and A-3, TD Securities (USA) LLC, Raymond James & Associates Inc., Contract F275

VII. WASTEWATER POLICY AND OVERSIGHT**A. Approvals**

1. Amendments to MWRA Regulations for Sewer Use (360 CMR 10.000)

B. Contract Amendments/Change Orders

1. Oxygen Generation Facility Services – Deer Island Treatment Plant, Solutionwerks, Inc., Contract S 587, Amendment 2
2. Harbor and Outfall Monitoring, Benthic, Fish, and Shellfish Monitoring, Contact OP-401B, Amendment 2, Normandeau Associates, Inc.

VIII. PERSONNEL & COMPENSATION**A. Information**

1. Reorganization of the Department of Environmental Quality
2. Diversity, Equity and Inclusion Update

B. Approvals

1. Approval of the 2024 Affirmative Action Plan
2. January 2024 PCR Amendments

IX. CORRESPONDENCE TO THE BOARD**X. OTHER BUSINESS****XI. ADJOURNMENT**

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the Board of Directors

January 17, 2024

A meeting of the Massachusetts Water Resources Authority (“MWRA”) Board of Directors was held on January 17, 2024 at MWRA’s Administration Building in Chelsea, and also via remote participation.

Chair Tepper presided from MWRA’s Chelsea Administration Building. Board Members Flanagan, Foti, Peña, Taverna, and Jack Walsh also participated from the Chelsea Administration Building. Board Members Pappastergion, Vitale, White-Hammond and Wolowicz participated remotely. Board Member Patrick Walsh was absent.

MWRA Executive Director Frederick Laskey; General Counsel Carolyn Francisco Murphy; Chief Operating Officer David Coppes; Deputy Chief Operating Officer Rebecca Weidman; Director of Finance Thomas Durkin; Director of Administration Michele Gillen; Special Assistant for Affirmative Action Patterson Riley; Director of Construction Marty McGowan; Construction Coordinator Terrence Flynn; Construction Coordinator Jami Walsh; Chief Engineer Brian Kubaska; Program Manager, Energy and Environmental Management Denise Breitenreicher; Energy Manager Kristen Patneau; Senior Program Manager, Planning, Michael O’Keefe; Budget Director Michael Cole; Deputy Finance Director and Treasurer Matthew Horan; Human Resources Director Wendy Chu; Chief of Staff Katie Ronan; Associate General Counsel Kristen Schuler Scammon; and, Assistant Secretary Kristin MacDougall participated at MWRA’s Chelsea Administration Building.

Vandana Rao, EEA, and Matt Romero, MWRA Advisory Board, also participated at MWRA’s Chelsea Administration Building.

Chair Tepper called the meeting to order at 1:04pm.

ROLL CALL

MWRA General Counsel Francisco Murphy took roll call of Board Members in attendance and announced that Board Members Pappastergion and Vitale were participating remotely. The Chair announced that the meeting was being held at MWRA’s Chelsea Administration Building and virtually, via a link posted on MWRA’s website. She added that the meeting would be recorded, and that the agenda and meeting materials were available on MWRA’s website. She also announced that individual roll call votes would be conducted after each motion was made and given an opportunity for discussion.

APPROVAL OF DECEMBER 13, 2023 MINUTES

A motion was duly made and seconded to approve the minutes of the Board of Directors’ meeting of December 13, 2023.

Chair Tepper asked if there was any discussion or questions from the Board. Hearing none, she requested a roll call vote in which the members were recorded as follows:

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Tepper		
Flanagan		
Foti		
Pappastergion		
Peña		
Taverna		
Vitale		
J. Walsh		

(ref. I)

REPORT OF THE CHAIR

Chair Tepper thanked MWRA staff for their diligence and dedication in keeping MWRA systems operating safely during recent high impact storm events. (ref. II)

REPORT OF THE EXECUTIVE DIRECTOR

Fred Laskey, MWRA Executive Director, discussed MWRA's response to the high impact storm event of January 13, 2024. He presented the total amount of rainfall (11.1 inches) recorded at MWRA's Ward Street facility from December 11, 2023 through January 13, 2024. He noted that these rain events were exacerbated by challenges such as snow melt, strong winds, storm damage and high tides. He further noted that a controlled release was not required during the recent storms, and presented a graph of high wastewater flows in the South System from January 7 through January 16, 2024. He briefly discussed the timeline of the January 13 storm and commended staff for their hard work and expertise. He also discussed the process of notifying Board Members about the storm.

Next, Mr. Laskey reported that a Quabbin water transfer is underway, prompted by high reservoir levels. He noted that Quabbin transfers typically take place in the spring. He then reported that staff conducted a successful non-union managers' offsite meeting and thanked Chair Tepper for offering words of encouragement and guidance to participants. Mr. Laskey then briefly discussed MWRA's Lunchtime Speaker Series event for January, which featured a screening of the short film "The Old Quabbin Valley," presented by director and producer Lawrence R. Hott. Next, he advised that staff were reviewing and preparing comments on the Healy-Driscoll Administration's *Recommendations for Climate Oriented Forest Management Guidelines*. He then welcomed Board Members to MWRA's newly-remodeled Chelsea Administration Building and described its history. Finally, Mr. Laskey discussed the potential to

hold some future Board meetings in Chelsea.

(Board Member White-Hammond joined the meeting during the report.) (ref. III)

REPORT OF THE CHAIR (Continued)

Annual Meeting: Election and Appointment of MWRA Officers, Retirement Board Member and Committee Assignments

Chair Tepper continued her report.

Chair Tepper moved designate this January 17, 2024 meeting as the Annual Meeting, which, as provided in the Authority's By-Laws, will be deemed a special meeting of the Board for the purpose of the election of officers. Further, she moved to elect Andrew M. Pappastergion as Vice Chairman of the Board; to appoint Brian Peña as Secretary of the Board and Kristin MacDougall and Katherine Ronan as Assistant Secretaries; to appoint Matthew Horan as Treasurer; to appoint Matthew Horan as Retirement Board Member; to appoint William Kibaja and Michael Cole as Assistant Treasurers; and, to ratify the appointments of Board members to Standing Committees, as set forth in the January 17, 2024 Staff Summary presented and filed with the records of this meeting. The Board Officer and Committee appointments will take effect commencing at the next Board Meeting.

The motion was seconded.

Chair Tepper asked if there was any discussion or questions from the Board. Hearing none, she requested a roll call vote in which the members were recorded as follows:

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Tepper		
Flanagan		
Foti		
Pappastergion		
Peña		
Taverna		
Vitale		
J. Walsh		
White-Hammond		

(ref. II.A)

EXECUTIVE SESSION

Chair Tepper requested that the Board move into Executive Session to discuss Real Estate and Litigation, since discussing such in Open Session could have a detrimental effect on the negotiating and litigating positions of the Authority. She announced the planned topics for

discussion in Executive Session were a watershed land acquisition, a litigation update, and Prison Point CSO Facility Improvements Contract 4732. She announced that the Board would return to Open Session after the conclusion of Executive Session.

A motion was duly made and seconded to enter Executive Session for these purposes, and to resume Open Session after Executive Session adjournment.

General Counsel Francisco Murphy reminded Board members that under the Open Meeting Law members who were participating remotely in Executive Session must state that no other person is present or able to hear the discussion at their remote location. A response of “yes” to the Roll Call to enter Executive Session when their name was called would also be deemed their statement that no other person was present or able to hear the Executive Session discussion.

Upon a motion duly made and seconded, a roll call vote was taken in which the members were recorded as follows:

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Tepper		
Flanagan		
Foti		
Pappastergion		
Peña		
Taverna		
Vitale		
J. Walsh		
White-Hammond		

Voted: to enter Executive Session, and to resume Open Session after Executive Session adjournment.

*** EXECUTIVE SESSION ***

The meeting entered Executive Session at 1:15pm and adjourned at 1:42pm.

(Board Member Wolowicz joined the meeting during Executive Session.)

*** CONTINUATION OF OPEN SESSION ***

WATER POLICY AND OVERSIGHT

Approvals

First Amendment to Memorandum of Agreement By and Between Massachusetts Water Resources Authority and the City of Newton: Contract 6392, Rehabilitation of Sections 23, 24 and 47 Water Mains **A motion was duly made and seconded to authorize the Executive**

Director, on behalf of the Authority, to execute the First Amendment to the Memorandum of Agreement by and between the Massachusetts Water Resources Authority and the City of Newton relating to Contract 6392, Rehabilitation of Sections 23, 24 and 47 Water Mains, substantially in the form presented in the January 17, 2024 Staff Summary and filed with the records of the meeting, for the City of Newton to update its certification of appropriation, from \$2,720,400 to \$3,435,428, for costs for City of Newton work including change orders.

Ms. Francisco Murphy provided background on a Memorandum of Agreement (“MOA”) with the City of Newton that was approved by the Board of Directors in March, 2019. She described the MOA’s scope, including the provision that the City will reimburse the Authority for work performed on a city-owned water main under MWRA Contract 6392, as well as any approved change order work. She explained that proposed Amendment 1 is administrative in nature, and would allow Newton to update its certification of appropriation so that they can release additional funds to MWRA.

Next, Marty McGowan, MWRA Director of Construction, updated Board Members on the contract’s status. He reported that the project is nearing completion; that major pipeline installation for MWRA and the City of Newton was substantially complete in December, 2023; and, that pipeline disinfection is expected to start in February, 2024. He noted that final paving sand site restoration is planned for spring 2024. Next, he presented a review of all approved change order work under the MOA to date, and explained that the change orders were typical of restoration work on 140 year-old cast iron water mains. Finally, Mr. McGowan noted that the MOA with the City of Newton represented a successful partnership between MWRA, the City of Newton and the contractor.

Chair Tepper asked if there was any discussion or questions from the Board. Hearing none, she requested a roll call vote in which the members were recorded as follows:

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Tepper		
Flanagan		
Foti		
Pappastergion		
Peña		
		Taverna
Vitale		
J. Walsh		
White-Hammond		
Wolowicz		

(ref. V A.1)

Contract Amendments/Change OrdersLow Service Pressure Reducing Valve Improvements - Boston/Medford: RJV Construction Corporation, Contract 7563, Change Order 6

A motion was duly made and seconded to authorize the Executive Director, on behalf of the Authority, to approve Change Order 6 to Contract 7563, Low Service Pressure Reducing Valve Improvements - Boston/Medford, with RJV Construction Corporation, extending the contract term by 90 calendar days from December 31, 2023 to March 30, 2024, with no increase in contract amount. Further, a motion was duly made and seconded to authorize the Executive Director to approve additional change orders as may be needed to Contract 7563 in an amount not to exceed the aggregate of \$250,000 and to extend the contract term by 180 days in accordance with the Management Policies and Procedures of the Board of Directors.

Mr. McGowan summarized the reasons for a proposed no-cost time extension for MWRA's Low Service Pressure Reducing Valve Improvements project in Boston and Medford. He explained that the change order was needed due to delays in the installation of dedicated Verizon T-1 lines.

Next, Terrence Flynn, MWRA Construction Coordinator, updated Board Members on the project's status. He reported that Verizon had recently visited the work sites, and that the T-1 line installation was expected to take place in late January, 2024. Finally, he provided a brief overview of the project schedule.

Board Member Jack Walsh requested information about the status of Change Order 5. Mr. Flynn advised that Change Order 5 was executed during the week of January 8, 2024.

Chair Tepper asked if there was further discussion or questions from the Board. Hearing none, she requested a roll call vote in which the members were recorded as follows:

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Tepper		
Flanagan		
Foti		
Pappastergion		
Peña		
Taverna		
Vitale		
J. Walsh		
White-Hammond		
Wolowicz		

(ref. V B.1)

Wachusett Dam Lower Gatehouse Pipe and Boiler Replacement: J.F. White Contracting Company Contract 7380, Change Order 1

A motion was duly made and seconded to authorize the Executive Director, on behalf of the Authority, to approve Change Order 1 to Contract 7360, Wachusett Dam Lower Gatehouse Pipe and Boiler Replacement, with J.F. White Contracting Company for a not-to-exceed amount of \$1,300,000, increasing the contract amount from \$19,333,573 to \$20,633,573, and extending the contract term by 243 calendar days from August 17, 2024, to April 17, 2025. Further, a motion was duly made and seconded to authorize the Executive Director to approve additional change orders as may be needed to Contract 7360 in an amount not to exceed the aggregate of \$1,000,000 and to extend the contract term by 180 days in accordance with the Management Policies and Procedures of the Board of Directors.

Staff presented the scope and reasons for a proposed change order for the Wachusett Dam Lower Gatehouse Pipe and Boiler Replacement project. Mr. McGowan began with a discussion of the Lower Gatehouse's location and functions. He then introduced his co-presenter, MWRA Construction Coordinator Jami Walsh, and noted that she had recently worked on a project to replace historic doors and windows at the Gatehouse.

Next, Mr. McGowan presented the Gatehouse's hydraulic profile design, which includes the installation of multi-orifice valves ("MOVs"). He explained that MOVs would reduce hydraulic head of flows from the reservoir and reduce potential damage as water discharges to the Nashua River. He then discussed the status of the Lower Gatehouse's existing valves and the scope of the overall valve replacement project. He presented the new piping configuration and described the operational benefits of MOVs.

Next, Ms. Walsh discussed the reasons for the proposed change order. She described how MOVs work to control flows and how they will increase the flexibility of the Gatehouse's operation. She explained that the contractor had selected a manufacturer that coated the MOV plates with a Teflon material that contains PFAS, an emerging contaminant of concern. She explained that staff's review of the matter had determined that uncoated, stainless steel MOVs would provide the same levels of flexibility and performance as the coated valves, and that using uncoated MOVs would be in the MWRA's best interest. Finally, Ms. Walsh explained that the proposed change order with time extension is needed for this design change and for the manufacture and delivery of the uncoated MOVs.

Board Member Taverna requested more information about how the MOVs would be operated. Ms. Walsh explained that operators would control the MOVs from a remote location within the Gatehouse. There was brief discussion about the number of MOVs to be installed; the plan for operating them; Nashua River release requirements; and the benefits of MOVs at the Gatehouse. Mr. Jack Walsh inquired about the Gatehouse's heating system. Ms. Walsh advised

that staff would discuss a separate contract for the heating system at a future Board meeting.

Hearing no further discussion or questions from the Board, Chair Tepper requested a roll call vote in which the members were recorded as follows:

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Tepper		
Flanagan		
Foti		
Pappastergion		
Peña		
Taverna		
Vitale		
J. Walsh		
White-Hammond		
Wolowicz		

(ref. V B.2)

WASTEWATER POLICY AND OVERSIGHT

Contract Amendments/Change Orders

Second Amendments to Both the Memorandum of Understanding and Financial Assistance Agreement with the Boston Water and Sewer Commission for Implementation of the Fort Point Channel and Mystic/Chelsea Confluence

A motion was duly made and seconded to authorize the Executive Director, on behalf of the Authority, to execute the Second Amendment to the Memorandum of Understanding and the Second Amendment to the Financial Assistance Agreement by and between Massachusetts Water Resources Authority and Boston Water and Sewer Commission for the Implementation of Fort Point Channel and Mystic/Chelsea Confluence Combined Sewer Overflow Control, substantially as set forth in the January 17, 2024 Staff Summary presented and filed with the records of this meeting, increasing the not-to-exceed amount by \$1,881,274 from \$10,000,000 to \$11,881,274, with no change in term. Further, a motion was duly made and seconded to authorize the Executive Director, on behalf of the Authority, to approve and execute additional amendments to such Memorandum of Understanding and Financial Assistance Agreement, in an amount not to exceed the aggregate of \$1,000,000 for additional financial assistance in the Executive Director's discretion for construction change order costs that the Executive Director determines is appropriate and should be reimbursed by the Authority; such reimbursement remains otherwise subject to the term and conditions of said Memorandum of Understanding and Financial Assistance Agreement.

Brian Kubaska, MWRA Chief Engineer, presented the reasons for a proposed Second

Amendment to both the Memorandum of Understanding and Financial Assistance Agreement (“MOU/FAA”) with Boston Water and Sewer Commission (BWSC). He provided background on the MOU/FAA that was originally approved by the MWRA Board of Directors in October, 2022. He explained that under the original MOU/FAA, BWSC had agreed to design and improve four CSO outfalls in support of MWRA’s efforts to meet Long Term CSO Control Plan (“LTCP”) goals requiring specific typical year activation and volume goals, and presented the outfall locations.

Next, Mr. Kubaska discussed the First Amendments to the MOU/FAA approved by the Board in December, 2023. He explained that Amendment 1 included the addition of a fifth BWSC outfall for improvement (BOS013 in East Boston) to the MOU/FAA.

He then reported that BWSC had received bids for construction work at the five BWSC outfall sites, and advised that the lowest bid was approximately 42% higher than the estimate prepared by BWSC’s consultant. Mr. Kubaska explained that staff are confident that the recommended, lowest bidder’s cost was appropriate because the three low bids received were close in value. He then noted that BWSC stands to incur a total of approximately \$11.9 million in costs, including an existing \$1.5 million design contract, for CSO improvement work at the five outfalls.

Finally, Mr. Kubaska requested Board approval of a Second Amendment to the MOU/FAA, which includes a cost increase that reflects the higher-than-expected bid price, as well as the addition of delegated authority in an amount not to exceed \$1 million for potential change order costs.

There was brief, general discussion about differences in the scope and costs of the original MOU/FAA and Amendments 1 and 2; MWRA’s design review; the construction contract estimate evaluation process; and, project financing.

Board Member Vitale noted that BWSC staff had diligently reviewed the construction bids received for accuracy and found the costs to be reasonable. He also discussed some factors that contributed to the higher bid price, including inflation and work in areas with high traffic volumes. Finally, on behalf of Mayor Wu, the BWSC Commissioners and BWSC staff, Mr. Vitale thanked MWRA staff for their evaluation and support, and advised that the CSO improvement work will greatly benefit MWRA’s and BWSC’s efforts to meet LTCP goals.

(Ms. Wolowicz left the meeting during the discussion.)

Hearing no further discussion or questions from the Board, Chair Tepper requested a roll call vote in which the members were recorded as follows:

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Tepper		

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Flanagan		
Foti		
Pappastergion		
Peña		
Taverna		
Vitale		
J. Walsh		
White-Hammond		

(ref. VI A.1)

ADMINISTRATION, FINANCE AND AUDIT

Information

Delegated Authority Report – December 2023

Michele Gillen, MWRA Director of Administration, invited questions from Board members.

Mr. Jack Walsh requested more information about the cost of Item P-9: *Critical Need Purchase Order for the Rental and Installation of a Temporary Air Handling System for the Columbus Park Headworks*. David Coppes, MWRA Chief Operating Officer, explained that the Item P-9 represented a specialized, major air handling unit with associated heat coils. He noted that the unit was necessary for staff safety and that it was available for rapid installation at a reasonable cost. Mr. Coppes advised that the temporary air handling system will be used until a permanent replacement is installed, and briefly discussed the procurement schedule for the permanent unit. There was general discussion about the uses and costs of temporary air handling systems.

Mr. Taverna requested a status update on *Item C-1: Section 101 Pipeline Extension (Waltham)*. Mr. McGowan explained that the contractor had completed the first phase of the contract in December, 2023. He added that phase two work began during the week of January 15, 2024 and is expected to continue through the construction season.

Mr. Vitale noted that in his view the costs for Items P-1: *Purchase Order for Professional Services for the Implementation of Microsoft Azure AD Integration with Okta - State Contract ITS60* and P-4: *One-Year Purchase Order Contract for Maintenance and Support of SAP Business Objects' Business Intelligence Suite* were competitive.

Hearing no further discussion or questions from the Board, Committee Chair Foti moved to the next Information item. (ref. VII A.1)

FY21-25 Strategic Business Plan: Annual Update for FY23

Denise Breiteneicher, MWRA Program Manager, Energy and Environmental Management,

presented an annual update on MWRA's FY21-25 Strategic Business Plan ("Business Plan") for FY2023. She began with an overview of the Business Plan's purpose. She noted that the Business Plan is reviewed by staff annually, and is a component of a broader suite of management tools, such as the Capital Improvement Plan, Current Expense Budget, and the Key Indicators of MWRA Performance report. She added that the Business Plan is posted on MWRA's website for public review. She discussed guiding principles of the Business Plan and described the Plan's structure.

Finally, Ms. Breiteneicher presented some Business Plan progress highlights for FY23, including participation in studies on key issues; the completion of 248 lead and copper tests from 66 schools and childcare facilities in 31 communities; substantial movement on the design of upgrades for major wastewater facilities including decarbonization; the submittal of the Metropolitan Water Tunnel Program Environmental Impact Report; the completion of an Environmental Justice Strategy; participation in the "EV Make Ready" charging infrastructure program; and, the receipt of a DEP grant to pilot the installation of heat pumps at two pump stations.

Mr. Vitale noted that BWSC uses MWRA's Business Plan to develop of its own Plan, and complimented MWRA staff on their work. Chair Tepper added that she found the MWRA Business Plan to be a useful objective and goal document. Board Member Foti asked staff for an update on the number of electric vehicles (EVs) in MWRA's fleet. Ms. Gillen advised that MWRA's fleet of approximately 500 vehicles includes 22 EVs and six hybrids. Kristen Patneade, MWRA Energy Manager, noted that the delivery of two EV pickups was expected this winter. Mr. Foti asked if MWRA's 22 EVs were passenger vehicles. Ms. Gillen responded in the affirmative. She noted that MWRA's fleet policy is currently under review, and that staff expect to increase the policy's EV requirements.

Hearing no further discussion or questions from the Board, Committee Chair Foti moved to the next Information item. (ref. VII A.2)

MWRA Greenhouse Gas Inventory for 2022

Staff presented MWRA's Greenhouse Gas ("GHG") Emissions Inventory for 2022. Michael O'Keefe, MWRA Senior Program Manager, Planning, described MWRA's long-standing commitment to energy savings and emissions reduction, which has resulted in cost savings and significant reductions in GHG emissions. He noted that MWRA received the Commonwealth's Leading by Example Award for 2023. He then provided background on MWRA's GHG Inventory program, which began in 2006 and is guided by state climate goals.

Next, Mr. O'Keefe presented MWRA's progress in meeting state GHG emissions targets. He reported that MWRA has achieved a 41% reduction in emissions since 2006; has already met

the state's 2025 emissions reduction target of 33%; and, is working to meet the 2030 target. He then explained that MWRA's energy use and GHG emissions are tied to fluctuations in precipitation and wastewater flows, and provided examples of high-energy use storm events.

Mr. O'Keefe then discussed the four main sources of MWRA's GHG emissions: electricity (44%); natural gas (20%); process and fugitive (16%); diesel and fuel oil (13%); and, other, such as fleet and digester gas combustion (8%). He briefly described how the GHG sources are typically used for MWRA operations, and presented a graph showing MWRA's reduced use of the four main GHG sources since 2006.

Next, Mr. O'Keefe advised that 84% of MWRA's GHG reductions are from electricity, driven by energy efficiency, renewables, and a greener electric grid. He noted that since 2006 MWRA has reduced its electricity purchases by 15%, which, combined with the impact of a greener electric grid, has resulted in a 57% reduction in GHG emissions. He added that MWRA's GHG emissions will reduce further as the electric grid becomes greener over time, and as staff continue progress on electrification.

He then presented the rates of emissions reductions for MWRA's other main GHG sources: natural gas (-18%), mostly due to increased efficiencies at the Pellet Plant; diesel and fuel oil (-28%) attributable to conversion from oil and reduced emergency generator use; and process and fugitive (+1.4%). Mr. O'Keefe advised that process and fugitive emission levels have remained static since 2006 because they are based on biochemical reactions of the degradation of wastewater, and that staff are investigating ways to potentially reduce these emissions. He noted that the Commonwealth's Decarbonization Roadmap acknowledges that there are no clear pathways for process and fugitive emissions reductions.

Next, Mr. O'Keefe discussed the development of MWRA's renewable energy portfolio, including hydropower, wind, solar and Deer Island steam turbine digester gas combustion. He noted that 66% of the renewable energy produced by MWRA is used onsite, mostly at Deer Island. He further noted that the Deer Island steam turbine generates 52% of MWRA's renewable energy, and that it avoided 15,000 metric tons of carbon dioxide emissions in 2022, and 5 million gallons of fuel oil. He then explained that 34% of the renewable energy that MWRA produces is sold back to the grid.

Mr. O'Keefe then presented some of MWRA's successful GHG emission reduction initiatives, including energy efficiency improvements; shifts to electric heat pumps for space heating; a growing electrified fleet; changes to internal processes to ensure that energy efficient products are incorporated into projects when feasible; and the implementation of social cost of carbon analysis. He highlighted MWRA's plan to update Deer Island's Combined Heat and Power ("CHP") facility, and noted that design is expected to begin later in 2024. He advised that the new CHP facility will nearly double MWRA's electricity production; save 300,000 gallons of fuel

oil; and, reduce overall GHG emissions by 15%. He added that staff are also exploring additional emissions reductions through battery storage and wastewater heat recovery programs.

Finally, Mr. O’Keefe advised that staff will continue efforts to reduce GHG emissions through energy efficiency, electrification and renewables; explore innovative reduction strategies; and, develop pathways to meeting the Commonwealth’s 85% reduction/net zero goal by 2050.

Chair Tepper requested more information about MWRA’s process for selling renewable energy back to the grid. Ms. Patneau explained that the exported power for solar, wind and small hydro is paid through net-metered rates; that the older large hydro facilities are compensated as qualified facilities; and, MWRA sells the associated renewable energy certificates (RECs) for these assets. Chair Tepper then asked which dollar amount MWRA uses for social cost of carbon analysis. Mr. O’Keefe explained that MWRA uses a value of \$125.00 per ton and briefly described the methodology for analysis.

There was brief, general discussion about the positive impacts of a greener electrical grid, energy efficiency, and shifts to renewable sources on MWRA’s GHG emissions.

Hearing no further discussion or questions from the Board, Committee Chair Foti moved to the next Information item. (ref. VII A.3)

FY2024 Financial Update and Summary through December 2023

Thomas Durkin, MWRA Director of Finance, provided a financial update and summary through December 2023. He reported that direct, indirect and capital finance expenditures were 3% lower than budgeted overall. He noted that wages and salaries were under budget by 12% due to ongoing staffing challenges, and that chemicals expenditures were 14% under budget, attributable to stabilizing prices. He then advised that the Consumer Price Index had risen 3.4% for the 12 months ending in December, significantly lower than staff’s budget projection and the high of 9.0%. Next, Mr. Durkin reported that the Watershed Reimbursement line item was \$1.3 million (13.4%) below budget through December, and noted that this indirect expense is seasonally variable. He then reported that revenue and income were \$3.9 million (0.9%) over budget estimates, driven by higher-than-expected returns on money market investments. He advised that staff are monitoring interest rates and geopolitical events for any potential budgetary impacts. Finally, Mr. Durkin reported that the budget is doing well overall and will keep Board members updated as the fiscal year progresses.

There was general discussion about the U.S. interest rate and inflation forecast, and the impacts of interest rates and inflation on MWRA’s budgets.

Hearing no further questions or comments from the Board, Committee Chair Foti moved to the next Information item. (ref. VII A.4)

Approvals

Transmittal of the FY25 Proposed Capital Improvement Program to the MWRA Advisory Board

A motion was duly made and seconded to approve the transmittal of the FY25 Proposed Capital Improvement Program to the MWRA Advisory Board for its 60-day review and comment period.

Staff presented the proposed FY25 Capital Improvement Program (“CIP”) for transmittal to the MWRA Advisory Board for review and comment. Mr. Durkin noted that FY25 represents the second year of the current five-year Spending Cap, and that the proposed FY25 CIP includes adjustments that reflect Engineering and Construction staff input.

Next, Michael Cole, MWRA Budget Director, presented a comparison of the FY24-FY28 Baseline Cap as approved by the Board of Directors in June 2023 vs. the proposed FY25 Spending Cap. He noted the proposed FY25 Cap (\$1,364,100) was very close to the approved FY24-28 baseline Cap (\$1,364,200).

He then discussed the FY25 Proposed CIP’s top ten projects with regards to spending, and noted that they collectively account for approximately 33% of the proposed FY25 CIP spending.

Next, Mr. Coppes presented a summary of new projects in the FY25 Proposed CIP, including the Shaft L Interconnection Project and the design and construction of a new DCR field office in New Salem to replace a facility that was destroyed by a fire.

Mr. Foti noted that the Massachusetts Department of Transportation now leases customized modular depots on a temporary basis at a substantial cost savings vs. building comparable new facilities, and added that the depots may be suitable for longer-term use. There was brief discussion about the cost, general specifications and flexibility of the leased modular depots. Mr. Foti advised that he would forward more information to MWRA staff.

Mr. Durkin then discussed MWRA’s financial relationship with the DCR per a longstanding MOA. He noted that MWRA’s financial obligations include reimbursement for DCR watershed operations such as wages and salaries; a capital commitment with the DCR Watershed Protection division for various projects that MWRA plans to capitalize as assets, such as the previously-discussed New Salem field office; and, other major projects, such as large equipment, tractors and boats, which are included in the Current Expense Budget (CEB) rather than the CIP because they cannot be capitalized. There was brief, general discussion about the DCR project evaluation and funding process, and other DCR projects financed by MWRA, such as dam maintenance.

Mr. Coppes resumed his presentation of new projects in the proposed CIP, including new the restoration of a culvert in Quincy. Mr. Jack Walsh asked for more information about the culvert’s location. Mr. Coppes explained that the location is near the Braintree-Weymouth

Pump Station.

Next, Mr. Cole discussed the Metropolitan Water Tunnel Program (“MWTP”). He noted that the MWTP’s projected cost rose from \$1.8 billion in the FY24 CIP to \$2.1 billion for FY25. He explained that the change was primarily attributable to the preliminary design’s updated construction costs. Mr. Cole added that the majority of MWTP spending will take place during the FY29-FY33 cap period, and that staff plans to present a full update at the March 2024 Board meeting. There was further general discussion about the MWTP’s FY25 cost. Mr. Foti noted that in his view, a \$300 million cost difference was not unprecedented for a project of this scale.

Board Member Vitale requested the five-year average of the under-budget spending variance. Mr. Cole explained that the underspending average for the past five years was 35%, mainly attributable to COVID-related supply chain disruptions. He noted that MWRA’s underspending averaged approximately 25% over the past 20 years.

Mr. Cole then described the upcoming steps of the MWRA budget process. Next, Mr. Durkin noted that a key factor of MWRA’s budgets is the rate of change to community assessments on a combined basis, and described some CIP financing tools, such as bond issuances and debt service. Finally, Mr. Durkin stressed that predictable, affordable rates is a top priority for MWRA budgets. Mr. Laskey agreed.

Chair Tepper asked if there was further discussion or questions from the Board. Hearing none, she requested a roll call vote in which the members were recorded as follows:

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Tepper		
Flanagan		
Foti		
Pappastergion		
Peña		
Taverna		
Vitale		
J. Walsh		
White-Hammond		

(ref. VII B.1)

(Rev. White-Hammond left the meeting after Roll Call.)

Bond Defeasance of Future Debt Service

A motion was duly made and seconded to authorize the Executive Director or his designee,

on behalf of the Authority, to enter into, execute and deliver all necessary agreements and other instruments and to take such other actions necessary to effectuate the redemption and defeasance of an aggregate principal amount of \$11,350,000 of outstanding MWRA senior bonds including to cause the escrow of cash and/or securities in an amount necessary to fund such redemption and defeasance, in order to reduce the debt service requirement by approximately \$13.0 million in the FY25 through FY28 timeframe.

Matthew Horan, MWRA Deputy Finance Director and Treasurer, requested Board approval to use \$12.4 million of FY23 funds available after the receipt of SWAP termination payments to defease debt between FY24 and FY28. He explained that the proposed defeasance would be applied to manage rates, with a particular focus on FY25-FY27 water rates.

Mr. Vitale requested more information about MWRA's investment strategies with regards to government securities purchased for escrow, and the projected yield. Mr. Horan explained that staff planned a yield restriction of 2.2%, and to purchase state and local securities from the Treasury. Mr. Jack Walsh asked staff to clarify the terms of a proposed bond defeasance (Series 2016C, August 1, 2025-August 1, 2028). Mr. Horan explained that some of the bonds proposed for defeasance will be paid on their call date and will have been paid off earlier than scheduled, resulting in \$587,500 in interest savings.

(Chair Tepper temporarily left the meeting during the discussion.)

Hearing no further discussion or questions from the Board, Vice Chair Pappastergion requested a roll call vote in which the members were recorded as follows:

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Flanagan		
Foti		
Pappastergion		
Peña		
Taverna		
Vitale		
J. Walsh		

(ref. VII B.2)

Contract Awards

Bond Counsel Services: Greenberg Traurig, LLP, Contract F273

A motion was duly made and seconded to approve the recommendation of the Consultant Selection Committee to award Contract F273 to Greenberg Traurig, LLP for Bond Counsel Services and to authorize the Executive Director, on behalf of the Authority, to execute Contract F273 in an amount not to exceed \$1,566,960 and for a term of four years from the

Notice to Proceed.

Mr. Horan summarized the selection process for a proposed Bond Counsel Services consultant. He discussed the scope of the contract and the qualifications of the recommended firm, Greenberg Traurig, LLP.

(Chair Tepper returned to the meeting during the summary.)

Mr. Jack Walsh requested more information about the previous Bond Counsel contract. Mr. Horan explained that Greenberg Traurig, LLP was the incumbent contractor. He noted that the retirement of the lead partner and the lower hourly rate of the new partner were factors in the proposed contract's lower cost.

Referring to the Staff Summary for this agenda item, Mr. Vitale asked if there was a written opinion supporting Mintz, Levin, Cohn, Ferris, Glovsky, and Popeo, P.C. ("Mintz Levin")'s indication that they were unable to provide a proposal due to a potential conflict of interest. General Counsel Francisco Murphy invited Mr. Horan to provide some background. Mr. Horan explained that during the prior Bond Counsel procurement, a review committee identified a potential conflict of interest if Mintz Levin served as both program and bond counsel for the Massachusetts Clean Water Trust and bond counsel for MWRA. He added that the Massachusetts Clean Water Trust had made a similar determination; however, MWRA staff do not know the current status of that opinion.

Chair Tepper asked if there was further discussion or questions from the Board. Hearing none, she requested a roll call vote in which the members were recorded as follows:

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Tepper		
Flanagan		
Foti		
Pappastergion		
Peña		
Taverna		
Vitale		
J. Walsh		

(ref. VII C.1)

PERSONNEL AND COMPENATION**Approvals****January 2024 PCR Amendments**

A motion was duly made and seconded to approve amendments to the Position Control

Register (PCR) as presented and filed with the records of this meeting.

Wendy Chu, MWRA Human Resources Director, summarized five proposed PCR amendments, including a grade change to a vacant Library Supervisor position due to an increase in responsibilities with regards to MWRA's content management system, and salary adjustments to four filled Deer Island Area Manager positions to address a pay equity issue.

Mr. Vitale asked if bargaining union approval was required for changes or upgrades to union staff positions. Ms. Chu explained that changes in union members' classifications or compensation rates are negotiated with unions prior to any recommendations to the Board. There was brief, general discussion about the negotiations process, and the use of side agreements.

Hearing no further discussion or questions from the Board, Chair Tepper requested a roll call vote in which the members were recorded as follows:

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Tepper		
Flanagan		
Foti		
Pappastergion		
Peña		
Taverna		
Vitale		
J. Walsh		

(ref. VIII A.1)

CORRESPONDENCE TO THE BOARD

There was no correspondence to the Board (ref. IX)

OTHER BUSINESS

There was no other business. (ref. X)

ADJOURNMENT

A motion was duly made and seconded to adjourn the meeting.

A roll call vote was taken in which the members were recorded as follows:

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Tepper		
Flanagan		
Foti		

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Pappastergion		
Peña		
Taverna		
Vitale		
J. Walsh		

(ref. XI)

The meeting adjourned at 3:08pm.

Approved: February 21, 2024

Attest:

Brian Peña, Secretary

LIST OF DOCUMENTS AND EXHIBITS USED

- Draft Minutes of November 15, 2023 MWRA Board of Directors' Meeting (ref. I)
- Presentation – Report of the Executive Director (ref. III)
- January 17, 2024 Staff Summary – Annual Meeting: Election and Appointment of MWRA Officers, Retirement Board Member and Committee Assignments (ref. II.A)
- January 17, 2024 Staff Summary – First Amendment to the Memorandum of Agreement By and Between Massachusetts Water Resources Authority and the City of Newton Relating to Contract 6392 – Rehabilitation of Sections 23, 24 and 47 Water Mains (ref. V A.1)
- January 17, 2024 Staff Summary – Low Service Pressure Reducing Valve Improvements - Boston/Medford: RJV Construction Corporation, Contract 7563, Change Order 6 (ref. V B.1)
- January 17, 2024 Staff Summary and Presentation – Wachusett Lower Gatehouse Pipe and Boiler Replacement: J.F. White Contracting Co., Contract 7380, Change Order 1 (ref. V B.2)
- January 17, 2024 Staff Summary and Presentation – Second Amendments to Both the Memorandum of Understanding and Financial Assistance Agreement with the Boston Water and Sewer Commission for Implementation of the Fort Point Channel and Mystic/Chelsea Confluence Combined Sewer Overflow Control Projects (ref. VI A.1)
- January 17, 2024 Staff Summary – Delegated Authority Report – December 2023 (ref. VII A.1)
- January 17, 2024 Staff Summary and Presentation – FY2021-FY2025 Strategic Business

Plan Annual Update for FY23 (ref. VII A.2)

- January 17, 2024 Staff Summary and Presentation – MWRA Greenhouse Gas Inventory for 2022 (ref. VII A.3)
- January 17, 2024 Staff Summary – FY2024 Financial Update and Summary through December 2023 (ref. VII A.4)
- January 17, 2024 Staff Summary and Presentation – Transmittal of the FY25 Proposed Capital Improvement Program to the MWRA Advisory Board (ref. VII B.1)
- January 17, 2024 Staff Summary – Bond Defeasance of Future Debt Service (ref. VII B.2)
- January 17, 2024 Staff Summary – Bond Counsel Services: Greenberg Traurig, LLP, Contract F273 (ref VII C.1)
- January 17, 2024 Staff Summary – January 2024 PCR Amendments (ref. VIII A.1)

Documents used for this meeting and cited in these minutes, including the documents and exhibits referenced above, are posted on MWRA's website:

<https://www.mwra.com/02org/html/bodmtg.htm>

STAFF SUMMARY




TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: February 21, 2024
SUBJECT: Lead and Copper Rule Changes and Recommendations

COMMITTEE: Water Policy & Oversight

X INFORMATION
 VOTE

Stephen Estes-Smargiassi, Director, Planning and Sustainability
Preparer/Title



David W. Coppes, P.E.
Chief Operating Officer

RECOMMENDATION:

For information only.

DISCUSSION:

In December 2023, as anticipated and previously reported on, the US Environmental Protection Agency (EPA) released a draft of proposed Lead and Copper Rule Improvements (LCRI). EPA anticipates issuing the new rule in final form by October 2024. The changes will substantially alter the requirements on MWRA and our communities, increasing outreach, and mandating lead service line replacement for all communities. The new rule also offers some important flexibility on treatment requirements as an incentive for faster action on lead service line replacement that MWRA will want to consider. MWRA provided comments to EPA on the proposed changes.

This staff summary will summarize the most significant changes in the proposed rule and their likely impact on MWRA and our communities; and propose some possible steps MWRA could take to support and accelerate community action on replacing lead service lines, while potentially avoiding unnecessary changes to its corrosion control treatment.

Key Components of the Proposed LCRI:

The proposed LCRI includes a myriad of detailed changes to aspects of the current and recently changed parts of the Lead and Copper Rule, but the most significant changes include:

- lowering the Action Level from 15 parts per billion (ppb) to ten ppb;
- maintaining the required 24-hour public notice for systems over the Action Level;
- requiring all water systems to replace all lead service lines within ten years, regardless of lead sample results;
- changing sampling and how the 90th percentile is calculated for systems with lead service lines ;
- requirement to offer filters to all consumers when a system is over the Action Level three times in five years;
- deferral of some requirements of the LCR Revisions (LCRR), (the most recent rule change was finalized in December 2021) until the LCRI are implemented; and

- allowing systems over the Action Level to defer changes to their corrosion control if they can replace all lead service lines within five years of the exceedance.

Each of the major changes is discussed below, followed by recommendations for further discussion.

Lowering the Lead Action Level

In response to comments EPA received suggesting that it both simplify and make the rule more stringent, the LCRI proposes to eliminate the recently created Trigger Level of ten ppb, and lower the Action Level from 15 ppb to ten ppb.

Any community over the Action Level would be required to issue the 24-hour Public Notice, and mail the lead public education brochure to all their customers, as well as do additional outreach. During the 2023 sampling round, eight MWRA communities were individually over ten ppb, and over the past several rounds, between six and 12 communities have been over ten ppb.

If system wide results indicated that MWRA was over the Action Level, MWRA would be required to re-evaluate its corrosion control treatment using a pipe rig with salvaged lead service lines. (MWRA has proactively proceeded with such a review to avoid being forced into an abbreviated schedule and potentially less reliable findings.) If the pipe rig experiments indicated that switching treatment would reduce lead levels, MWRA would be required to change treatment. As discussed below, there is a new proposed provision to avoid changing corrosion control. In the past 10 years, MWRA system-wide results have been above 10 ppb once, and at or above nine ppb three times.

Twenty-Four Hour Public Notice for any System over the Action Level

The proposed LCRI maintains the requirement that any system that is over the Action Level provide a Tier 1 public notice within 24 hours of the exceedance. This notice is essentially similar to the type of notice that a water system would issue if it had detected a confirmed *E. coli*, or some other immediate threat to public health. The public notice is designed to create urgency for immediate action by consumers. However, in the case of a lead exceedance, most customers do not have a lead service line and have relatively little risk of elevated lead levels.

Based on changes to our consecutive system sampling agreement imposed by EPA Region 1, MWRA has been piloting this requirement for the past two years. During the most recent sampling round, six communities were required to issue the notice, with varying levels of consumer alarm, confusion, and, in at least one case, some productive publicity encouraging lead service line replacement. With a lowered Action Level, and the changes to the sampling approach discussed below, it is expected that more communities will be triggered into this public notice provision.

Replace all Lead Service Lines within Ten Years

As anticipated, EPA is proposing that all water systems fully replace all lead service lines within ten years of LCRI implementation, regardless of lead sample results. This is a dramatic switch

from how the current Lead and Copper Rule (LCR) operates, in which lead service line replacement is triggered based on systems exceeding the lead Action Level¹.

Based on currently available information, at least 20 of MWRA’s water communities have some lead service lines, ranging from less than a dozen to several thousand. Current information indicates that system wide there are around 15,400 lead service lines out of the over 525,000 total number of services (2.9 percent). Several communities have more than ten percent, several more have five to ten percent, and more than half have less than one percent. Those with a large number or a large percentage will have a more challenging time removing all of the lead service lines. Staff anticipate that those numbers may shift as communities finalize their inventories over the next eight months. Systems would also have to resolve the status of every service line in their inventory that was labeled as “lead status unknown.” These unknowns must all be definitely categorized as non-lead or lead¹ by the end of the ten year period.

Changing Sampling and Reporting of Data

EPA is proposing additional changes to how sampling will change from current requirements. With the LCRR, EPA mandated that systems with any lead service lines, do all of their sampling for compliance at locations with lead service lines, as well as collecting a fifth liter sample to better capture water within the lead service line. Both of those changes will tend to increase reported lead levels, raising the reported 90th percentiles. With the LCRI, EPA has proposed additional changes, including now analyzing both the first and fifth liter samples for lead, and using the higher value for the calculation of the 90th percentile value for comparison with the Action Level, further increasing reported levels.

MWRA has been piloting the use of all lead service line sample sites in those systems with any lead service line for the past two years. The findings are that results from lead service line sites will be several times higher than sites that have copper with lead solder, and much more likely to exceed the proposed 10 ppb Action Level, as shown in red in the table below.

Table 1 – Comparison of results of samples from Lead Service Line (LSL) sites and non-LSL sites

Year	2018	2019	2020	2021	2022	2023
90th Percentile Full system	10	8	6	9	7	11
90th Percentile w/ Just LSL	12	11	8	13	9	14
90th Percentile w/ Just Lead Solder	3	3	2	3	2	3

¹ For simplicity, this staff summary refers only to lead service lines. EPA is also requiring certain galvanized service lines downstream of a lead line to be replaced in ten years. Staff have little data on how many of these there are, but expect that the completed service line inventories due in October of this year will provide additional information.

Systems over Action Level Three Times in Five Years

EPA is proposing significant new requirements for systems that it characterizes as frequently over the Action Level. After the LCRI is effective in October 2027², any system that has three rounds of sampling with 90th percentile results over the lead Action Level will need to do additional outreach activities, and must also offer to provide certified pitcher filters to every household and customer in their service area within 60 days.

In addition to the cost and logistical issues, there is a real concern that this requirement will be confusing and potentially counterproductive. In most systems, very few customers have lead service lines, and are thus at higher risk of elevated levels, but the requirement is to offer filters to all consumers. In addition, providing filters to households with lead service lines may reduce their interest in having that line replaced. Several years before this requirement will go into effect, every water system will have identified homes with lead service lines, and already have begun sending those consumers annual notices about the risk of a lead service line and the need to have it replaced. Within our region, about half the systems that have any lead service lines, have less than 1 percent. In its comments on the LCRI, MWRA requested that EPA reconsider this requirement, and at a minimum limit it to locations with the higher risks of a lead service line.

Delay of Some LCRR Requirements Until LCRI Implementation

In the LCRI, EPA proposed delaying some aspects of the LCRR due to take effect in October of 2024 until the implementation of the LCRI, expected in 2027, to avoid having water systems waste resources on aspects of the rule that would be changed. This makes practical sense, and allows additional time for a more phased approach to some aspects of the rule such as the transition from the service line inventory to new sampling plans and replacement efforts.

Three key aspects are unchanged and will be enforceable as of October 16, 2024. These are:

- initial submission of complete service line inventories;
- associated annual notifications to consumers with lead service lines and unknowns, beginning 30 days after submission of the inventory; and
- the 24-hour public notice for systems over the Action Level.

MWRA has provided extensive training opportunities for our communities on these aspects of the rule, and will continue to do so. Work to develop service line inventories is an eligible expense under MWRA's Lead Line program. Some MWRA fully supplied communities have already been required to pilot the 24-hour Public Notice as discussed above.

Deferral of Corrosion Control Treatment Changes with Accelerated Lead Service Line Replacement

EPA recognized that evaluating, designing and constructing changes to corrosion control treatment takes about five years, and that accelerating lead service line replacement is an important public goal, by including a specific provision in the proposed rule. A system that exceeds the lead Action

² EPA intends to finalize the LCRI by October 2024, matching the effective date of the LCRR and, thus, allowing more efficient compliance. The Safe Drinking Water Act mandates a three-year window from promulgation to effective date, so the expected effective date of the LCRI is October of 2027.

Level can defer proceeding with changes to its corrosion control treatment if it commits to replacing all of its lead service lines within five years, at a rate of 20 percent per year.

Corrosion control treatment is complex, affects many other aspects of treatment, and has complicated short and long-term interactions with materials within the distribution system and even home plumbing. There are also wastewater related concerns with the addition of phosphate to the waste stream. Changes to corrosion control must be carefully considered, and can be difficult to reverse at a later date. MWRA has set-up and is running pipe rigs with salvaged lead pipe to test alternative treatment options, including three different doses of orthophosphate (as required by the LCRR). However, staff are cautious about committing to permanent changes to treatment driven by the presence of lead service lines, as those will rapidly be going away. This provision in the proposed LCRI appears to be an appropriate path for MWRA and our communities to consider, allowing MWRA to reduce lead exposures quickly, without potentially disrupting other treatment goals or committing MWRA to the long-term addition of phosphate.

Potential Actions to Accelerate Lead Service Line Replacement by Communities:

Over the past several years, as MWRA staff have carefully analyzed all the data from community sampling programs. It has become increasingly obvious that while many factors influence the degree to which lead leaches from plumbing materials that contain lead, the presence of a lead service line is the single most important factor. As previously shown above in Table 1, sample results from homes with lead service lines are typically four or more times higher than homes that have copper with lead solder³. Looking at all LCR sampling results over the past ten years, 91 percent of the sample sites that had results over the current Action Level of 15 ppb (or the proposed Action Level of 10 ppb) were sites with lead service lines. The data makes it clear that if lead service lines were replaced, community and MWRA lead results would be significantly lower, and there would be a significantly lower probability of exceeding the Action Level.

Replacing the lead service line reduces the risk at that home immediately, while implementing any change in corrosion control will realistically take five or more years to plan, design and construct. Even after such a new plant were in operation it would take time for the treatment to convert lead scales within a lead service line to a less soluble form, further delaying any risk reduction.

MWRA staff are considering how a regional approach to replace all lead service lines on an accelerated schedule could be implemented. Staff had an initial discussion with the MWRA Advisory Board's Operations Committee on this topic in January, and proposed to continue that discussion in more detail over the next several months. Discussions with communities with a larger number of lead service lines would also need to be conducted.

Staff believe that MWRA should commit to working to accelerate lead service line replacement before the new rule is in effect, and assure communities that sufficient loan funds are available to complete the effort. Given what is known about the cost per service line replaced (averaging around \$10,000), and current inventory numbers⁴, staff believe that at least another \$100 million in lead service line replacement loan funds would be needed, beyond the approximately \$60 million currently authorized. After discussion with the MWRA Advisory Board, this could be

³ Homes with lead service lines and homes with lead solder are both considered high risk under the LCR, and are designated the highest priority for sampling.

⁴ As discussed above, more detailed inventories will be finished by each community by October, and a more complete and accurate system-wide number should be available then.

included in the proposed CEB and CIP budgets for approval in June. Such action would clearly signal MWRA's commitment to a complete lead service line replacement goal.

Staff have not yet performed a detailed engineering assessment of the capital and operating cost of adding a phosphate corrosion inhibitor to the Carroll Water Treatment Plant, but conceptual estimates based on other projects and the cost of chemicals, would place the 20-year construction and operating cost in the range of at least \$60 to \$80 million. Once in operation, it is not clear that MWRA would be able to cease adding phosphate later without the possibility of substantial disruption or increased lead levels, so operating costs would continue indefinitely.

To accelerate the replacement effort to meet the five-year goal (presumed to begin in 2028 as discussed below) will likely require incentive for communities to resolve the issue of some owners choosing to not participate in replacing the portion of the service line on private property. Current community programs range from essentially no subsidy or just a long-term loan for the cost, to partial reimbursement in some communities, to a number of communities that replace the portion of the service line on private property at no cost to the owner. It is clear that the free programs, like Boston instituted in 2023, greatly reduce owners' reluctance to participate. While MWRA does not have specific data on this, anecdotally, reluctance to participate due to cost has been a significant issue particularly in environmental justice communities and other disadvantaged areas. However, creating free programs has been a sticking point for officials in several communities; preventing them from having robust participation.

If MWRA and the communities are to commit to completing replacement before the five-year deadline, MWRA may need to provide some additional incentive beyond the current zero-interest loans. Possible program models could include a 25 percent grant, which could be for all communities, or perhaps for just those who provide the private-side replacement at no cost. Regardless of the financial program arrangements, substantial MWRA outreach and coordination would be needed to ensure that each community in the region would meet the five-year deadline.

Regulatory Schedule

A number of key activities and deadlines will occur over the next several years under the LCRR and LCRI.

October 16, 2024 - Initial service line inventories from each community are due October 16, 2024. These will identify each service line as being non-lead, or lead, galvanized requiring replacement (GRR), or "lead status unknown." Thirty days later, each of the customers with lead, GRR or unknown will receive a letter indicating what their service line is made of, outlining the health risks of a lead service line, and information about community replacement programs. Similar letters are required annually thereafter. Every customer with a lead service line, or unknown will know it, presumably encouraging participation in replacement programs. Given that this will be occurring in every community nationwide, it can be expected that there will be considerable media attention.

October 2024 – EPA expects to promulgate the final LCRI regulation in October 2024.

October 2027 - LCRI in effect three years after promulgation.

Mid-2028 – Results from first round of sampling under the LCRI, with new sampling requirements and lowered Action Level available. Based on current data, at least some MWRA communities (or MWRA) will be at risk of being over the new Action Level, triggering the beginning of the five-year accelerated lead service line replacement option.

June 2033 – Assumed five-year deadline for accelerated replacement, around nine years from now.

BUDGET/FISCAL IMPACTS:

The FY24 CIP includes an overall net budget of zero dollars for both the Local Water System Assistance Program, (LWSAP) and the Lead Service Line Replacement Loan Program because community water loans are fully offset by repayments over time. Interest costs are included in the annual Current Expense Budget.

If MWRA were to create a program with a grant portion, funds would need to be allocated in the CIP. Given current inventory and cost data, a 25 percent grant portion would likely cost at least \$40 million over the program life. Alternatively, as discussed above, construction and operating costs of changes to corrosion control to add phosphate could cost \$60 to \$80 million over twenty years.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: February 21, 2024
SUBJECT: Top of Shaft 5 Interim Improvements
Contract 7671
R. Zoppo Corp.



COMMITTEE: Water Policy & Oversight

Kathleen M. Cullen, P.E., Program Manager
Brian L. Kubaska, P.E., Chief Engineer
Preparer/Title

 INFORMATION

 X VOTE



Michele S. Gillen

Director of Administration



David W. Coppes, P.E.

Chief Operating Officer

RECOMMENDATION:

To approve the award of Contract 7671, Top of Shaft 5 Interim Improvements, to the lowest responsible and eligible bidder, R. Zoppo Corp., and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of \$5,361,500, with a contract term of 913 calendar days from the Notice to Proceed.

DISCUSSION:

The City Tunnel, completed in 1950, is a 4.8-mile tunnel system connecting the Metro West Water Supply Tunnel and the Hultman Aqueduct in Weston to the Metropolitan Boston area distribution system at Chestnut Hill (see Figure 1). It has major valve connections at Shaft 5 in Weston, Shaft 6 in Newton and it connects to the City Tunnel Extension and the Dorchester Tunnel at Shaft 7. The City Tunnel Extension, completed in 1963, supplies the Northern Low, Northern High, Northern Intermediate High, and Northern Extra High service areas via Shaft 8 in Brighton, Shaft 9 in Somerville, and Shaft 9A in Malden. The Dorchester Tunnel, completed in 1976, starts at Shaft 7 and supplies the Southern High and Southern Extra High pressure zones via surface distribution piping at Shafts 7B, 7C, and 7D.

To protect and improve critical facilities related to the existing tunnel system until the new Metropolitan Water Tunnel Program is completed, projects have been identified to strengthen existing structures and provide additional operational flexibility and redundancy. This is the second construction contract to strengthen top of shaft structures and components. Work at Shafts 6, 8, and 9A was completed on April 30, 2022.

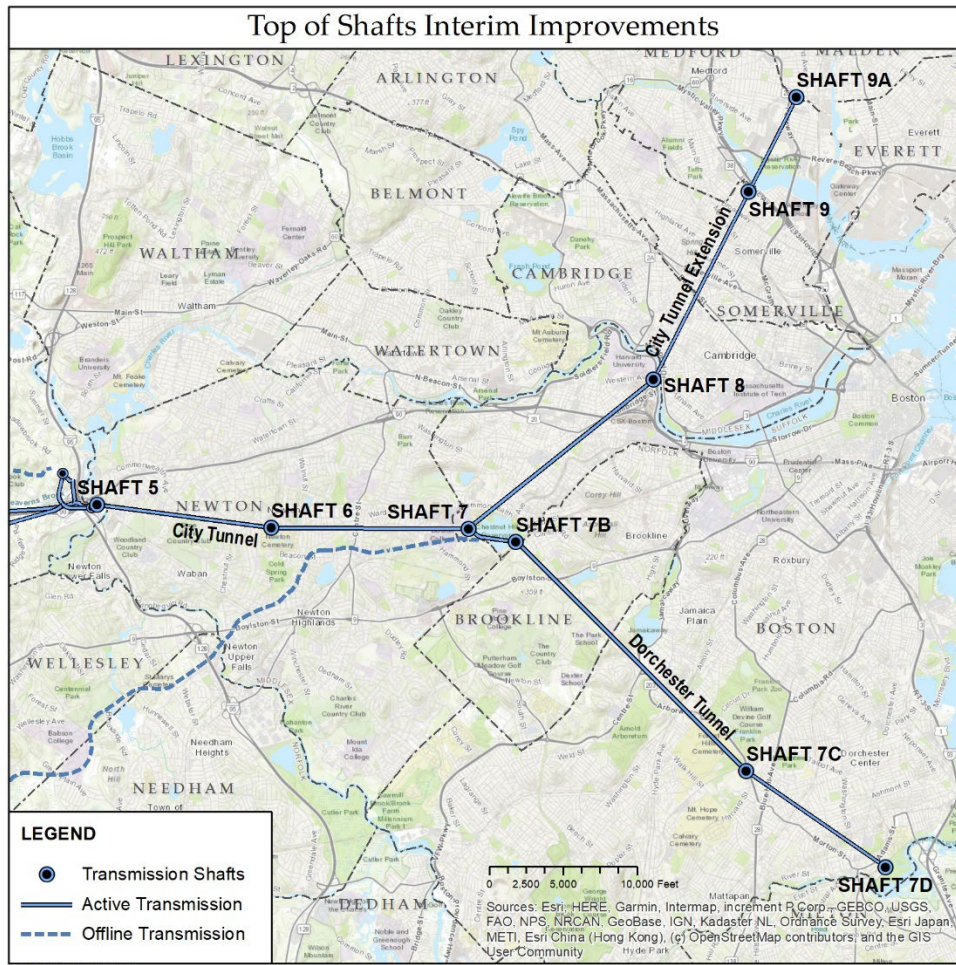


Figure 1. Metropolitan Tunnel – Location of Shafts

Inspection, design and bid services for Top of Shaft 5 Interim Improvements are being performed under MWRA’s technical assistance contract with Hazen and Sawyer.

Consultant inspections identified piping, valves, shaft caps, nuts and bolts within vaults at the Shaft 5 facility with significant corrosion that require protection to prevent further corrosion, leakage and failure. The valve vaults and shaft cap structures have groundwater infiltration that is impacting the condition of the piping and valves, which requires the structures to be coated and sealed to be waterproofed. A failure in these structures would have significant consequences, as isolation of a shaft requires tunnel shutdown and loss of water supply or extremely reduced supply to multiple communities. The Top of Shaft 5 Interim Improvements construction contract includes corrosion protection of exposed pipe, shaft caps and valve bodies, replacement of nuts and bolts on valves and flange connections and grouting and waterproofing of the vaults.

The construction contract also includes abandoning a 400-foot deep underground pump room. This pump room contains piping and equipment that was designed to dewater the tunnel system, which is non-operational and has no expected future use. The piping and equipment in the pump room was found to be severely corroded and is connected to the tunnel system. The room will be abandoned by filling with low density cellular concrete. Ladders and platforms in the 400-foot shaft will be also be removed, but the shaft will remain.



Shaft 5 Cap

The pump room and the valve vaults are all below grade, which will require confined space entry for all work activities. The confined space entry for the pump room, which is 400-feet below ground surface, is a particularly deep entry which will necessitate the construction of a temporary electric hoist system.

Work will be performed while the water system piping, valves, and appurtenances remain in service. Work activities are constrained such that they cannot take place during the high water demand period from mid-May through mid-September to minimize the consequences of water system impacts should a failure occur during construction.

Procurement Process

Contract 7671 was advertised in the Boston Herald, El Mundo, Banner Publications, the Central Register, COMMBUYS and through the MWRA Supplier Portal, and bid in accordance with Massachusetts General Laws, Chapter 30. Representatives from four general contractors and one subcontractor attended the pre-bid conference and site visit held on January 4, 2024. Bids were received and opened on January 24, 2024 with the following results:

<u>Bidder</u>	<u>Bid Amount</u>
R. Zoppo Corp.	\$5,361,500
<i>Engineer’s Estimate</i>	<i>\$5,483,000</i>
D’Alessandro Corp.	\$8,442,750
WES Construction Corp.	\$11,440,750

The bid from R. Zoppo is 2.2% lower than the Engineer’s Estimate.

MWRA staff reviewed R. Zoppo’s bid in detail and discussed the major bid items with the company. Based on the bid review and discussions with R. Zoppo, staff are satisfied that R. Zoppo understands the full scope of work and can perform the work for the bid price, which includes the payment of prevailing wages, as required.

External and internal references were checked and found to be favorable. R. Zoppo has successfully completed many contracts as general contractor of similar size and complexity, including a recent rehabilitation of structures for Phase 1 of the New Boston Main Interceptor for the Boston Water and Sewer Commission and work on a Hurricane Barrier project in Providence, Rhode Island. References noted good quality of work and adherence to schedule and budget. R. Zoppo has also performed work for MWRA at the Norumbega Covered Storage Tank in Weston, the Section 4 Walnut Street Bridge, and maintenance services for the Authority’s hydraulic equipment. Work on these MWRA projects was done in a satisfactory manner. A search on the OSHA website revealed no workplace violations in the last ten years.

Staff are of the opinion that R. Zoppo possesses the skill, ability, and integrity necessary to perform the work under this contract and is qualified to do so. Staff recommend the award of this contract to R. Zoppo Corp. as the lowest, responsible and eligible bidder.

BUDGET/FISCAL IMPACT:

The FY24 CIP includes a budget of \$4,881,000 for Contract 7671. The contract award amount is \$5,361,500, or \$480,500 over the CIP amount. This amount will be absorbed within the five-year CIP spending cap.

MBE/WBE PARTICIPATION:

The MBE and WBE participation requirements for this contract were established at 7.24% and 3.6%, respectively. The Affirmative Action and Compliance Unit has reviewed the bids and determined that R. Zoppo's bid is responsive to these requirements.


STAFF SUMMARY



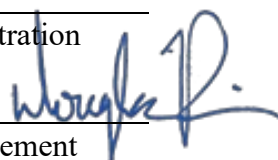
TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: February 21, 2024
SUBJECT: Delegated Authority Report – January 2024

COMMITTEE: Administration, Finance & Audit

INFORMATION
 VOTE


Michele S. Gillen
Director, Administration

Barbara Aylward, Administrator A & F
Karen Smith, Administrative Systems Coor.
Preparer/Title


Douglas J. Rice
Director of Procurement

RECOMMENDATION:

For information only. Attached is a listing of actions taken by the Executive Director under delegated authority for the period January 1 - 31, 2024.

This report is broken down into three sections:

- Awards of Construction, non-professional and professional services contracts and change orders and amendments in excess of \$25,000, including credit change orders and amendments in excess of \$25,000;
- Awards of purchase orders in excess of \$25,000; and
- Amendments to the Position Control Register, if applicable.

DISCUSSION:

The Board of Directors' Management Policies and Procedures, as amended by the Board's vote on February 16, 2022, delegate authority to the Executive Director to approve the following:

Construction Contract Awards:

Up to \$3.5 million if the award is to the lowest bidder.

Change Orders:

Up to 25% of the original contract amount or \$1,000,000.00, whichever is less, where the change increases the contract amount, and for a term not exceeding an aggregate of six months; and for any amount and for any term, where the change decreases the contract amount. The delegations for cost increases and time can be restored by Board vote.

Professional Service Contract Awards:

Up to \$1,000,000 and three years with a firm; or up to \$200,000 and two years with an individual.

Non-Professional Service Contract Awards:

Up to \$1,000,000 if a competitive procurement process has been conducted, or up to \$100,000 if a procurement process other than a competitive process has been conducted.

Purchase or Lease of Equipment, Materials or Supplies:

Up to \$3.5 million if the award is to the lowest bidder.

Amendments:

Up to 25% of the original contract amount or \$500,000, whichever is less, and for a term not exceeding an aggregate of six months.

Amendments to the Position Control Register:

Amendments which result only in a change in cost center.

BUDGET/FISCAL IMPACT:

Recommendations for delegated authority approval include information on the budget/fiscal impact related to the action. For items funded through the capital budget, dollars are measured against the approved capital budget. If the dollars are in excess of the amount authorized in the budget, the amount will be covered within the five-year CIP spending cap. For items funded through the Current Expense Budget, variances are reported monthly and year-end projections are prepared at least twice per year. Staff review all variances and projections so that appropriate measures may be taken to ensure that overall spending is within the MWRA budget.

Construction & Professional Services Delegated Authority Items January 1 – 31, 2024

No.	Date of Award	Title and Explanation	Contract	Amend/CO	Company	Value
C-1	01/03/24	Low Service Pressure Reducing Valve Improvements – Boston/Medford Furnish and install approximately 170-feet of new ductbank from the existing communications hand hole to the existing electrical manhole onsite; Furnish and install steel supports for the grating around the side-mounted operators in the W16 vault.	7563	5	RJV Construction Corp.	\$56,738.06
C-2	01/05/24	Northern Extra High Pressure Zone Improvements Section 63 (Lexington) Furnish and install five additional 16-inch gate valves; Install new 16-inch main through the culvert; Furnish and install an additional bend and mechanical joint restraints; Furnish and install valves, pipes and fittings for an eight-inch pipe rather than a six-inch pipe as shown on drawings.	6522	5	Albanese D&S, Inc.	\$89,074.17
C-3	01/10/24	Braintree-Weymouth Pumping Station Improvements Micropile foundation revisions and obstructions; Perform additional field painting.	7366	2	Walsh Construction Co. II, LLC	\$275,299.15
C-4	01/18/24	Insurance Consulting Services – Task Order Contract Award of a contract to the highest ranked proposer to provide insurance consultant services for a term of 3 years.	F274	Award	Kevin F. Donoghue Insurance Advisors, Inc.	\$250,000.00
C-5	01/22/24	MWRA Boat Storage and Cosgrove Intake Improvements Final balancing change order to decrease the following bid items: Fire Watch Services, COVID-19 Safety, Install four vibration isolators, Install two ASME certified 80-gallon electric water heaters, Install two explosion-proof sump pumps.	6650C	5	Poulin Construction, Inc.	(\$147,063.78)

C-6	01/22/24	Chestnut Hill and Weston Reservoir Dam Instrumentation (Piezometers) Installation Final balancing change order to decrease the following bid items: Footage of cased, drive and wash borings, Rehabilitation of existing monitoring wells, Existing wells abandonment, Abandonment of new boreholes, Additional split spoon samples, Undisturbed Shelby tubes samples, New protective casing or flush mount road block.	W343	1	New Hampshire Boring, Inc.	(438,707.50)
C-7	01/22/24	Southborough Headquarters Electrical System Upgrades Install conduits, control wiring and reprogram and terminate wiring.	7425	6	Dagle Electrical Construction, Corp.	\$61,251.00
C-8	01/22/24	Centrifuge Services, Deer Island Treatment Plant Increase services hours and increase transportation allowance to support contract time extension by 60 calendar days from September 9, 2024 to November 8, 2024.	S601	1	Alfa Laval, Inc.	\$90,264.00
C-9	01/22/24	Replacement of Existing Facilities' Fuel Storage Tanks, Barre and Southborough Demolish concrete vaults and dispose of contaminated oil and water; Assist in additional soil excavation, handling, sample collection and analysis, modifications to the support of excavation, additional removal of asphalt and final grading, compaction and paving of the additional disturbed areas.	7555	1	MECO Environmental, Inc.	\$268,832.27
C-10	01/24/24	John J. Carroll Water Treatment Plant Parapet Wall Repairs Award of a contract to the lowest responsive bidder for Parapet wall repairs and the John J. Carroll Water Treatment Plant for a term of 270 calendar days.	7755	Award	G.V.W., Inc.	\$1,350,000.00
C-11	01/25/24	John J. Carroll Water Treatment Plant SCADA System Improvements Install two fiber optic switches with patch connections, Ethernet cables and a single advanced firewall.	7582	9	LeVangie Electric Company, Inc.	\$35,,455.45

C-12	01/26/24	Actuarial Services Related to Compliance with GASB No. 74 and 75 Award of a contract to the highest ranked proposer for Actuarial Services related to GASB No. 74 and 75 for a term of four years.	F272	Award	Stone Consulting, Inc.	\$69,000.00
C-13	01/31/24	Section 101 Pipeline Extension (Waltham) Temporary leveling course pavement; Dewater and remove abandoned gas main; Hand excavate a sewer lateral and remove an unmarked abandoned storm drain.	7457	3	Baltazar Contractors, Inc.	\$209,522.07

Purchasing Delegated Authority Items January 1-31, 2024

No.	Date of Award	Title and Explanation	Company	Value
P-1	01/03/2024	<p>One-Year Sole Source Purchase Order Contract for 24- Hour Emergency Oil Spill Response A rapid response to an oil spill is required by the EPA and the US Coast Guard due to Deer Island's oil storage capacity, which is in excess of 1.5 million gallons, and its proximity to Boston Harbor. The Boston Harbor Cooperative is a group of businesses that pool resources in a cost effective way to provide rapid spill response. MWRA has been a member of this cooperative for over 25 years. This sole source allows MWRA to maintain its long-term membership with the cooperative and take advantage of its spill response functions.</p>	<p>Boston Line and Service Company, Inc.</p>	<p>\$39,084.00</p>
P-2	01/03/2024	<p>One Year Purchase Order Contract for Whole Effluent Toxicity Testing of the MWRA's NPDES Samples The National Pollutant Discharge Elimination System permits require that the MWRA collect samples from final effluents at the Deer Island Treatment Plant, the Clinton Wastewater Treatment Plant and from activation discharges at CSO facilities including Cottage Farm, Prison Point, and Somerville Marginal (two outfalls). Sampling schedules are based on the permit requirements that include monthly sampling at Deer Island, quarterly sampling at Clinton and sampling twice per year at each CSO outfall when the facilities are activating.</p>	<p>New England Bioassay, Inc.</p>	<p>\$47,750.00</p>
P-3	01/03/2024	<p>One-Year Purchase Order Contract for the Supply and Delivery of Liquid Emulsion Polymer Waste secondary sludge at Deer Island is thickened in centrifuges prior to being pumped to the digesters. Staff use polymer as a sludge thickening agent in the centrifuges because it increases the efficiency of solids separation and capture. The precise formula of each product is a trade secret, and this prevents the procurement of the product according to a chemical definition that can be bid by several manufacturers. Based upon reasonable assumptions and historic usage, staff estimate that approximately 450,000 pounds of polymer will be used at Deer Island under this contract.</p>	<p>Polydyne, Inc.</p>	<p>\$553,500.</p>
P-4	01/11/2024	<p>Purchase Order for Security Network Systems Administrator II Consultant (State Contract ITS77 Category 1A and 1B) The software applications for the MWRA's security system are hosted on the MWRA's Security Information Network System (Security Network) which is independent from any other MWRA Management Information Networks. This contract provides a Security Network Systems Administrator II consultant with 1950 regular hours and 100 emergency hours over a one-year period.</p>	<p>SoftHQ, Inc</p>	<p>\$145,550</p>

No.	Date of Award	Title and Explanation	Company	Value
P-5	01/12/2024	<p>Five-Year Sole Source Purchase Order Contract for Maintenance, Licenses, and Service of Two Security Camera Readers</p> <p>This contract provides the continued maintenance, license(s) and service of two Flock Advanced Plate Reader Cameras (ALPR) for a duration of five years. On December 30, 2021, two Flock Security cameras were installed at Deer Island on the inbound and outbound side of Tafts Avenue, closest to the public access lot.</p>	Flock Group Inc.	\$25,000
P-6	01/12/2024	<p>Purchase Order for One 24-Inch Vertical Gate Valve</p> <p>To ensure that the proper sized valve is always available to minimize down time and to be able to immediately respond in the event of a sudden break in service, valves of various dimensions are stocked at the Chelsea Facility. This 24-inch vertical resilient seat valve will replenish the inventory in the Chelsea Warehouse</p>	John Hoadley & Sons, Inc.	\$25,782
P-7	01/12/2024	<p>One-Year Purchase Order Contract for Maintenance and Support of 28 Architecture, Engineering & Construction Collection Network Licenses (State Contract ITS75)</p> <p>The Autodesk Architecture, Engineering & Construction Collection (AECC) provides a set of Building Information Modeling and Computer-Aided Drafting tools that support projects from early-stage design through to construction. Autodesk AECC software is used by approximately 120 Operations staff Authority-wide to accelerate design processes, and improve quality with integrated workflows for conceptual design, modeling, multidiscipline coordination, and construction documentation. This annual maintenance agreement provides access to new releases and updates of the licensed software, remote support, telephone support and access to forums, learning events, newsletters, webinars, and other educational resources.</p>	Insight Public Sector	\$35,718.48
P-8	01/17/2024	<p>Sole Source Purchase Order for Eight Drums of Digester Mixer Grease</p> <p>A key component common to all of the digesters is the central mixer assembly. These mixers are essential to the proper operation of the digesters by keeping the microorganisms healthy, active, ensuring high methane production, and solids breakdown. The requested mixer grease contains additives for improvement of rust and oxidation protection, adhesive power and pressure-absorbing capacity of the lubricating film. Aqua Solutions, Inc. has been identified as Flowserve's exclusive regional distributor and the sole source provider of the requested digester mixer grease</p>	Aqua Solutions, Inc.	\$33,560.00

No.	Date of Award	Title and Explanation	Company	Value
P-9	01/18/2024	<p>Purchase Order for One Year of Maintenance and Support for 550 VMware Workspace ONE and 350 AirWatch Advanced Remote Management Subscriptions (State Contract ITC73)</p> <p>In November 2022, MWRA purchased MWRA’s 550 licenses of VMware Workspace ONE and 350 AirWatch Advanced Remote Management Add Ons as a solution to consolidate multiple endpoint management solutions (device tracking and remote wiping of devices, patching) into one. This contract will provide the maintenance and support agreements needed for maintenance releases of the software and ensures that the MWRA will continue to receive software support and bug fixes/updates. The agreement also includes technical phone support; email support and online self-help resources.</p>	Presidio Networked Solutions, LLC	\$110,880.00
P-10	1/18/2024	<p>One-Year Purchase Order Contract for the Supply and Delivery of Gravel Borrow</p> <p>The Clinton Wastewater Treatment Plant’s sludge landfill is designed to accept anaerobically digested sludge, grit, and screenings. Clean fill, also referred to as gravel borrow, is added as a bulking material, while sludge is being added to the landfill at a ratio of 1.75:1 (clean fill: sludge).</p>	W.J. Graves Construction Co., Inc.	\$291,500.
P-11	01/24/2024	<p>Sole Source Purchase Order for One Year of Maintenance and Support for the Nexpose Licenses</p> <p>Nexpose assists MIS in protecting MWRA software and computer assets from internal and external intruders. As a vulnerability management and scanning solution, it prioritizes the security vulnerabilities it finds according to the likelihood they will be used by an attacker, ensuring that MWRA can always fix the most dangerous issues first. Rapid7, LLC is the sole provider of the Nexpose licenses. Under the current contract with Rapid7, LLC, which expires on June 28, 2024, MWRA, is paying \$26,092. This year’s cost is 5% more than last year.</p>	Rapid7, LLC	\$27,397.55
P-12	01/24/2024	<p>Sole Source Purchase Order for Two Rotork Actuator Valve Assemblies for the Deer Island Treatment Plant</p> <p>Staff perform regular maintenance on the cooling towers including corrosion control, biological testing, cleaning and lubrication of equipment. During preventative maintenance tasks, staff determined that two of the Rotork pneumatic bypass valves are failing and require replacement. Atlantic Fluid Technology, Inc. has been identified as the sole source provider of Rotork actuators.</p>	Atlantic Fluid Technology, Inc.	\$47,450.

No.	Date of Award	Title and Explanation	Company	Value
P-13	01/24/2024	<p>Two-Year Purchase Order Contract for the Supply of Class I Bituminous Concrete Pavement (Hot Asphalt)</p> <p>This contract will supply MWRA with hot mix that is typically picked up by staff on an as-needed basis. Staff load the mix onto trucks and deliver the material to the various work sites as required. Based on past usage, staff estimate that approximately 600 tons of hot mix asphalt will be needed over the next two years</p>	M. Susi HMA, LLC	\$54,885
P-14	01/24/24	<p>Sole Source Purchase Order for Sludge Heat Exchanger Parts for the Deer Island Treatment Plant</p> <p>This purchase request is for 24 replacement end covers and 31 tubes for two heat exchangers in DITP Residuals Digester Module 1 heat exchangers. Deer Island staff will perform all labor associated with installation of all heat exchanger replacement parts. Walker Process Equipment has been identified as a sole source provider of the requested sludge heat exchanger parts. The Director of Procurement has approved the sole source nature of this procurement.</p>	Walker Process Equipment	\$58,800

STAFF SUMMARY




TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: February 21, 2024
SUBJECT: FY2024 Second Quarter Orange Notebook

COMMITTEE: Administration, Finance & Audit

INFORMATION
 VOTE

Rebecca Weidman, Deputy Chief Operating Officer
Stephen Estes-Smargiassi, Director, Planning & Sustainability
Michael D. O'Keefe, Senior Program Manager, Planning
Preparer/Title


David W. Coppes, P.E.
Chief Operating Officer

RECOMMENDATION:

For information only. The Quarterly Report on Key Indicators of MWRA Performance (the Orange Notebook) is prepared at the close of each quarter of the fiscal year.

DISCUSSION:

The Orange Notebook presents performance indicators for operational, financial, workforce, and customer service parameters tracked by MWRA management each month. This staff summary includes highlights from the second quarter of fiscal year 2024.

Increasing Staffing Levels

Hiring continued to increase in the second quarter of FY24, with a total of 113 hires or promotions during the first half of the fiscal year. External hires compare favorably with the prior two fiscal years. MWRA had 28 and 49 external hires during the first two quarters of FY22 and FY23 respectively, compared to 57 during the first two quarters of FY24. Overall, there was a net gain of six FTEs (full time equivalents) since the beginning of the quarter. Nonetheless, at the end of December 2023, staffing stood at 1,062.7 FTEs, about 89 below the budget of 1,152 FTEs. (See page 50.)

Lower staffing levels continue to impact operations. Several water distribution and wastewater pipeline performance measures were under target due to staff vacancies and a focus on supporting more critical Capital Improvement Projects and in-house construction work (see pages 7 and 8); miles of water mains surveyed for leaks were under target (see page 6); several lab services metrics missed goals during the second quarter (see page 15); the maintenance backlog at Deer Island is still higher than preferable, but is affecting areas that do not immediately disrupt critical operations or regulatory compliance (see page 5). Despite these impacts, staff are improving in other areas as a result of increased hiring. For example, the maintenance backlog for field operations moved within the industry standard during the second quarter. (See page 9.)

Below Average Precipitation, but High Intensity Storms

The historic precipitation of the summer subsided at the start of the second quarter, but several high intensity storms in December brought that month well above average. Total plant flow at Deer Island for the second quarter was 9% below the four-year average plant flow (317.3 mgd actual versus 348.8 mgd expected), as precipitation was 28.8% below target this quarter (9.33 inches actual versus 13.10 inches expected). (See page 1.) The high precipitation in December resulted in above target plant flow for that month and an instantaneous peak flow rate of 1,306.6 mgd during the early evening of December 18. (See page 2.)

Despite the reduction in precipitation in the fall, the 12-month rolling average flow at the Clinton Wastewater Treatment Plant increased to 3.35 mgd by the end of the second quarter, exceeding the NPDES permit limit of 3.01 mgd during all three months. (See page 31.) These violations are the result of the lingering effects on the average of high precipitation over the summer that caused elevated levels of infiltration and inflow in Clinton and Lancaster.

Increased Combustion Turbine Generator Usage

Deer Island contains two combustion turbine generators (CTGs) capable of generating supplemental and/or backup electrical power for all critical facilities. CTG generation, which utilizes fuel oil, was 41.2% above target for the second quarter because the generators had to operate during several events. Eversource performed maintenance on the cross-harbor cable that normally supplies the plant; a five-year emissions compliance test was performed; an ISO-New England demand response event took place; a demand response winter audit was done; and a major storm on December 18 occurred that resulted in an extended period of very high plant flows, as mentioned above, causing the CTGs to be used as standby backup power. (See page 1.)

Lower Total Coliform Positives

While all of MWRA's water communities collect bacteria samples and chlorine residual data for the Total Coliform Rule (TCR), MWRA reports the results of the 44 systems that use its laboratory. The MWRA TCR program has 144 sampling locations that test for total coliform and *Escherichia coli* (*E.coli*). Total coliform levels provide a general indication of the sanitary condition of a water supply, while the presence of *E.coli* could be evidence of a potential public health concern.

In the second quarter, total coliform positives declined significantly, from 2.5% of all samples in the first quarter to 1.4%. More importantly, there were no *E.coli* positives in any sample during the second quarter. (See page 26.) These improvements are related in part to active management of chlorine residuals by MWRA treatment staff, MWRA's continued outreach and technical support of community staff, and the seasonal effects of decreasing temperature toward the end of the quarter.

MASSACHUSETTS WATER RESOURCES AUTHORITY

Board of Directors Report

on

Key Indicators of MWRA Performance

Second Quarter FY2024

Q1	Q2	Q3	Q4



Frederick A. Laskey, Executive Director
David Coppes, Chief Operating Officer
February 21, 2024

Board of Directors Report on Key Indicators of MWRA Performance

2nd Quarter – FY24

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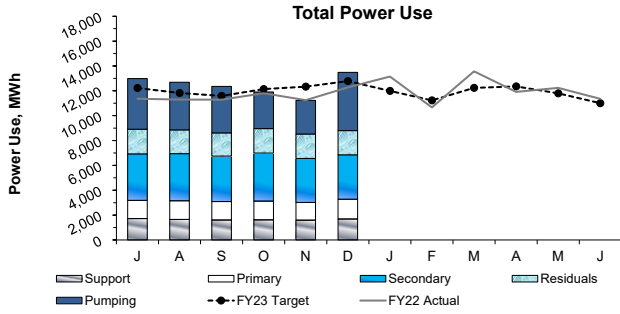
This quarterly report is prepared by MWRA staff to track a variety of performance measures for routine review by the Board of Directors. The content and format of this report is expected to develop as time passes. Information is reported on a preliminary basis as appropriate and available for internal management use and is subject to correction and clarification.

Frederick A. Laskey, Executive Director
David Coppes, Chief Operating Officer
February 21, 2024

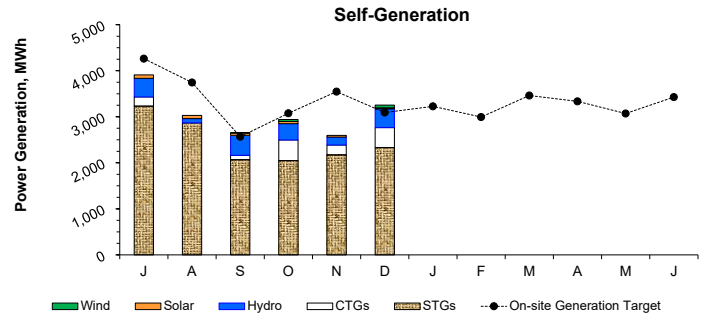
OPERATIONS AND MAINTENANCE

Deer Island Operations

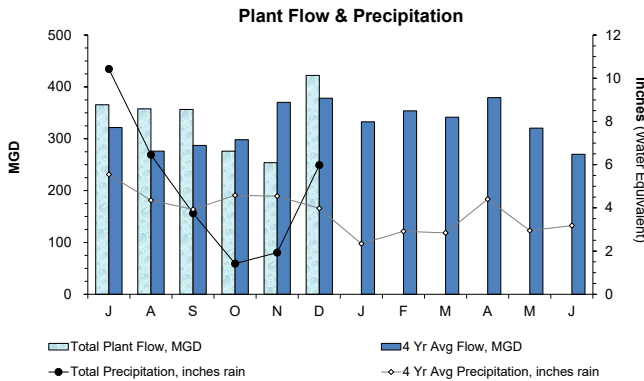
2nd Quarter - FY24



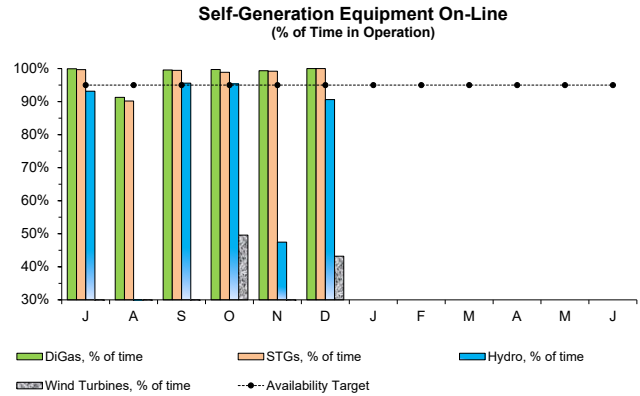
Total power usage in the 2nd Quarter was 1.7% below target as plant flow for this period was 9.0% below target with historical (4 year average) data used to generate the electricity model. Power used in most areas and major treatment processes was within 5% of target, except for power used for raw wastewater pumping which was 6.5% below target due to the lower plant flows.



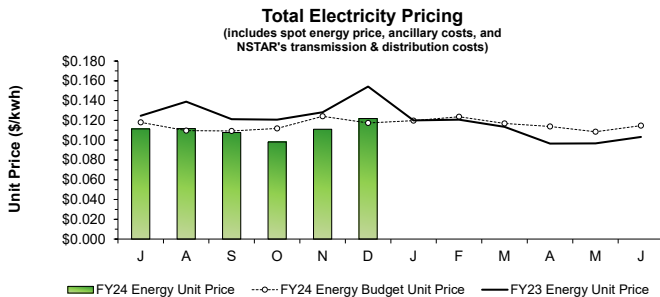
Power generated on-site during the 2nd Quarter was 9.5% below the target. CTDs generation was 41.2% above target as the CTDs were operated for multiple purposes this quarter including: a multi-day operation as backup power for precautionary reasons during and following a nor'easter storm with damaging winds that resulted in an extended period of very high plant flows; during a cross-harbor power cable outage to allow Eversource to perform maintenance; a 5 year emissions compliance test at various operating loads; an ISO-New England demand response event; and a demand response winter audit. STGs generation was 5.9% below target as digester gas production was 4.9% below target. Hydro Turbine generation was 27.8% below target, primarily because both turbines were out of service for 14 days in November pending maintenance repairs, and due to high plant flows in December, combined with high tides, which limited power generation. Solar Panel generation was 10.2% below target as the rooftop array on the Residuals Odor Control Facility remains out of service due to a failed inverter. Wind Turbine generation has been minimal this quarter as Turbine #1 remains out of service indefinitely and Turbine #2 was out of service November 1 through December 4 pending mechanical repairs.



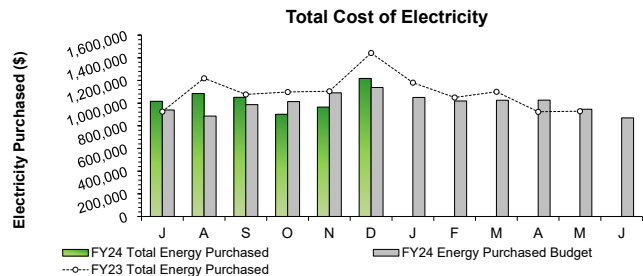
Total Plant Flow for the 2nd Quarter was 9.0% below target with the budgeted 4 year average plant flow (317.3 MGD actual vs 348.8 MGD expected) as precipitation was 28.8% below target this quarter (9.33 inches actual vs. 13.10 inches expected).



The DiGas System and STGs availability exceeded the 95% availability target in the 2nd Quarter. Hydro Turbines availability was 77.8% as Turbine #2 was out of service for 14 days in November pending repairs to the wicket gate and a broken shear pin, while Turbine #1 remains offline pending a replacement gearbox and bearings. Wind Turbine availability was well below target as Turbine #1 remains out of service indefinitely and Wind Turbine #2 was out of service November 1 through December 4 pending repairs to the traverse anti-rotation shaft system.



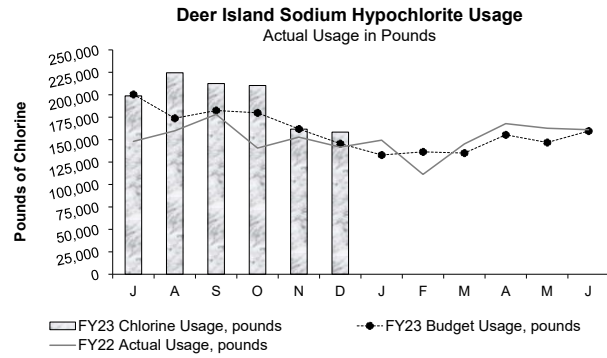
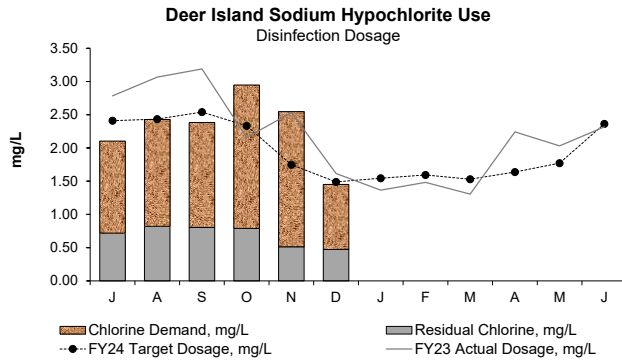
Under the current energy supply contract, a block portion of DI's energy is a fixed rate and the variable load above the block is purchased in real time. Overall, the average unit price is 4.0% lower than the budgetary estimate through December. The Total Energy Unit Price includes a fixed block price, spot energy price, transmission & distribution charges, and ancillary charges.



Year-to-date Total Cost of Electricity is \$183,621 (3.0%) higher than budgeted through December. Even though the Total Energy Unit Price through December was 4.0% lower than budget, the total volume of Electricity Purchased was 7.3% above target due to higher-than-expected overall power usage as a result of higher-than-expected plant flows.

Deer Island Operations

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The disinfection dosing rate in the 2nd Quarter was 25.0% above target with budgetary estimates and the sodium hypochlorite usage in pounds of chlorine was 8.8% above target even though plant flows were 9.0% below target. DITP staff increased the disinfection chlorine residual target to greater than or equal to 0.70 mg/L from July 22 through November 12. The total residual chlorine target was increased to develop operating strategies for the future more stringent seasonal NPDES permit limits for Enterococcus bacteria prior to the limits coming into effect. The new permit is not yet in effect and the more stringent seasonal limits in the new permit would also end starting November 1 for the winter period. Therefore, the residual chlorine target was returned to 0.30 mg/l on November 13 for dry day flow conditions and 0.50 mg/l during elevated wet weather flows to treat for fecal coliforms only. The disinfection dosing and chlorine residual targets will be increased again next spring to continue developing operating strategies for the new permit. Deer Island maintained an average disinfection chlorine residual of 0.59 mg/L in the 2nd Quarter with an average dosing rate of 2.31 mg/L as chlorine demand was 1.72 mg/L with the higher target.

Secondary Blending Events

Month	Count of Blending Events	Count of Blending Events Due to Rain	Count of Blending Events Due to Non-Rain-Related Events	Secondary, as a Percent of Total Plant Flow	Total Hours Blended During Month
July	8	8	0	98.4%	27.30
August	3	3	0	99.1%	13.32
September	2	2	0	99.4%	12.36
October	0	0	0	100.0%	0.00
November	0	0	0	100.0%	0.00
December	3	3	0	96.7%	53.67
January					
February					
March					
April					
May					
June					
Total	16	16	0	98.8%	106.65

98.5% of all flows were treated at full secondary during the 2nd Quarter. There were a total of three (3) secondary blending events, all during December, due to high plant flows from heavy precipitation. These blending events resulted in 53.67 hours of blending and a total of 429.34 MGal of primary-only treated effluent blended with secondary effluent. The Maximum Secondary Capacity during the entire quarter was 700 MGD.

Secondary permit limits were met at all times during the 2nd Quarter.

Environmental/Pumping:

Deer Island Operations & Maintenance Report

The plant achieved an instantaneous peak flow rate of 1,301.6 MGD during the early evening of December 18. This peak flow occurred during a storm system that brought 2.05 inches of total precipitation to the metropolitan Boston area over the course of two (2) days. The Total Plant Flow was 9.0% below the 4 year average plant flow target for the quarter.

Disinfection:

DITP uses sodium hypochlorite to destroy pathogens in the plant effluent. To provide a proper pathogen inactivation, sodium hypochlorite, is added to meet a chlorine demand then regulated by maintaining a chlorine residual. The disinfection basin effluent total residual chlorine target was increased from 0.30 mg/L to greater than or equal to 0.50 mg/L from March 29 through July 21, then increased again to greater than or equal to 0.70 mg/L on July 22. The higher chlorine residual target was changed to develop operating strategies for the future more stringent seasonal NPDES permit limits for indicator bacteria prior to the limits coming into effect. As the more stringent seasonal limits in the new permit would end starting November 1 for the winter period, the residual chlorine target was returned to 0.30 mg/L on November 13 for dry day flow conditions and 0.50 mg/L during elevated wet weather flows to treat for fecal coliforms only. The disinfection dosing and chlorine residual targets will be increased again next spring to continue refining the operating strategies for the new permit.

Disinfection Basin 2 (West) was taken out of service from early October 24 to late October 25 to allow staff to repair a leak in the bisulfite dewatering line that runs through the West Basin. The basin was taken out of service and drained to make it safe for staff to perform this work. The total chlorine residuals levels in Disinfection Basin 1 was temporarily increased to compensate for the shorter contact time while operating a single basin. Additional equipment inspections that can only be done when the basin is drained were also completed.

Secondary Treatment:

Annual turnaround maintenance on Train #1 in the Cryogenic Oxygen Facility began on October 16 and was completed on October 27. This two (2) week turnaround maintenance is performed on roughly half of the components and systems in the Cryogenic Oxygen Facility. During this turnaround maintenance, the contractor calibrated all the instrumentation on Train #1, as well as a number of other components in the oxygen plant. The same turnaround maintenance was completed on Train #2 in the spring (May).

Deer Island Operations

2nd Quarter - FY24

Deer Island Operations & Maintenance Report (continued)

Odor Control Treatment:

The Gravity Thickener (GT) airflow treatment portion of the Residuals Odor Control (ROC) Facility was taken offline on October 23 for a total shutdown of 57 minutes to allow staff to replace an expansion band on the GT airflow discharge ductwork to the stack. The Centrifuge Thickener (CT) odor control treatment portion of the ROC facility was not impacted and continued to operate and treat the air from the centrifuge thickeners. Process air was contained within the facility and there were no resident odor complaints received during this shutdown.

Carbon adsorber (CAD) units #1, #2, and #3 in the North Pumping Odor Control (NPOC) Facility, units #1 and #3 in the East Odor Control (EOC) Facility, and units #2 and #3 in the Residuals Odor Control (ROC) Facility were emptied and refilled with new regenerated activated carbon media this quarter as part of routine maintenance to replace spent activated carbon.

Energy and Thermal Power Plant:

Overall, total power generated on-site accounted for 24.0% of Deer Island's total power use in Quarter 2. Renewable power generated on-site (by Solar, Wind, STGs, and Hydro Turbines) accounted for 21.0% of Deer Island's total electrical power use for the quarter.

The emissions compliance Annual Relative Accuracy Test Audit (RATA) was successfully completed by the contractor on October 25 for Boiler 201. A RATA is required to confirm that data from the boiler's Continuous Emissions Monitoring System is in agreement with corresponding EPA Reference Method test results. The RATA test for Boiler 101 was successfully complete on September 19 but was delayed for Boiler 201 due to a small steam leak on the main steam header on the boiler. The leak needed to be repaired before the boiler could be safely operated and the RATA test performed.

DITP's Title V Air permit dictates emissions testing must be conducted every 5-years to document CTG emissions during operation. This testing was successfully conducted from October 16 through October 18 with both CTGs operating at various output levels (30% baseload, 50%, 75% and 100%) one CTG at a time to develop a CTG emissions operating curve. This information is later used to document emissions when the CTGs are operated in lieu of a continuous emissions monitoring system.

The CTGs were operated continuously for a total of 20.5 hours on November 1 while DITP was disconnected from utility power. The cross-harbor power cable was de-energized during this time to allow Eversource to perform scheduled maintenance at their Station 385 (South Boston switchyard). The CTGs operated during this Eversource cable outage to provide the majority of the power needs for DITP. Additionally, The CTGs were operated continuously for a total of 28 hours as backup power during a Nor'easter storm that resulted in high winds and an extended period of high plant flows.

DITP experienced an unanticipated momentary plant-wide power drop at 12:39 AM on November 2 while staff were attempting to return to normal electrical configuration following an Eversource power cable outage. Electrical and additional Operations staff, as well as senior management, were onsite to support this Eversource outage. The additional staff were critical in getting power restored quickly to all impacted areas of the plant and returning equipment to operation following the power drop. An estimated 1,000 gallons of foamy sludge was inadvertently released from the top of a digester when the foam within the digester expanded after the mixer was restarted. The released digested sludge was contained within the footprint of the digester and did not make it to nearby storm drains thus preventing the further release into Boston Harbor or Massachusetts Bay. Upon discovery, containment and response began by covering the storm drains with gel mats and using a vactor truck to pick up and remove the foamy sludge material. All released material was properly removed and cleaned through the course of the day and into the evening. As required, this inadvertent release was reported to the regulators as a sanitary sewer overflow (SSO).

In December, staff from several departments in the MWRA collaborated to successfully complete the project to install a new fiber communications system between the Ward Street Headworks Facility and DITP. The installation of this new fiber communications system replaced the T1 copper line communications system and was necessary as the copper circuits in the T1 copper line system are in the process of being decommissioned by Verizon. The cutover to the fiber communications system took place before the end of December and was fully completed on January 4 after staff addressed several final issues after the initial system cutover. The new fiber and the backup radio communications systems are both fully functional.

Clinton Operations & Maintenance Report

Dewatering Building

Maintenance staff installed a new wash box seal on #2 sludge press. Operations and Facilities Specialist removed blockage from #1 gravity thickener scum box. Contractor replaced motor on #1 EO air handler unit in sludge press room. M&O's rebuilt #2 polymer pump that goes to the belt filter press. Deer Island B&G staff completed the fall cleanup in the dewatering building.

Chemical Building

Maintenance staff took apart the soda ash machine piping to remove a blockage of soda ash that was obstructing the flow of product. They also jetted both A and B soda ash lines. Staff then removed a leaking valve assembly and installed a new feed pipe for the soda ash system. Maintenance completed rebuilding the #1 Penn Valley soda ash pump. Maintenance staff completed a work order to replace the o-rings on the hypochlorite tank #1 suction valve. Operations staff completed several monthly equipment PM's. A contractor installed a new Hydro ranger and sensor in lower soda ash tank for redundancy.

Aeration Basins

Operations staff cleaned the pH and DO probes. The Facilities Specialist is in the process of repairing concrete and expansion joints. M&O staff, the HEO and the Facilities Specialist completed the removal and installation of the #2 intermediate screw pump motor.

Phosphorus Reduction Facility (PRF)

Maintenance staff acid washed all three (3) disk filters, cleaned the troughs, and inspected all the nozzles. The contractor installed a new CL17 chlorine meter. Operations staff cleaned both CL17 chlorine analyzers. They also cleaned and repaired the polymer pumps for the disc filters. All tanks and filters in the PRF building have been washed down and are now offline and winterized for the season.

Headworks Building

M&O staff completed the removal of a worn out compressor in the Headworks Building boiler room. The Facilities Specialist completed the installation of aluminum stairs in the influent wet well area. Maintenance staff cleaned the influent and mechanical bar rack and greased the upper and lower pin rack.

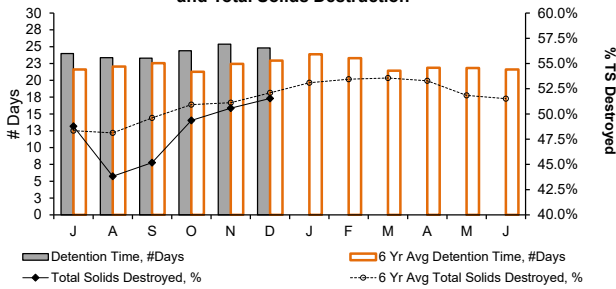
Digester Building

Maintenance staff and the Facilities Specialist rebuilt one of the 4 foot gas regulators for the flares. They also rebuilt the #2 recirculation pump. M&O staff installed a ¾ vent line for the gas regulators on the digester gas system and a level sensor guard on top of the secondary floating digester cover. Maintenance staff checked all equipment for proper operation. They also greased the Ovivo mixer on the floating cover. The contractor installed new wires and timers for the waste gas flares.

Deer Island Operations

2nd Quarter - FY24

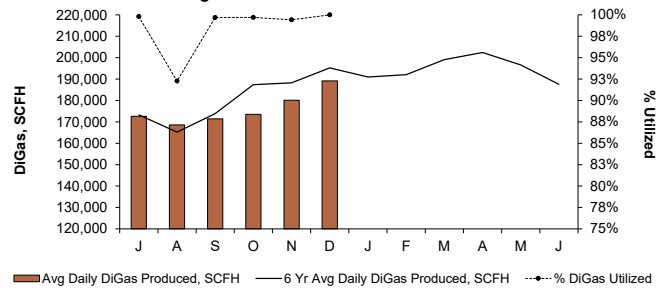
Sludge Detention Time in Digesters and Total Solids Destruction



Total solids (TS) destruction following anaerobic sludge digestion averaged 50.5% during the 2nd Quarter, within 1.7% of target with the 6 year average of 51.4%. Sludge detention time in the digesters was 24.9 days, 19.7% above the 22.2 days detention time target with 8 digesters in operation, just over the projected target of 7.8 digesters.

Total solids (TS) destruction is dependent on sludge detention time which is determined by primary and secondary solids production, plant flow, and the number of active digesters in operation. Solids destruction is also significantly impacted by changes in the number of digesters and the resulting shifting around of sludge.

Digester Gas Production and % Utilized

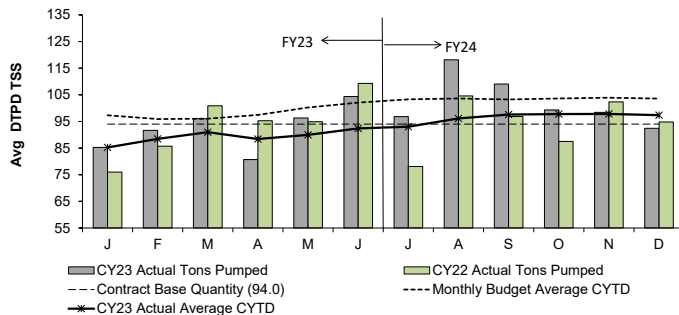


The Avg Daily DiGas Production in the 2nd Quarter was 4.9% below target with the 6 Year Avg Daily DiGas Production and 99.7% of the Digas produced was utilized at the Thermal Power Plant. The lower Digas production was due to the overall lower plant flows during the 2nd Quarter.

Residuals Pellet Plant

New England Fertilizer Company (NEFCO) operates the MWRA Biosolids Processing Facility (BPF) in Quincy under contract. MWRA pays a fixed monthly amount for the calendar year to process up to 94.0 DTPD/TSS as an annual average (for the extended contract period of January 1, 2021 through December 31, 2023). The monthly invoice is based on 94.0 DTPD/TSS (Dry Tons Per Day/Total Suspended Solids) times 365 days divided by 12 months. At the end of the year, the actual totals are calculated and additional payments are made on any quantity above the base amount. On average, MWRA processes more than 94.0 DTPD/TSS each year (FY23's budget is 103.3 DTPD/TSS and FY24's budget is 103.2 DTPD/TSS).

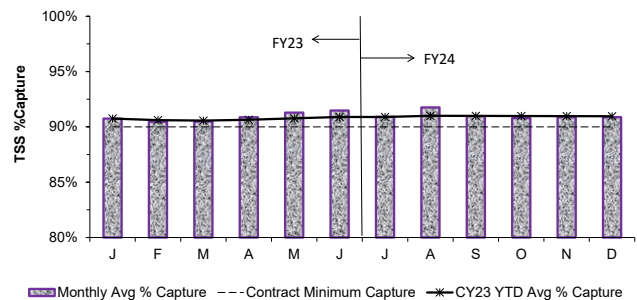
Sludge Pumped From Deer Island



The average quantity of sludge pumped to the Biosolids Processing Facility (BPF) in the 2nd Quarter was 96.7 TSS Dry Tons Per Day (DTPD), 7.6% below target with the FY24 budget of 104.6 TSS DTPD for the same period, due to lower-than-expected primary sludge production as a result of the lower-than-expected plant flows.

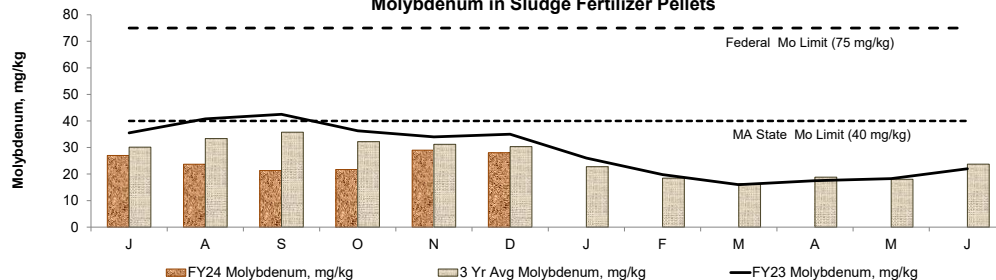
The CY23 average quantity of sludge pumped is 97.4 DTPD, 6.0% below target compared to the CY23 average budget of 103.6 DTPD for the same period.

Monthly Average % Capture of Processed Sludge



The contract requires NEFCO to capture at least 90.0% of the solids delivered to the Biosolids Processing Facility. The average capture for the 2nd Quarter was 90.85% and was 90.96% for CY23.

Molybdenum in Sludge Fertilizer Pellets



Copper, lead, and molybdenum (Mo) are metals of concern for MWRA as their concentrations in its biosolids have, at times, exceeded regulatory standards for unrestricted use as fertilizer. Molybdenum-based cooling tower water is a significant source of Mo in the sludge fertilizer pellets. The Federal standard for Mo is 75 mg/kg. The Massachusetts Type 1 biosolids standard for molybdenum was changed from 25 mg/kg to 40 mg/kg in 2016, allowing MWRA to sell its pellets in-state for land application whereas the previous limits forced several months' worth of pellets to be shipped out of state.

Overall, the levels have been below the DEP Type 1 limit for all three (3) metals. For Mo, the level in the MWRA sludge fertilizer pellets during the 2nd Quarter averaged 26.2 mg/kg, 16% below the 3 year average, 34% below target with the MA State Limit, and 65% below the Federal Limit.

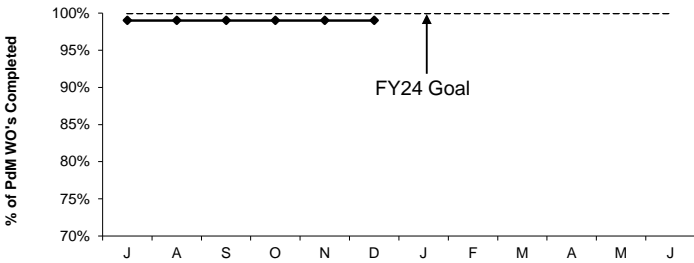
Deer Island Maintenance

2nd Quarter - FY24

Productivity Initiatives

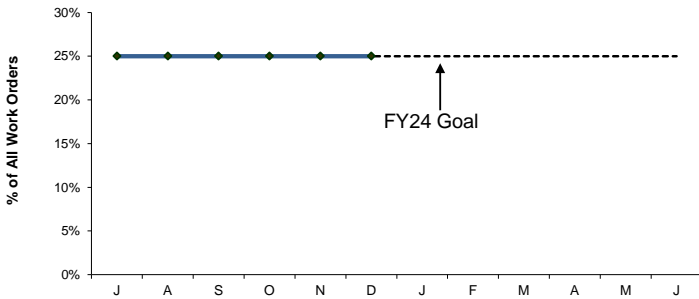
Productivity initiatives include increasing predictive maintenance compliance and increasing PdM work orders. Accomplishing these initiatives should result in a decrease in overall maintenance backlog.

Predictive Maintenance Compliance



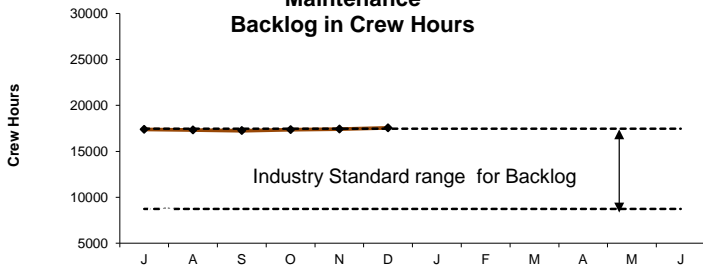
Deer Island's FY24 predictive maintenance goal is 100%. DITP completed 99% of all PdM work orders this quarter. DITP is continuing with an aggressive predictive maintenance program. Deer Island is slightly below our goal this quarter.

Predictive Maintenance



Deer Island's increased FY24 predictive maintenance goal is for 25% of all work orders to be predictive. 25% of all work orders were predictive maintenance this quarter. The industry is moving toward increasing predictive maintenance work to reduce downtime and better predict when repairs are needed.

Maintenance Backlog in Crew Hours

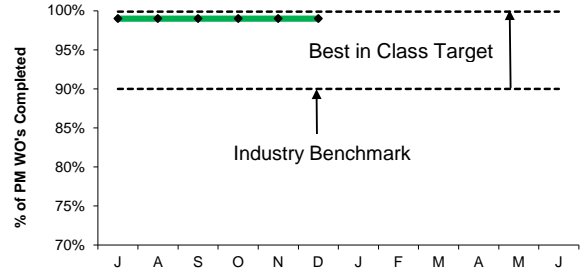


DITP's maintenance backlog at Deer Island is 17,550 hours this quarter. DITP is slightly above the industry average for backlog. The industry Standard for maintenance backlog with 97 staff (currently planned staffing levels) is between 8,730 hours and 17,460 hours. Backlog is affected by (6) Vacancies; (1) Electrician, (1) Plumber, (1) HVAC Technician and (3) I&C Techicians. Management continues to monitor backlog and to ensure all critical systems and equipment are available.

Proactive Initiatives

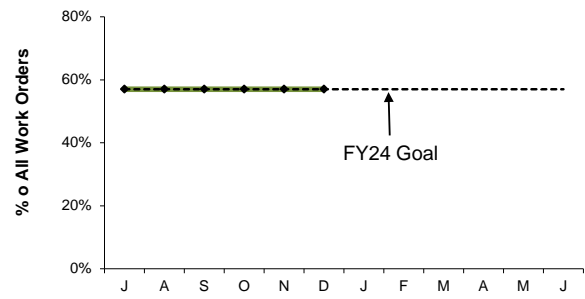
Proactive initiatives include completing 100% of all preventative maintenance tasks and increasing preventative maintenance kitting. These tasks should result in lower maintenance costs.

Preventive Maintenance Compliance



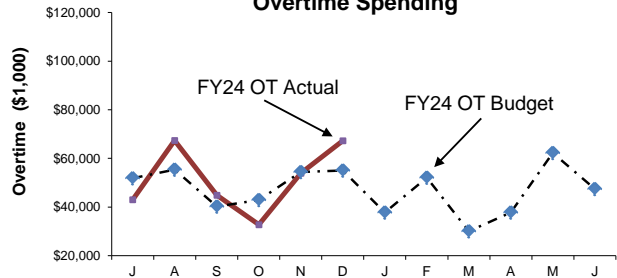
Deer Island's FY24 preventative maintenance goal is 100% completion of all work orders from Operations and Maintenance. DITP completed 99% of all PM work orders this quarter. Deer Island was slightly below our goal, but within Best in Class Target.

Maintenance Kitting



Deer Island's increased FY24 maintenance kitting goal is 57% of all work orders to be kitted. 57% of all work orders were kitted this quarter. Kitting is staging of parts or material necessary to complete maintenance work. This has resulted in more wrench time and increased productivity.

Overtime Spending

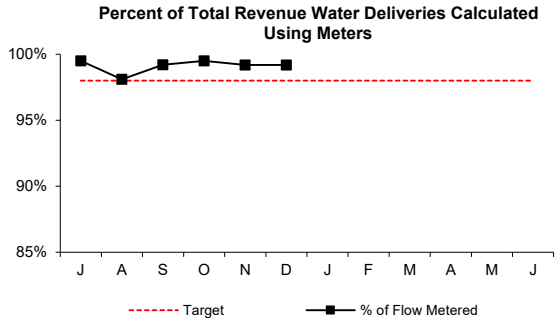


Maintenance overtime was over budget by \$12K this quarter and \$10k over for the year. Management continues to monitor backlog and to ensure all critical equipment and systems are available. This quarter's overtime was predominately used for Storm Coverage/High Flows, Pump Clogging Issues, Upgraded Wiring for Hypochlorite Containment Area, Centrifuge #11 Relining, Clarifier Cross Collector Repairs and Miscellaneous Instrumentation Work.

Operations Division Metering & Reliability

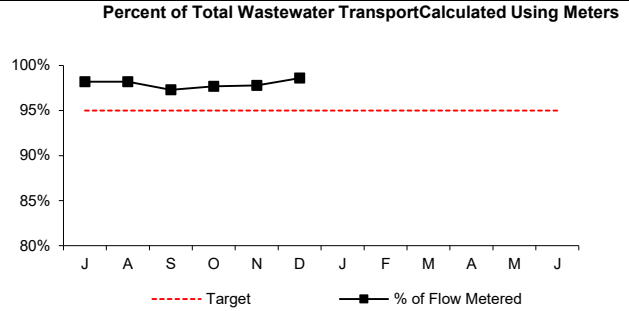
2nd Quarter - FY24

WATER METERS



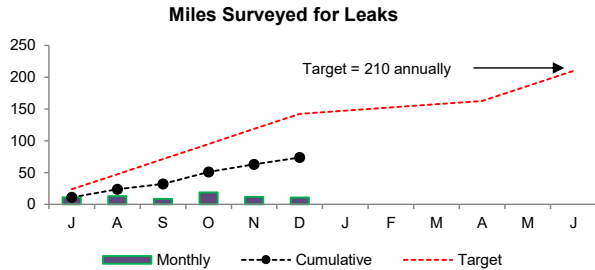
The target for revenue water deliveries calculated using meters is 98%. Estimates are generated for meters that are out of service due to instrumentation problems or in-house and capital construction projects. During Q2 FY24, 0.7% of the billed water flow was estimated. 99.3% was based on meter actuals. A total of 4.0% of the total flow was measured using annubar or inserted pitot rod meters

WASTEWATER METERS



The wastewater metering system is now operating in a typical mode following closeout of the replacement project. The target for revenue collection meters is a 95% capture rate which has been achieved consistently since the new meters have been online. During Q2 FY24, 1.9% of the data required estimates, while 98.1% was metered.

WATER DISTRIBUTION SYSTEM PIPELINES



During the 2nd Quarter - FY24, 41.44 miles of water mains were inspected. The total inspected for the fiscal year to date is 73.67.

Leak Backlog Summary													
Month	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June	Totals
Leaks Detected	1	1	0	0	0	1							3
Leaks Repaired	1	1	0	0	0	0							2
Backlog	0	0	0	0	0	1							n/a

During the 2nd Quarter - FY24 one leak was detected, and none were repaired. Refer to FY24 Leak Report below for details. Also, community service ranging from individual leak location to surveys were conducted for Lynn, Malden, Medford, Newton and Revere.

2nd Quarter - FY24

Date Detected	Location of Leaks	Repaired
07/12/23	853 Lynnway, Lynn	07/14/23
08/11/23	Morton St @ Westv Main St., Mattapan	08/11/23

Date Detected	Location of Leaks/Unrepaired
12/29/23	136 Quinobequin Road, Newton

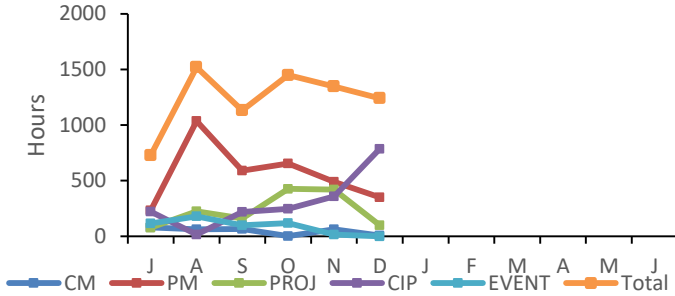
Water Distribution System Valves

2nd Quarter - FY24

Background

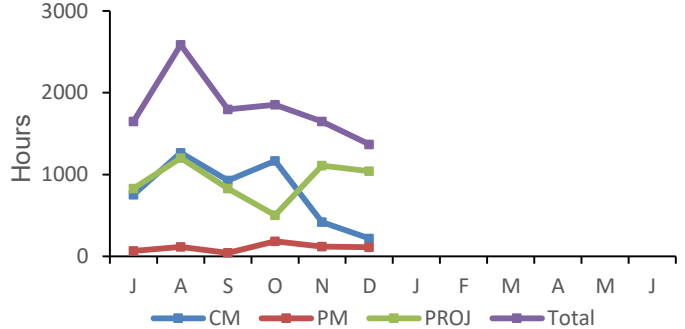
Valves are exercised, rehabilitated, or replaced in order to improve their operating condition. This work occurs year round. Valve replacements occur in roadway locations during the normal construction season, and in off-road locations during the winter season. Valve exercising can occur year round but is often displaced during the construction season. This is due to the fact that a large number of construction contracts involving rehabilitation, replacement, or new installation of water lines, requires valve staff to operate valves and assist with disinfection, dechlorination, pressure-testing, and final acceptance. Valve exercising can also be impacted due to limited redundancy in the water system; valve exercising cannot be performed in areas where there is only one source of water to the community meters or flow disruptions will occur.

Water Valve Labor Hours



During 2nd Quarter of FY24 there was a total of 4,038 hours worked. Percentage breakdown; Corrective Maintenance 2%, Preventative Maintenance 37%, Project 23%, Capital Improvement Project 34%, Event - Wtr Fountain 3%

Water Pipeline Labor Hours



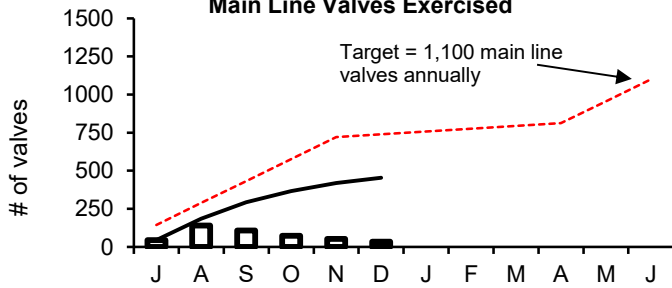
During 2nd Quarter of FY24 there was a total of 4,873 hours worked. Percentage breakdown; Corrective Maintenance 37%, Preventative Maintenance 8%, Project 54%

Type of Valve	Inventory #	Operable Percentage	
		FY24 to Date	FY24 Targets
Main Line Valves	2,159	97.2%	95%
Blow-Off Valves	1,682	98.9%	95%
Air Release Valves	1,519	96.5%	95%
Control Valves	49	100.0%	95%

Key to Symbols:

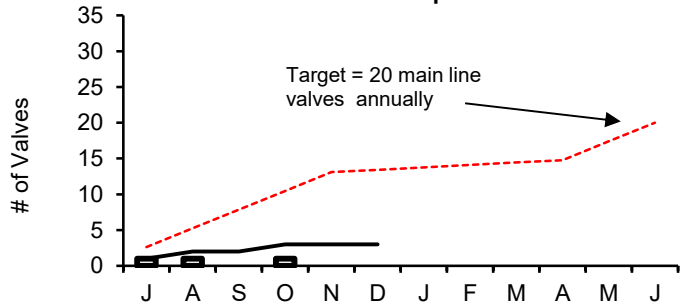
- FY24 Monthly Total
- FY24 Cumulative Total
- FY24 Target

Main Line Valves Exercised



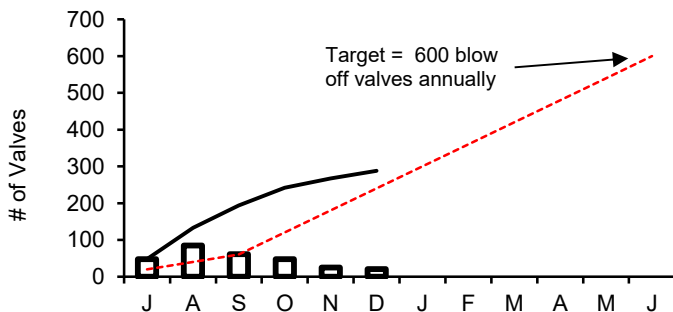
During 2nd Quarter of FY24, 161 main line valves were exercised. The total exercised for the fiscal year to date is 454.

Main Line Valves Replaced



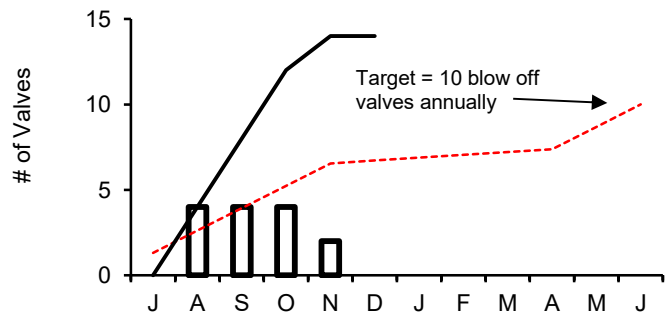
During 2nd Quarter of FY24, there was one main line valve replaced. The total replaced for the fiscal year to date is three.

Blow-Off Valves Exercised



During 2nd Quarter of FY24, 94 blow off valves were exercised. The total exercised for the fiscal year to date is 288.

Blow-Off Valves Replaced



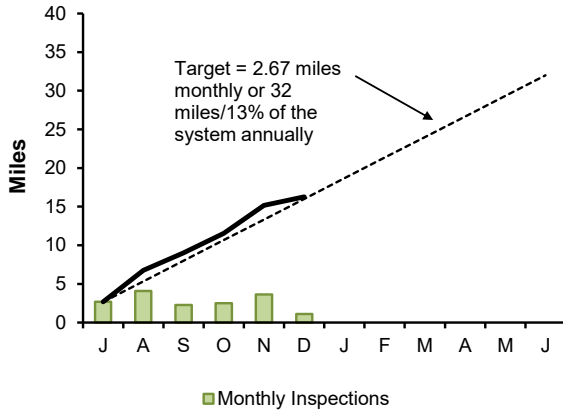
During 2nd Quarter of FY24, there were six blow off valves replaced. The total replaced for the fiscal year to date is fourteen.

Wastewater Pipeline and Structure Inspections and Maintenance

2nd Quarter - FY24

Inspections

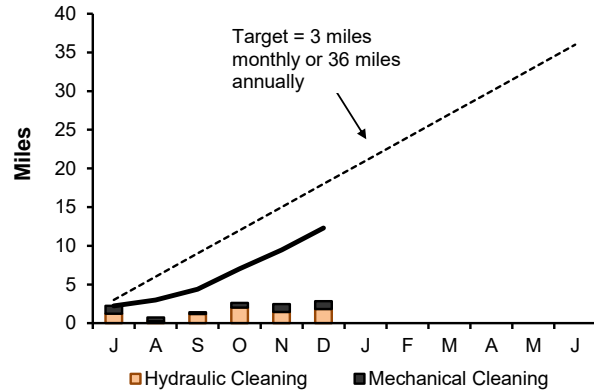
Pipeline Inspections



Staff internally inspected 7.25 miles of MWRA sewer pipe during this quarter. The year to date total is 16.27 miles. No Community Assistance was provided.

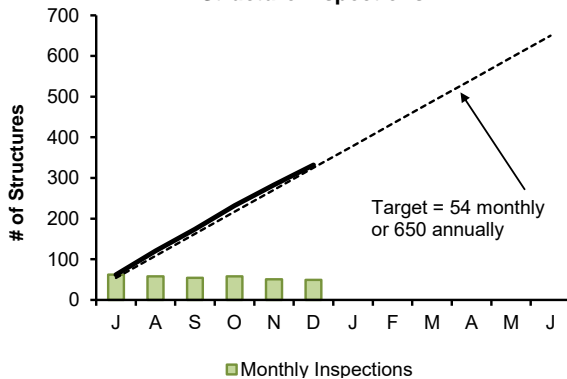
Maintenance

Pipeline Cleaning



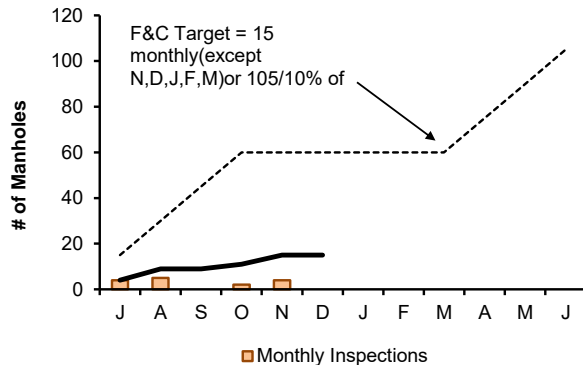
Staff cleaned 6.61 miles of MWRA sewer pipe, and removed 24 yards of grit. The year to date total is 12.30 miles. No Community Assistance was provided.

Structure Inspections



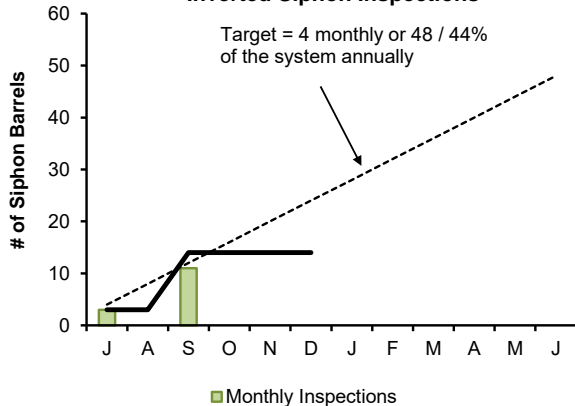
Staff inspected the 36 CSO structures and performed 149 other additional manhole/structure inspections during this quarter. The year to date total is 332 inspections.

Manhole Rehabilitation



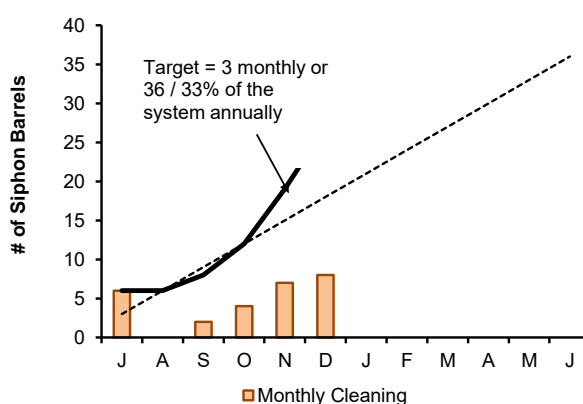
Staff replaced 6 frame and cover replacements this quarter. The year to date total is 15.

Inverted Siphon Inspections



Staff did not inspect any siphon barrels this quarter. The year total is 14 inspections.

Inverted Siphon Cleaning

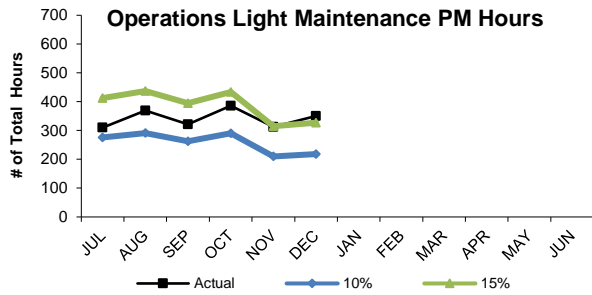


Staff cleaned 19 siphon barrels this quarter.

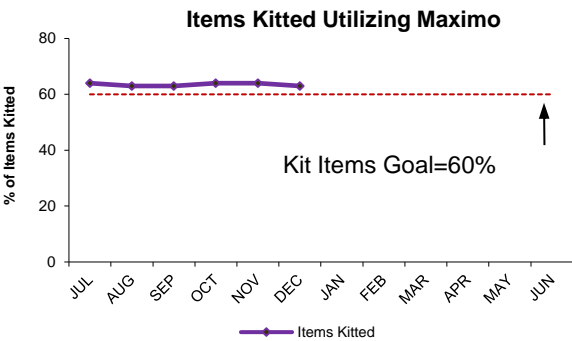
Field Operations' Metropolitan Equipment & Facility Maintenance

2nd Quarter - FY24

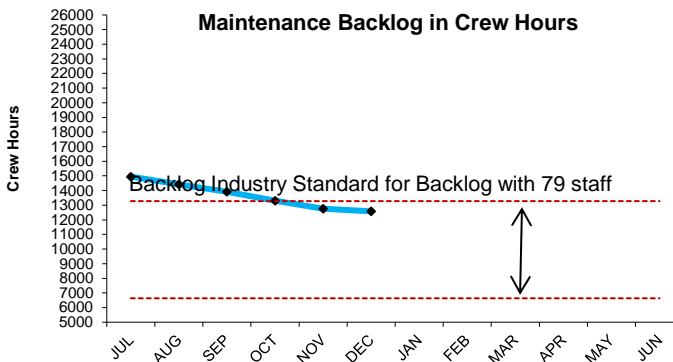
Several maintenance and productivity initiatives are in progress. The goal for the Overall PM completion and the Operator PM completion is 100%. The Operator PM and kitting initiatives frees up maintenance staff to perform corrective maintenance and project work, thus reducing maintenance spending. Backlog and overtime metrics monitor the success of these maintenance initiatives.



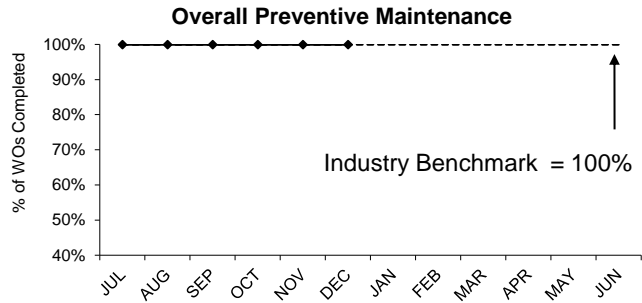
Operations staff averaged 349 hours per month of preventive maintenance during the 2nd Quarter of FY24, an average of 15% of the total PM hours for the 2nd Quarter, which is within the industry benchmark of 10% to 15%.



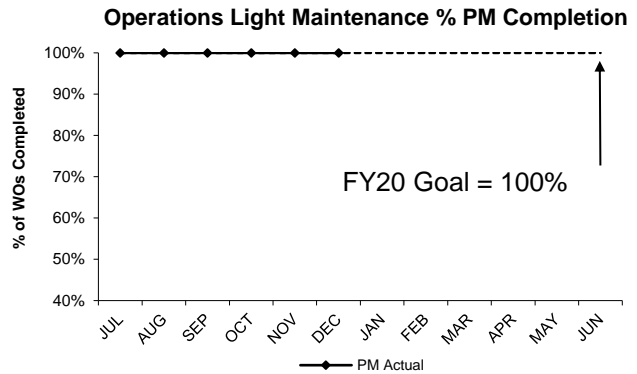
Operations' FY24 maintenance kitting goal has been set at 60% of all work orders to be kitted. Kitting is the staging of parts or material necessary to complete maintenance work. In the 2nd Quarter of FY24, 64% of all applicable work orders were kitted. This resulted in more wrench time and increased productivity.



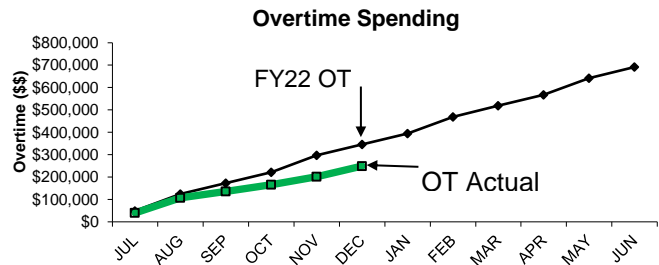
The 2nd Quarter of FY24 backlog average is 12,876 hours, which is within the industry benchmark of 6,636 to 13,275 hours and an improvement over the previous two quarters. The current backlog is due to vacancies and several large maintenance projects.



The Field Operations Department (FOD) preventive maintenance goal for FY24 is 100% of all PM work orders. Staff completed 100% of all PM work orders in the 2nd Quarter of FY24.



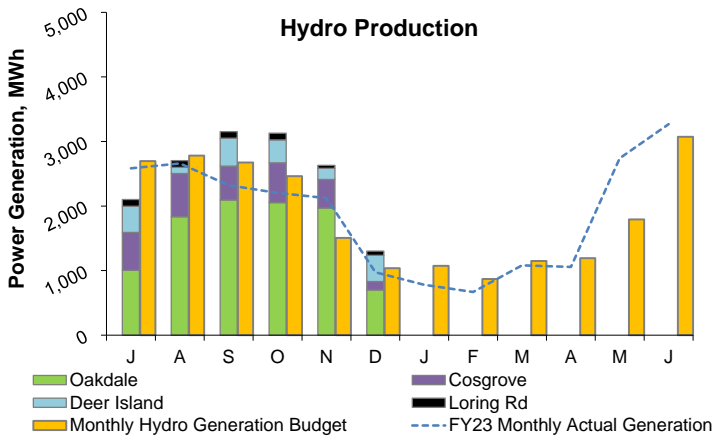
Wastewater Operations complete light maintenance PM's which frees up maintenance staff to perform corrective maintenance. Operations' FY24 PM goal is completion of 100% of all PM work orders assigned. Operations completed 100% of PM work orders in the 2nd Quarter of FY24.



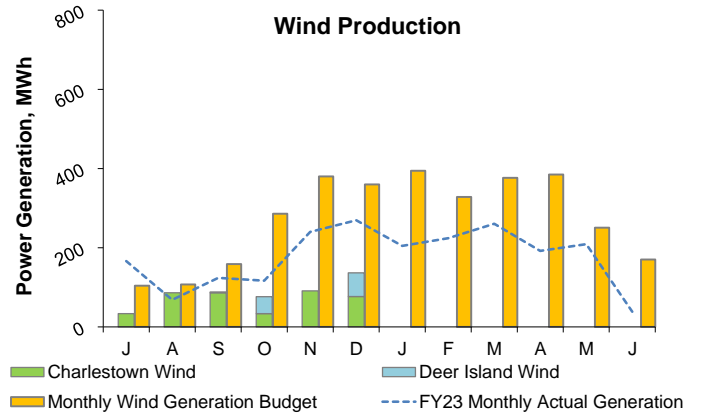
Maintenance overtime was \$19,586 under budget on average, per month, for the 2nd Quarter of FY24. Overtime is used for critical maintenance repairs and wet weather events. The overtime budget through the 2nd Quarter of FY24 is \$345,856. Overtime spending was \$249,272 which is \$96,584 under budget for the fiscal year.

Renewable Electricity Generation: Savings and Revenue

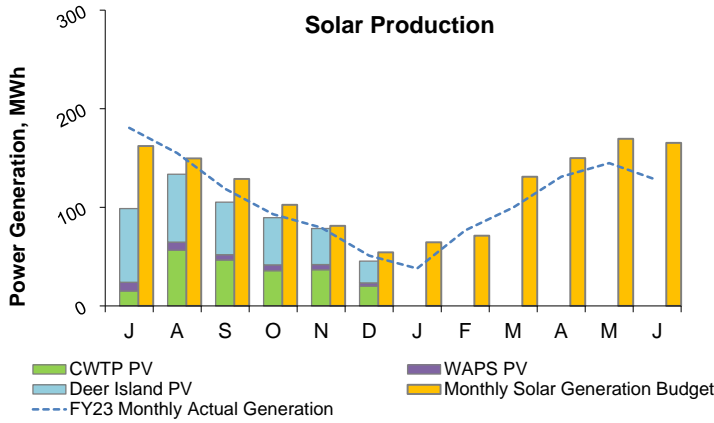
2nd Quarter - FY24



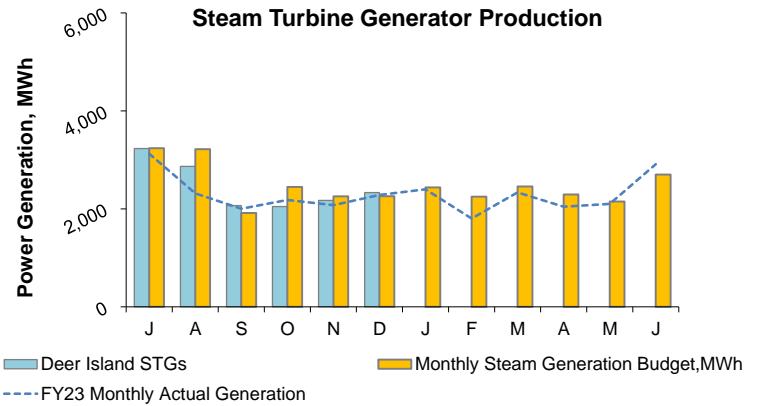
In Quarter 2, the renewable energy produced from all hydro turbines totaled 7,173 MWh; 43% above budget¹.



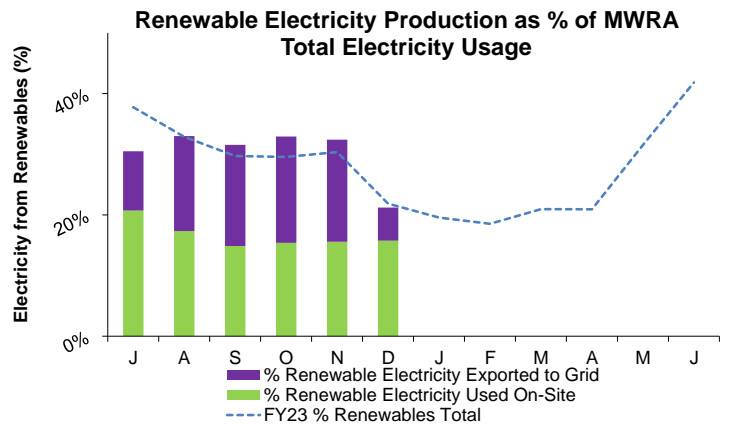
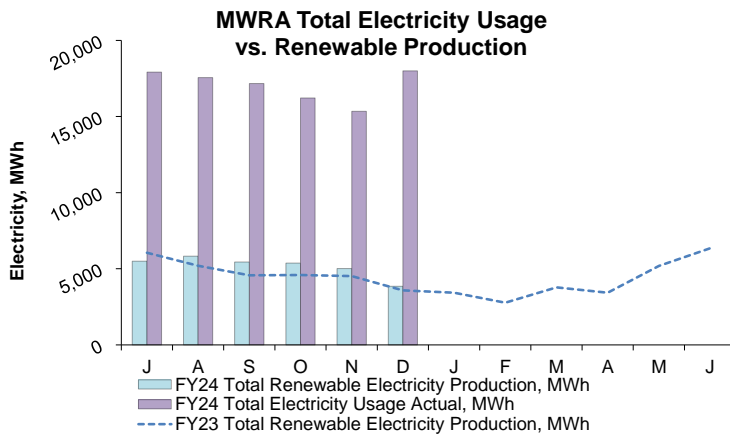
In Quarter 2, the renewable energy produced from all wind turbines totaled 304 MWh; 70% below budget¹. Deer Island Turbine #2 was out of service for all of November to perform necessary maintenance. Deer Island Turbine #1 has been out of service since April 2022, and was heavily damaged following a braking failure on May 29, 2023.



In Quarter 2, the renewable energy produced from all solar PV systems totaled 214 MWh; 10% below budget¹. The Deer Island Residuals Odor Control roof mounted array has been offline since September 11, 2022 while awaiting replacement parts.



In Quarter 2, the renewable energy produced from all steam turbine generators totaled 6,549 MWh; 6% below budget¹.

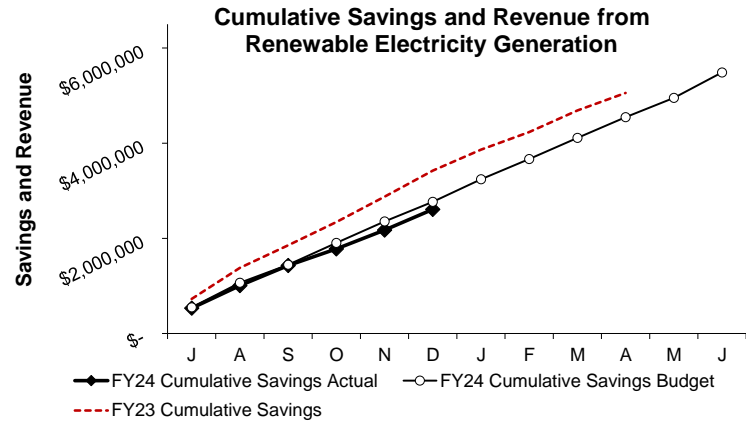
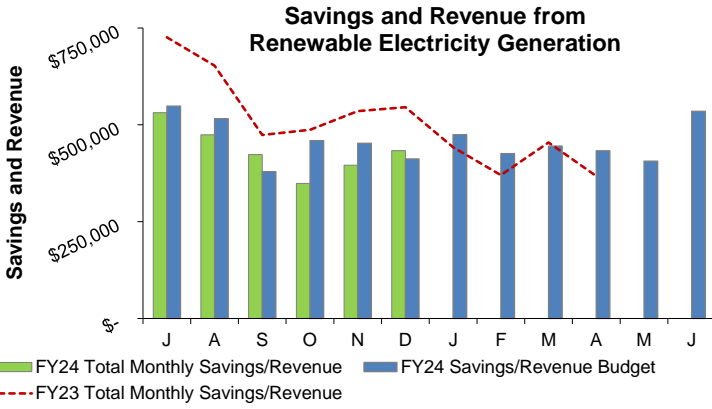


In Quarter 2, MWRA's electricity generation by renewable resources totaled 14,240 MWh, 8% above budget. MWRA's total electricity usage was approximately 49,565 MWh. Renewable resources were 31% of total usage. The MWRA total electricity usage is the sum of all electricity purchased for Deer Island and FOD plus electricity produced and used on-site at these facilities. Approximately 99% of FOD electrical accounts are accounted for by actual billing statements; minor accounts that are not tracked on a monthly basis such as meters and cathodic protection systems are estimated based on this year's budget. All renewable electricity generated on DI is used on-site (this accounts for more than 50% of MWRA renewable generation). Almost all renewable electricity generated off-DI is exported to the grid.

Notes: 1. Budget values are based on historical averages for each facility and include operational impacts due to maintenance work.

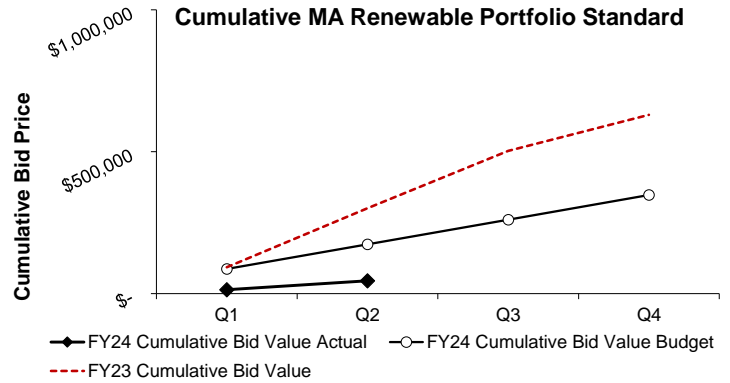
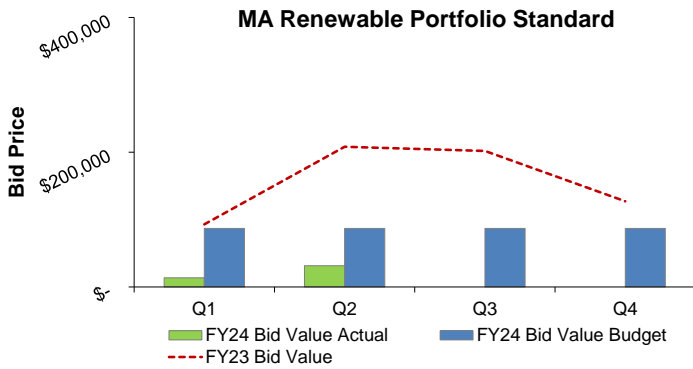
Renewable Electricity Generation: Savings and Revenue

2nd Quarter - FY24



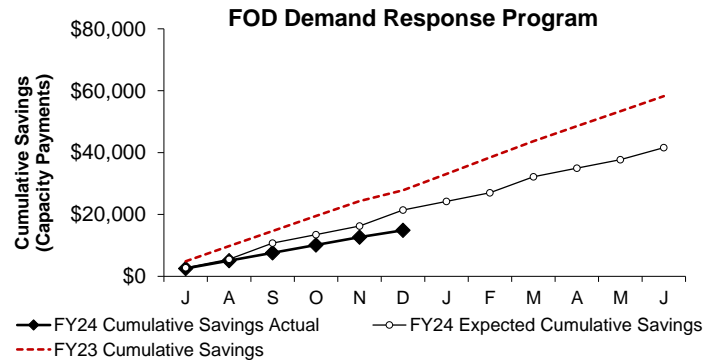
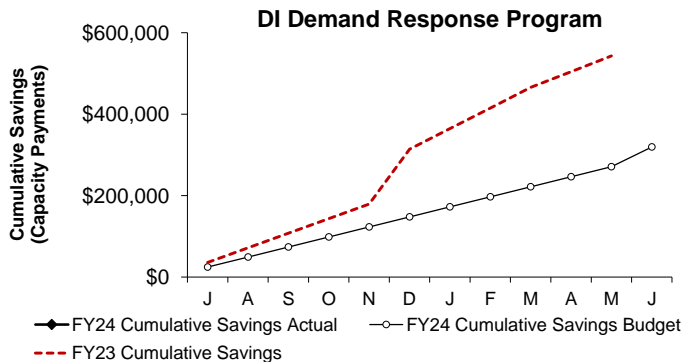
Savings and revenue from renewable energy sources totaled \$1,178,357 in Quarter 2, 11% below budget.³ Cumulative Savings and Revenue is 6% below budget for the fiscal year. Savings and revenue invoices for Oakdale Hydro have not yet been received for May and June of FY23.

Savings and revenue¹ from all renewable energy sources include wind turbines, hydroelectric generators, solar panels, and steam turbines (DI). This includes savings and revenue due to electricity generation (does not include avoided fuel costs and RPS RECs). The use of DITP digester gas as a fuel source provides the benefit of both electricity generation from the steam turbine generators, and provides thermal value for heating the plant, equivalent to approximately 5 million gallons of fuel oil per year (not included in charts above).



Bids were awarded during the 2nd Quarter² from MWRA's renewable energy assets; 909 Q1 FY24 Class I Renewable Energy Certificates (RECs) and **zero** Q1 FY24 Class 2 RECs were sold for a total value of \$31,506 RPS revenue, which is 64% below budget³ for the Quarter. Multiple factors contributed to this shortfall. The quantity of RECs MWRA is obligated to provide electricity suppliers has increased per state regulations and contract structures, reducing the number of RECs available for sale. There were also fewer RECs produced due to reduced wind power production at Deer Island, which will likely persist through the fiscal year (see previous page). REC values reflect the bid value on the date that bids are accepted. Cumulative bid values reflects the total value of bids received to date.

*Only Class I are reported for Q1, Class II RECs are reserved for future sale. SRECs have transitioned to the Class 1 REC category starting in FY23.

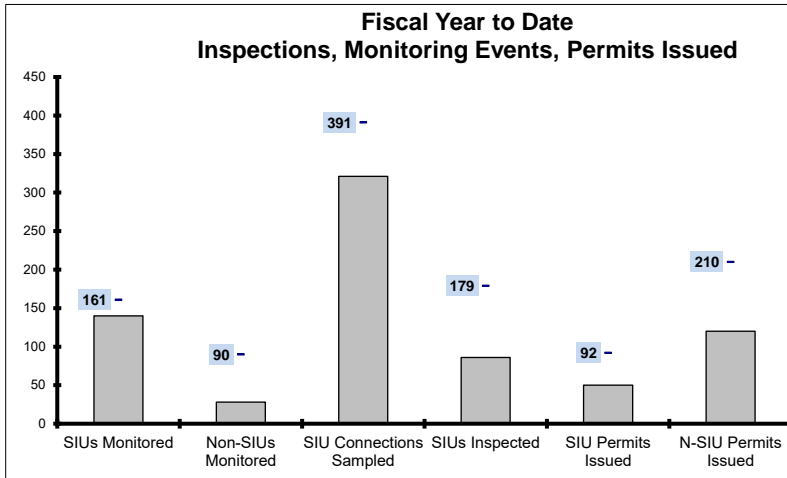


Currently Deer Island, Loring Rd, Brutsch Hydro, and JCWTP participate in the ISO-New England Demand Response Programs. By agreeing to reduce demand and operate the facility generators to help reduce the ISO New England grid demand during periods of high energy demand, MWRA receives monthly Capacity Payments from ISO-NE. When MWRA operates the generators during an ISO-NE called event, MWRA also receives energy payments from ISO-NE. No Capacity Payments have been received for Deer Island yet in FY24, and payments for FOD total \$14,883 through December.

- Notes:
1. Savings and Revenue: Savings refers to any/all renewable energy produced that is used on-site therefore saving the cost of purchasing that electricity, and revenue refers to any value of renewable energy produced that is sold to the grid.
 2. Only the actual energy prices are being reported. Therefore, some of the data lags up to 3 months due to timing of invoice receipt.
 3. Budget values are based on historical averages for each facility and include operational impacts due to maintenance work.

Toxic Reduction and Control

2nd Quarter - FY24



EPA Required SIU Monitoring Events for FY24: 161
YTD : **140**

Required Non-SIU Monitoring Events for FY24: 90
YTD : **28**

SIU Connections to be Sampled For FY24: 391
YTD: **321**

EPA Required SIU Inspections for FY24: 179
YTD: **86**

SIU Permits due to Expire In FY24: 92
YTD: **50**

Non-SIU Permits due to Expire in FY24: 210
YTD: **120**

Significant Industrial Users (SIUs) are MWRA's highest priority industries due to their flow, type of industry, and/or their potential to violate limits. SIUs are defined by EPA and require a greater amount of oversight. EPA requires that all SIUs *with flow* be monitored at least once during the fiscal year.

The "SIU Monitored" data above, reflects the number of industries monitored; however, many of these industries have more than one sampling point and the "SIU Connections Sampled" data reflect samples taken from multiple sampling locations at these industries.

EPA requires MWRA to issue or renew 90 percent of SIU permits within 120 days of receipt of the application or the permit expiration date - whichever is later. EPA also requires the remaining 10 percent of SIU permits to be issued within 180 days.

	Number of Days to Issue a Permit						Permits Issued	
	0 to 120		121 to 180		181 or more		SIU	Non-SIU
	SIU	Non-SIU	SIU	Non-SIU	SIU	Non-SIU		
Jul	1	3	0	1	0	0	1	4
Aug	5	7	0	1	0	1	5	9
Sep	14	28	0	3	0	0	14	31
Oct	11	34	0	1	0	1	11	36
Nov	15	24	1	2	0	2	16	28
Dec	3	10	0	2	0	0	3	12
Jan								
Feb								
Mar								
Apr								
May								
Jun								
% YTD	98%	88%	2%	8%	0%	3%	50	120

TRAC's annual monitoring and inspection goals are set at the beginning of each fiscal year but they can fluctuate due to the actual number of SIUs.

In addition to the Annual SIU inspections required under TRAC's EPA approved Industrial Pretreatment Program, other inspections are usually undertaken, including for enforcement, permit renewal, follow up, temporary construction dewatering sites, group/combined permit audits, spot, sampling locations, visit only and out of business facility.

Monitoring of SIUs and Non-SIUs is dynamic for several reasons, including: newly permitted facilities; sample site changes requiring a permit change; changes in operations necessitating a change in SIU designation; non-discharging industries; a partial sample event is counted as an event even though not enough sample was taken due to the discharge rate at the time; and sometimes increased/decreased inspections lead to permit category changes requiring additional monitoring events

This is the second quarter of the MWRA fiscal year, FY24.

In this quarter, 106 permits issued.
There were 30 SIUs, of which 29 were issued on time.
There were 76 non-SIUs of which 68 were issued on time, with 3 late beyond 180 days.

- Reasons for late issuances continued to include:
- staffing due to turnover and vacancies
 - waiting for critical data needed for permit processing
 - delays relating to new start-up operations and
 - the late payment of the relevant permit charges.

Permit Categories, as defined in CMR 10.101(2):

DEW - Category 12 Temporary Construction Site Dewatering Permit

LFLP - Category 10 Non-Significant Industrial User with Low Flow and Low Pollutant

02 N-SIU - Category 2 Non-Significant Industrial User

Dental - Category D1 Dental Group Permit

G2 - Category G2 Group Permit for Food Processing

In FY24, there have been 43 completely new permits issued: 5-DEW, 19-LFLP, 15-02 N-SIUs, 1-Dental, 2-G2s, 1-One Time discharge

For the Clinton Sewer Service area, there was 1 SIU permits issued during the FY24 fiscal year.

Field Operations Highlights

2nd Quarter – FY24

Metro Water Operations and Maintenance

- Valve Program: Valve operations to support in-house work including providing isolations on: Section 49 (Blow Off Replacement), Section 73 (Blow off Replacement), Section 49A (Main Line Valve Installation). CIP Contractors were supported by isolation and dewatering of portions of Section 29 and 89 (Contract 7117), Section 63 (Contract 6522), Section 23, 24 & 47 (Contract 6392) and WASM 4 and WASM 16 (Contract 7563). Other work included the set-up of the MPU in Lynnfield and Boston College and mainline valve exercising of 16 water main sections.
- Water Pipeline Program: Staff completed Blow-Off replacements in Malden (Section 49) and Mattapan (Sections 94 and 73). A main line valve was installed in Malden (Section 49A). Test pits were completed at Shaft 7C to determine pipe diameters for future valve replacements. Other work included the set-up of the MPU in Lynnfield and Boston College. Leak detection was performed on over 41 miles of MWRA water main and assistance was provided to five customer communities.

Operations Engineering

- Staff continued to provide technical support for Design and Construction Contracts including; Low System PRV Upgrades, Columbus Park and Ward St Headworks, Upgrades, Nut Island Odor Control Improvements, Hayes Pump Station Upgrades, NEH improvements, Section 101, Storage Tank Improvements Shaft Improvements, IHS Improvements CP1 and 2, Hydraulic Model upgrades, and BWRPS Upgrades.
- Staff continued to provide management and coordination with Arcadis to support the construction phase on the Carroll Water Treatment Plant System Upgrades PLC.
- Hydraulic Model Upgrades: Staff continued to provide an in-depth review of the draft model and review of calibrations and developed options for refined calibrations for WASM3 and NIH systems.
- Staff provided support for system expansion to the north and south and to the Metro communities.
- Provide daily facility flow data to support Biobot Study.
- Staff continued to support the lead loop study at CWTP

- Staff managed the dewatering of Norumbega cell 3 for the cleaning and the disinfection and reactivation of the cell.
- Staff assisted in several wet weather storm events, compiled and finalized storm reports, monitored and reported on CSO activation durations and volumes and provided follow up on operational and SCADA issues.

SCADA

- Water System: Continued technical support for JCWTP PLC replacement project; configured and hardened SCADA Operating system; continued work on network management improvements in the JCWTP water system; Continued support for the Wachusett Lower Gate House; supported Soda Ash Dry Feed Upgrade project; Worked with Verizon to update communication lines at various facilities; replaced PLCs at Newton Covered Reservoir, Arlington Covered Reservoir, and Lexington St. Pump Station; replaced PLC components at JCWTP.
- Wastewater System: Configured and hardened SCADA Operating system; continued work on network management improvements; continued work on Ward/Columbus, Hayes P.S. Improvements, Braintree/Weymouth Pump Station Improvements Project, and Fuel Tank Replacement Project; Worked with Verizon to update communication lines at various facilities; replaced PLC components at Somerville Marginal and IPS; replaced network components at Prison Point; repaired UPS connections at Columbus Park.

TRAC

Compliance and Enforcement

- Annual Permitting and Monitoring Charge invoices were issued for all permits except the Dental Discharge permits, which will be issued in March. The invoices totaled \$2,695,666.00.
- TRAC Issued 40 Notices of Violation, 10 Notices of Noncompliance, 3 Penalty Assessment Notices, 2 Administrative Orders, and 2 Extension Letters.

Inspections and Permitting

- TRAC issued a total of 88 MWRA 8(m) Permits allowing companies to work within an easement or other property interest held by the Authority. The total number includes 50 permits issued for work within water infrastructure easements and 38 permits

Field Operations Highlights

2nd Quarter – FY24

issued for work within sewer infrastructure easements. Permits issued this quarter were issued in an average of 69 days from the date the application for 8(m) permit was received by the MWRA.

- TRAC monitored the septage receiving sites a total of 21 times. Staff conducted inspection at 40 new construction gasoline/oil separators and 58 existing gasoline/oil separators.
- TRAC staff conducted 48 Annual SIU Inspections and 234 other inspections.
- 106 MWRA Sewer Use Discharge Permits (Permits) were issued and/or renewed to its sewer users. One permit was issued and/or renewed in the Clinton Service Area.

Environmental Quality-Water

Algae: MWRA's algae monitoring season ended in October. DCR staff continued to collect algae samples routinely at both reservoirs. All nuisance algae were below levels of concern.

- Regulatory: Staff collected samples for EPA's Unregulated Contaminant Monitoring Rule 5 in October, for DEP-required Disinfection Byproducts Rule in November, and for the Optimum Water Quality Parameters program in December. Staff collected samples each week for the Wachusett Aqueduct Pump Station Geothermal NPDES permit.

Non-Regulatory: As part of the future EPA Lead & Copper Rule revisions, MWRA is collecting samples at locations near residences that have results over the lead action level. In October, staff collected pH & alkalinity samples from seven communities. All samples met water quality targets.

- Community Support: On October 6, staff performed virtual coliform sampler training for 13 participants from two Boston and Chelsea. On November 1 and 24, staff assisted Wakefield and Boston with discolored water complaints. On November 9, staff assisted Brookline with sampling at their Single Tree Tank and on December 6, staff visited their tank to review operation of their online chlorine analyzer. On December 6, staff assisted Boston with investigatory sampling at a routine coliform monitoring site.
- Projects: Staff continued Legionella sampling as part of a Water Research Foundation research project. As part of the new EPA Legionella sampling project commencing in 2024 with the Georgia Institute of

Technology, staff collected samples at CWTP and Newton. The CWTP lead pipe-rig study sampling continued. Staff assisted with clearance sampling at Norumbega Covered Storage Tank Cell 3.

- Data Management: Staff submitted monthly DEP and DPH reports on schedule and fulfilled ten data requests.

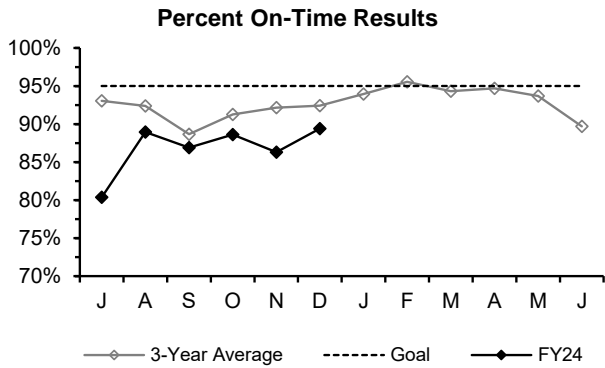
Environmental Quality-Wastewater

- Ambient Monitoring: Massachusetts Bay water column surveys completed each month through October. Review/synthesis of 2022 data continues. The permit required Outfall Monitoring Overview on 2022 ambient monitoring data was submitted to EPA and DEP on November 15.
- Harbor/CSO Receiving Water Monitoring: Biweekly harbor monitoring continues, along with seasonal CSO receiving water sampling through the end of November.
- Permitting and Compliance Reporting: Submitted monthly and quarterly discharge monitoring reports, and as-needed notifications of CSOs, SSOs, and blending, and provided prior notice of essential maintenance. Prepared and submitted extensive comments to EPA on draft permit for Deer Island Treatment Plant and CSOs. Submitted annual O&M report and status sheets for Deer Island and collection system. The NPDES Steering Committee met in October and December. Reported Contingency Plan exceedances for Stellwagen Basin bottom water dissolved oxygen to EPA, DEP, OMSAP, and others. These were observed on July and September Massachusetts Bay monitoring surveys. Also reported a Contingency Plan exceedance for summer average chlorophyll, resulting from a large Gulf of Maine wide algae bloom in late spring/early summer.
- Cooperation with other agencies: Continued follow up communication with metro Boston CSO permittees and with Boards of Health about the new sewage notification regulation. Coordinated with Mass. DMF and with other wastewater agencies, NACWA, Cape Cod Center for Coastal Studies, Wastewater Advisory Committee, and with metro Boston CSO communities about relevant issues in the NPDES draft permit. Discussed data sharing opportunities with NERACOOS for studies of zooplankton in the Gulf of Maine and the extraordinary algae bloom in the region this summer.

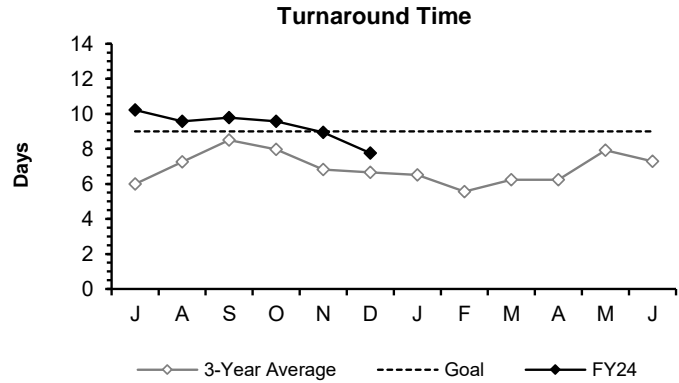
Laboratory Services

2nd Quarter - FY24

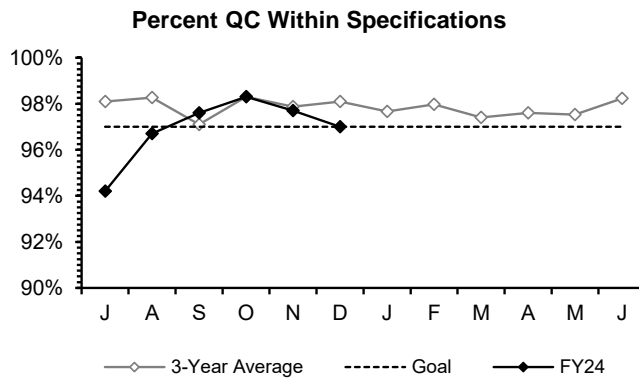
Laboratory Services supports the laboratory sampling, testing, and consulting needs of various client groups primarily in the Operations Division. This includes drinking water transmission and treatment, wastewater collection and treatment, wastewater residuals management, industrial-pretreatment monitoring, and environmental quality.



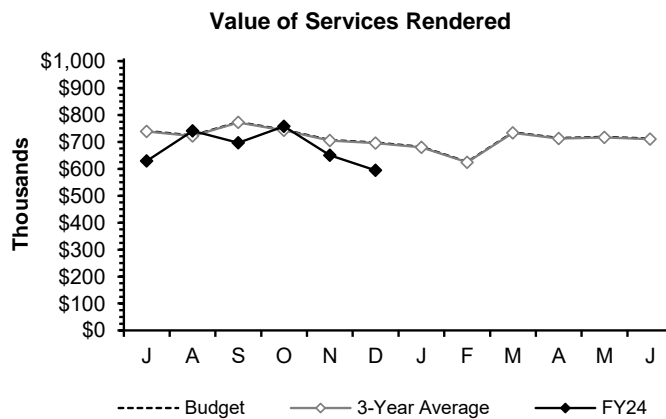
The Percent On-Time measurement assesses performance against internal client due dates. These due dates are shorter than the compliance reporting requirements to allow for internal review of the data.



Turnaround Time measures the average time from sample receipt to sample completion.



Percent QC Within Specifications measures the fraction of Quality Control tests that met required limits during the month.



Value of Services Rendered models the true cost of the lab work performed, including fringe benefits that are not a part of the Laboratory Services budget.

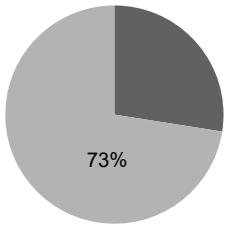
Performance Summary: Percent of QC Within Specifications and Turnaround Time met the monthly goals. Department staffing was improved to ~90% of budgeted level, but we are still training new staff, which impacts productivity. All regulatory timelines were met during the 2nd Quarter of FY24.

School Lead Program: During the 2nd quarter of FY24, MWRA's lab completed 146 tests from 23 schools and childcare facilities in 12 communities. Since 2016, MWRA's Laboratory has conducted over 40,000 tests from 576 schools and daycares in 44 communities. We have also completed 931 home lead tests under the DPH sampling program since 2017.

CONSTRUCTION PROGRAMS

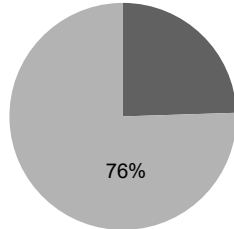
Engineering & Construction Projects In Construction 2nd Quarter – FY24

Cost



■ Amount Remaining
■ Billed to Date

Time



■ Time Remaining
■ Time Expended

Carroll Water Treatment Plant SCADA Improvements

Project Summary: The current SCADA control equipment has reached the end of its useful life, and future vendor support for the installed PLC base is no longer guaranteed. This contract includes the supply and installation of replacement instrumentation panels, PLC's, UPS backup power, fiber-optic communication network, wiring between the existing panels, and new equipment and refurbishment of the operator control room. In addition, a new server room equipped with HVAC and fire suppression is being constructed to house redundant computer hardware supporting active and backup SCADA systems.

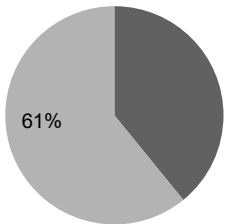
Contract Amount: \$13,210,180.33

Contract Duration: 1,127 Days

Notice to Proceed: 1-Sep-21

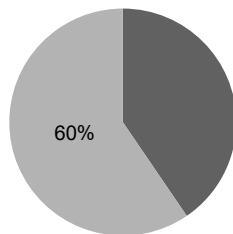
Contract Completion: 2-Oct-24

Cost



■ Amount Remaining
■ Billed to Date

Time



■ Time Remaining
■ Time Expended

Section 89 Replacement Pipeline

Project Summary: This project will include replacement of a 10,500-foot portion of PCCP with class IV reinforcing wire, line valves and appurtenances, and abandonment of the 118-year old, 24-inch diameter cast iron Section 29 pipeline.

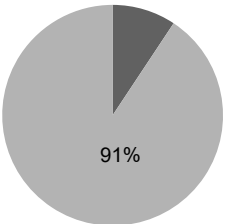
Contract Amount: \$33,309,138.83

Contract Duration: 1,475 Days

Notice to Proceed: 5-Aug-21

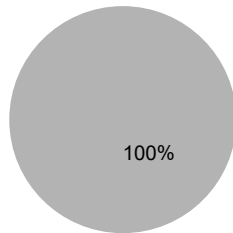
Contract Completion: 19-Aug-25

Cost



■ Amount Remaining
■ Billed to Date

Time



■ Time Remaining
■ Time Expended

Low Service PRV Improvements

Project Summary: This project will demolish the existing Nonantum Road and Mystic Valley Parkway PRV vault structures, including four 24-inch PRVs and appurtenances, and construct new, larger cast-in-place vaults. At Mystic Valley Parkway, two 42-inch PRVs and at Nonantum Road two 30-inch PRVs, isolation valves, piping, and other appurtenances will be installed. Additionally, a new master meter will be constructed at the Mystic Valley Parkway pressure reducing valves and the existing master meter located near the Nonantum Road pressure reducing valves will be upgraded to accommodate the increased flow.

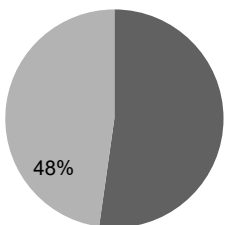
Contract Amount: \$12,205,837.64

Contract Duration: 900 Days

Notice to Proceed: 14-Jul-21

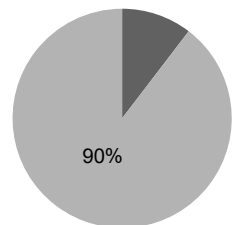
Contract Completion: 31-Dec-23

Cost



■ Amount Remaining
■ Billed to Date

Time



■ Time Remaining
■ Time Expended

Construction of Water Mains – Section 101

Project Summary: This construction contract consists of a new 36-inch diameter water main and appurtenances extending from MWRA's Meter 182 at the Waltham/Lexington town line down Lexington Street to Totten Pond Road, where it will connect to Waltham's water system. This new water main will provide sufficient capacity to maintain water service to Waltham during the anticipated shutdown of MWRA's WASM 3 pipeline and the Lexington Street Pumping Station for future rehabilitation.

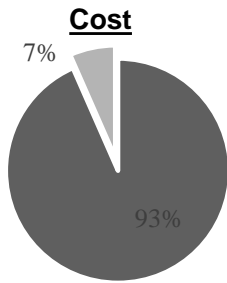
Contract Amount: \$32,400,000

Contract Duration: 635 Days

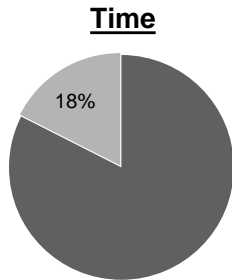
Notice to Proceed: 12-Jul-22

Contract Completion: 7-Apr-24

**Engineering & Construction
Projects In Construction
2nd Quarter – FY24**



■ Amount Remaining
■ Billed to Date



■ Time Remaining
■ Time Expended

7395 - Clarifier Rehabilitation Phase 2

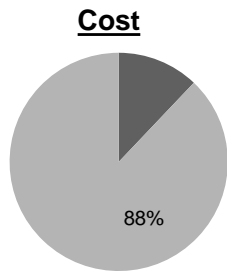
Project Summary: This project involves the replacement of the original remaining scum and sludge equipment, as follows: over 400 Primary Clarifier influent, effluent, and dewatering gates; 384 primary effluent cross channel gate actuators; approximately 450 secondary scum influent gates and actuators; wear strip rails, 768 head shaft and idler sprockets; over 3000 linear feet of influent channel aerations piping systems; 360 head shafts collector drives and chains; return sludge line vent piping; approximately 400 concrete and aluminum hatches and associated electrical and control systems.

Contract Amount: \$289,359,690

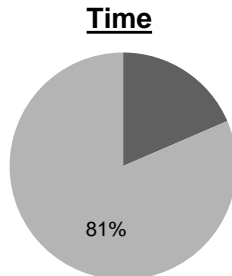
Contract Duration: 1620 Days

Notice to Proceed: 10-Mar-23

Contract Completion: 16-Aug-27



■ Amount Remaining
■ Billed to Date



■ Time Remaining
■ Time Expended

7134 - Radio Repeater System Upgrade 2

Project Summary: This project involves the replacement of the original Radiax Radio Repeater system Antenna Cable: The Radiax cable consists of thirty-seven (37) individual cable runs totaling over 15,000 linear feet. The Radiax cable is present in the following DITP areas: Primary, Reactor, Secondary, Disinfection and Residual Galleries, Primary Operations, North Main Pump station, south System Pump Station, Centrifuge Thickener building, Operations Center and the Hydropower Plant. Under this contract, all existing Radiax cable runs will be replaced in kind with new Radiax cable. In addition, new addressable fire alarm modules will be installed and programmed at each of the existing bi-directional amplifier radio rooms in order to supervise the operational status of the Radiax cable amplification equipment.

Contract Amount: \$2,499,500

Contract Duration: 540 Days

Notice to Proceed: 17-Oct-22

Contract Completion: 9-Apr-24

CSO CONTROL PROGRAM

2nd Quarter – FY24

Overview

In compliance with milestones in the Federal District Court Order, all 35 projects in the CSO Long-Term Control Plan (LTCP) were complete as of December 2015. Subsequently, MWRA completed a multi-year CSO post-construction monitoring program and performance assessment, filing the Final CSO Post Construction Monitoring Program and Performance Assessment Report with the Court and submitted copies to EPA and DEP in December 2021. April 2023 Annual report shows an 88% reduction in CSO in a typical year, from 3.3 billion gallons to 396 million gallons, with 72 of 86 outfalls meet or materially meet the LTCP goals (5 of the 72 materially meet) for CSO activation frequency and volume. MWRA and its member CSO communities are moving forward with plans to bring 8 of the 16 CSOs in line with the LTCP goals. With respect to the remaining 6 challenging CSO outfalls, MWRA and its CSO Consultant (AECOM) continue to investigate alternative to move closer to LTCP goals.

MWRA CSO Performance Assessment

- In November 2017, MWRA signed a contract for CSO Post-Construction Monitoring and Performance Assessment with AECOM Technical Services, Inc. The contract includes CSO inspections, overflow metering, hydraulic modeling, system performance assessments and water quality impact assessments, culminating in the submission of a report to EPA and MassDEP in December 2021 verifying whether the LTCP goals are attained.
- AECOM continues to support efforts to advance project identified to meet performance goals at 8 of the 16 CSOs that didn't meet LTCP goals, evaluate alternatives for the remaining 6 challenging sites, and predict and report on annual CSO discharges. Two of those 16 outfalls are now meeting LTCP goals (BOS014 and BOS003) and the post construction performance of CHE008 will be evaluated at the end of the year.

Court Ordered Levels of CSO Control

Progress on the work to comply with the court ordered levels of CSO control is discussed with the EPA/MassDEP at progress meetings held quarterly. **Meeting scheduled for 12/28/23 to be rescheduled for January 2024 and the next meeting will be in March.**

Ongoing Projects as of December 31, 2023

- *East Boston CSO Control:* As part of the East Boston CSO a FAA/MOU was executed in June 2021 for \$2.1M, BWSC design and construction. Work at BOS014, BOS003 is complete and are now meeting LTCP goals. Sewer separations is expected to be completed in spring of 2024. Plans for Phase 4 sewer separation with five new contracts starting summer 2024 (through 2030) will result in most of East Boston being separated. *Somerville Marginal New Pipe Connection* came out of the variance optimization study that recommended adding a new pipe from the facility's CSO influent conduit to the interceptor with an added control gate. The \$1.2M (est.) construction project is expected to be completed by December 2024.

- *Fort Point Channel and Mystic Confluence* – BOS013, BOS062, BOS065, BOS070 DBC and BOS017: **The FAA/MOU was amended on December 13, 2023 to include BOS013. On December 14, 2023 the Commission awarded the contract to P. Gioioso & Sons in the amount \$10.4 million over the engineer's estimate of \$7.3 million.** Anticipate completion of construction by December 2024.
- *CAM005 weir raising and lengthening* for reducing CSO activation and frequency volume. Cost estimate \$250,000. Anticipated completion of construction by December 2024.

CSO variances

As part of MWRA's CSO Control Program, MassDEP has issued a series of multi-year CSO variances that allow MWRA, Cambridge, and Somerville to continue to have limited CSO discharges to Alewife Brook and the Upper Mystic River, as well as the Charles River lower basin. The most recent variances, issued in 2019, require the development of Updated LTCPs for the CSO outfalls that each entity owns and operates that may discharge to the corresponding waterbody. The Updated LTCPs must include a description of the existing level of CSO control, an evaluation of the costs and the performance and water quality improvements achieved by additional CSO control alternatives, a public participation plan, and an affordability analysis.

- o MassDEP and EPA conditionally approved MWRA's Updated CSO Control Plan Scope of Work on 5/11/2022.
- o Schedule Extension Request for Deliverables Associated with Updated CSO Control Plan was submitted 9/22/22. In May 2023, EPA/MassDEP advised that MWRA, Cambridge and Somerville proceed according to our revised extended schedule.
 - o As identified in the variance the progress is reported at monthly meetings with EPA/MassDEP. The last meeting was on **1/10/2024** and the next meeting is scheduled for **2/14/2024**. Key elements of the Updated CSO Control Plan are discussed including the development of Alternatives to be evaluated using the Unified Hydraulic Model.
- o The 3rd of 8 planned meetings was held on 11/15/2023. **The next Public Meeting is scheduled for late summer of 2024.**
- o Development and Submittal of Studies as required under variance included the following:
 - Alewife PS Optimization Evaluation was submitted on 4/27/2021
 - Somerville Marginal CSO Reduction, Study and Preliminary Design was submitted on 12/27/2021
 - Alewife Brook and Charles River System Optimization Evaluation was submitted on 12/28/2022
 - MWRA CSO Variances Additional System Optimization Measures Report was submitted on 1/31/2023.
- o **Bi-annual meeting with CLF/Watershed groups held on 12/20/2023** providing an update on the 16 sites not currently meeting the LTCP.
- o Watershed Association meeting held on 10/24/2023 providing an update on the Updated CSO Control Plan development.

CIP Expenditures

2nd Quarter – FY24

FY24 Capital Improvement Program Expenditure Variances through December by Program - (\$ in thousands)				
Program	FY24 Budget Through December	FY24 Actual Through December	Variance Amount	Variance Percent
Wastewater	\$40,650	\$34,032	(\$6,618)	-16%
Waterworks	\$63,091	\$62,121	(\$970)	-1%
Business and Operations Support	\$8,075	\$3,665	(\$4,410)	-54%
Total	\$111,816	\$99,819	(\$11,997)	-10%

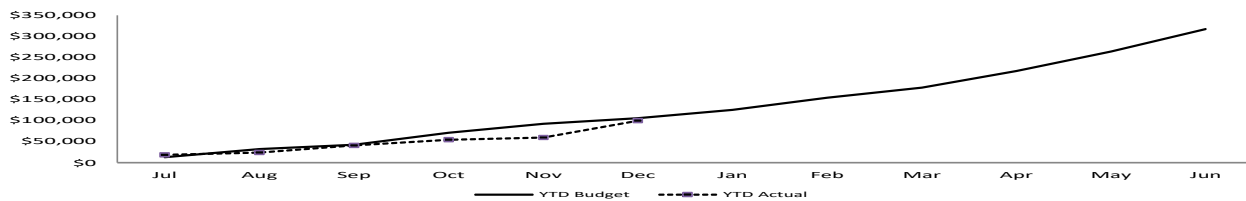
Wastewater:

- Spending was less than planned in Wastewater due to timing of community loans and distributions for the I/I Local Financial Assistance program, timing of work, long lead time for equipment and delay in fabrication of structural steel for Braintree/Weymouth Improvements – Construction, work scheduled for FY24 that was completed in FY23 for Chelsea 008 Pipe Replacement construction, delay in performing shaft inspections and issuing NTP for Final Design for Ward Street & Columbus Park Headworks Upgrades - Design/CA, and lower than projected task order work for Deer Island As-Needed Design.
- This less than planned spending was partially offset by equipment received ahead of schedule for Clarifier Rehabilitation Phase 2 – Construction.

Water:

- Spending was less than planned in Waterworks due to timing of contractor work for Section 89/29 Replacement and CP-1 NEH Improvements, timing of consultant work for Metropolitan Tunnel Redundancy Preliminary Design & Massachusetts Environmental Policy Act Review, timing of consultant services for Geotechnical Support Services, lower than projected task order work for CWTP Technical Assistance, work scheduled for FY24 performed in FY23 for WASM 3 Rehabilitation CP-1, timing of consultant work for WASM 3 MEPA/Design/CA/RI, and longer lead time on some larger items and a change in design for the multi-orifice valve for Wachusett Lower Gatehouse Pipe & Boiler Replacement – Construction.
- This less than planned spending was partially offset by timing of community distributions for the Water Loan program, work scheduled for FY23 that was completed in FY24 for Waltham Water Pipeline and CWTP Chemical Feed System Improvements, and contractor progress for CP-2 Sections 24 & 25 Construction.

Budget vs. Actual CIP Expenditures (\$ in thousands)
Total FY24 CIP Budget of \$302,200



Construction Fund Management

All payments to support the capital program are made from the Construction Fund. Sources of fund in-flows include bond proceeds, commercial paper, SRF reimbursements, loan repayments by municipalities, and current revenue. Accurate estimates of cash withdrawals and grant payments (both of which are derived from CIP spending projections) facilitate planning for future borrowings and maintaining an appropriate construction fund balance.

Cash Balance as of 12/23/23	\$123.3 million
Unused capacity under the debt cap:	\$2.31 billion
Estimated date for exhausting construction fund without new borrowing:	March 2024
Estimated date for debt cap increase to support new borrowing:	Not anticipated at this time
Commercial paper/Revolving loan outstanding:	\$130 million
Commercial paper capacity / Revolving Loan	\$120 million
Budgeted FY24 Cash Flow Expectancy*:	\$246 million

* Cash based spending is discounted for construction retainage.

DRINKING WATER QUALITY AND SUPPLY

Source Water – Microbial Results and UV Absorbance

2nd Quarter – FY24

Source Water – Microbial Results

Total coliform bacteria are monitored in both source and treated water to provide an indication of overall bacteriological activity. Most coliforms are harmless. However, fecal coliforms, a subclass of the coliform group, are identified by their growth at temperatures comparable to those in the intestinal tract of mammals. They act as indicators of possible fecal contamination. The Surface Water Treatment Rule for unfiltered water supplies allows for no more than 10% of source water samples prior to disinfection over any six-month period to have more than 20 fecal coliforms per 100mL.

Sample Site: Quabbin Reservoir

Quabbin Reservoir water is sampled at the William A. Brutsch Water Treatment Facility raw water tap before being treated and entering the CVA system.

All samples collected during the quarter were below 20 cfu/100mL. **For the current six-month period, 0.0% of the samples have exceeded a count of 20 cfu/100mL.**

Sample Site: Wachusett Reservoir

Wachusett Reservoir water is sampled at the CWTP raw water tap in Marlborough before being treated and entering the MetroWest/Metropolitan Boston systems.

In the wintertime when smaller water bodies near Wachusett Reservoir freeze up, many waterfowl will roost in the main body of the reservoir - which freezes later. This increased bird activity tends to increase fecal coliform counts. DCR has an active bird harassment program to move the birds away from the intake area.

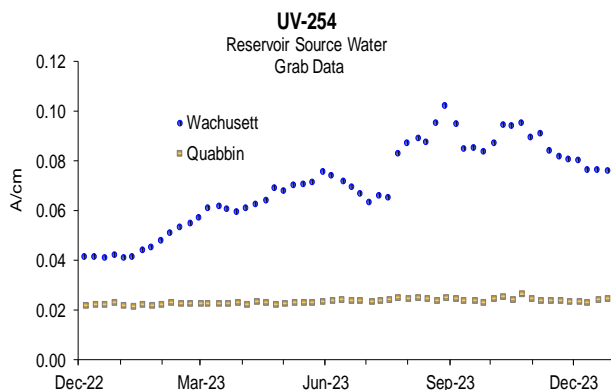
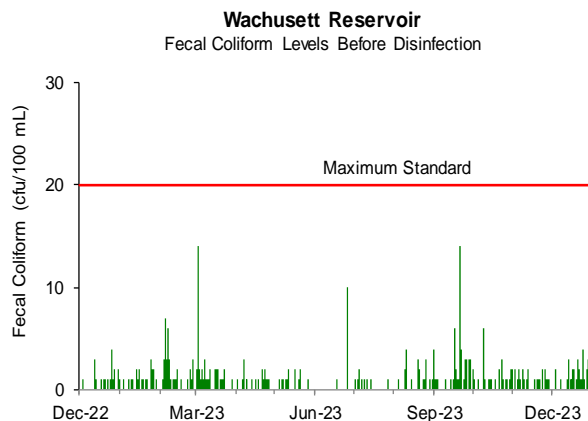
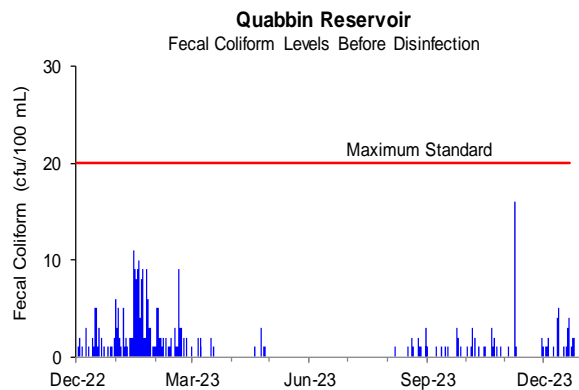
All samples collected during the 2nd Quarter were below 20 cfu/100mL. **For the current six-month period, 0.0% of the samples exceeded a count of 20 cfu/100mL.**

Source Water – UV Absorbance

UV Absorbance at 254nm wavelength (UV-254), is a measure of the amount and reactivity of natural organic material in source water. Higher UV-254 levels cause increased ozone and chlorine demand resulting in the need for higher ozone and chlorine doses, and can increase the level of disinfection by-products. UV-254 is impacted by tributary flows, water age, sunlight and other factors.

Quabbin Reservoir UV-254 levels averaged 0.024 A/cm for the quarter.

Wachusett Reservoir UV-254 levels averaged 0.085 A/cm for the quarter.



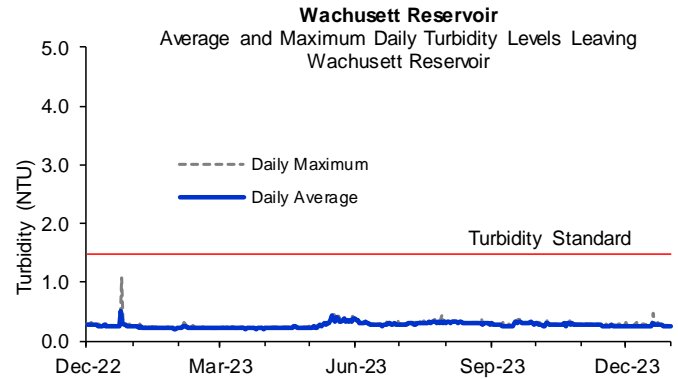
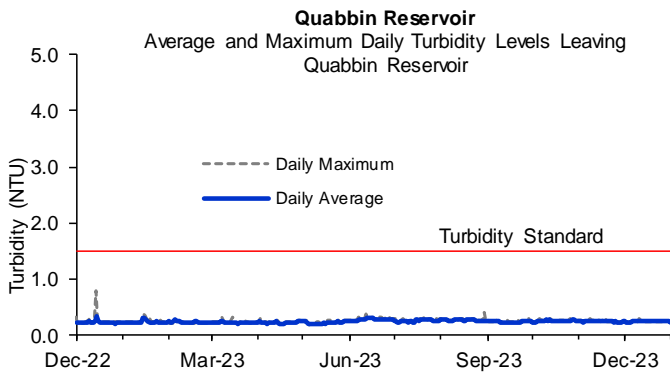
Source Water – Turbidity

2nd Quarter – FY24

Turbidity is a measure of suspended and colloidal particles including clay, silt, organic and inorganic matter, algae and microorganisms. The effects of turbidity depend on the nature of the matter that causes the turbidity. High levels of particulate matter may have a higher disinfectant demand or may protect bacteria from disinfection effects, thereby interfering with the disinfectant residual throughout the distribution system.

There are two standards for turbidity: all water must be below five NTU (Nephelometric Turbidity Units), and water only can be above one NTU if it does not interfere with effective disinfection.

Turbidity of Quabbin Reservoir water is monitored continuously at the Brutsch Water Treatment Facility (BWTF) before UV and chlorine disinfection. Turbidity of Wachusett Reservoir is monitored continuously at the Carroll Water Treatment Plant (CWTP) before ozonation and UV disinfection. Maximum turbidity results at Quabbin and Wachusett were within DEP standards for the quarter.

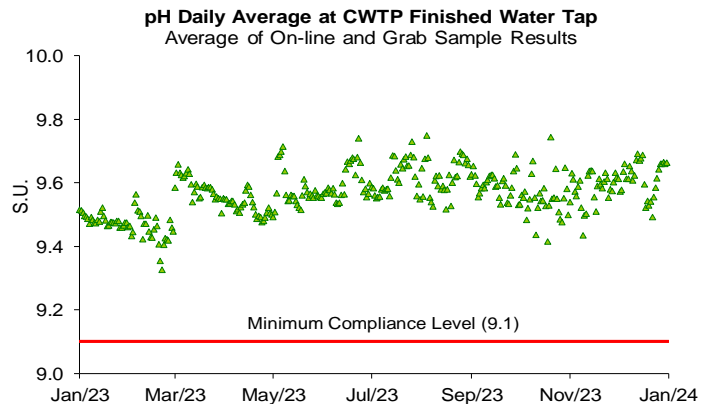
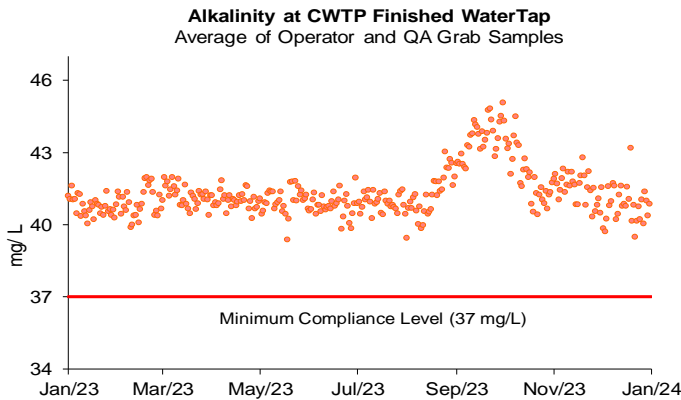


Treated Water – pH and Alkalinity Compliance

MWRA adjusts the alkalinity and pH of Wachusett water at CWTP to reduce its corrosivity, which minimizes the leaching of lead and copper from service lines and home plumbing systems into the water. MWRA tests finished water pH and alkalinity daily at the CWTP's Fin B sampling tap. MWRA's target for distribution system pH is 9.3; the target for alkalinity is 40 mg/l. Per DEP requirements, CWTP finished water samples have a minimum compliance level of 9.1 for pH and 37 mg/L for alkalinity. Samples from 27 distribution system locations have a minimum compliance level of 9.0 for pH and 37 mg/L for alkalinity. Results must not be below these levels for more than nine days in a six month period. Distribution system samples are collected in March, June, September, and December.

Each CVA community provides its own corrosion control treatment. See the CVA report: <https://www.mwra.com/annual/waterreport/2022results/PDFS/CVA.pdf>.

Quarterly distribution system samples were collected over a course of two weeks in December. Distribution system sample pH ranged from 9.3 to 9.7 and alkalinity ranged from 39 to 42 mg/L. No sample results were below DEP limits for this quarter.



Treated Water – Disinfection Effectiveness

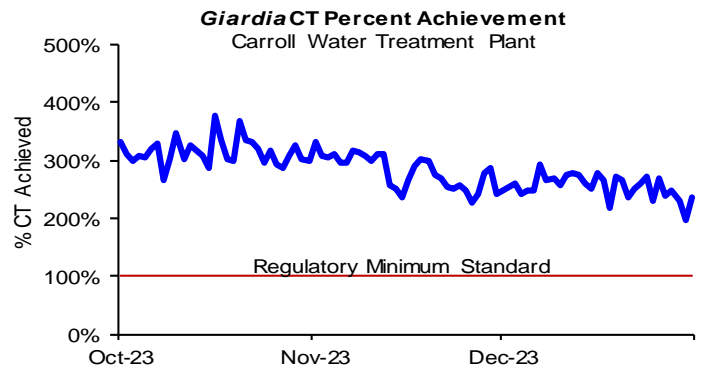
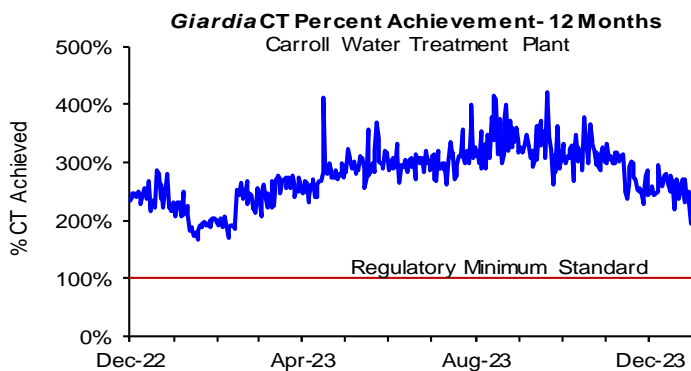
2nd Quarter – FY24

At the Carroll Water Treatment Plant (CWTP), MWRA meets the required 99.9% (3-log) inactivation of *Giardia* using ozone (reported as CT: concentration of disinfectant x contact time) and the required 99% (2-log) inactivation of *Cryptosporidium* using UV (reported as IT: intensity of UV x time). MWRA calculates inactivation rates hourly and reports *Giardia* inactivation at maximum flow and *Cryptosporidium* inactivation at minimum UV dose. MWRA must meet 100% of required CT and IT.

CT achievement for *Giardia* assures CT achievement for viruses, which have a lower CT requirement. For *Cryptosporidium*, there is also an “off-spec” requirement. Off-spec water is water that has not reached the full required UV dose or if the UV reactor is operated outside its validated ranges. No more than 5% off-spec water is allowed in a month.

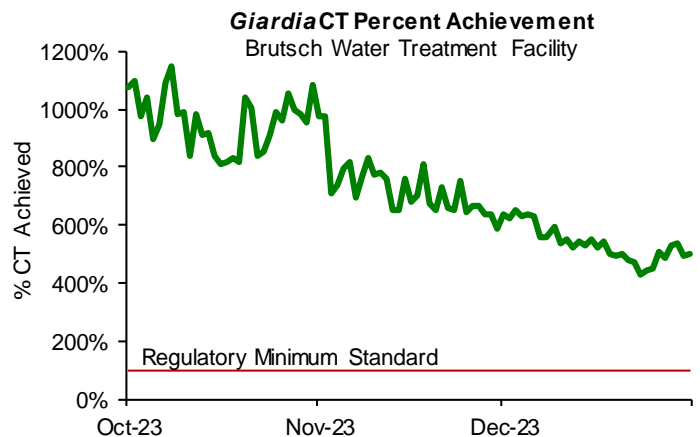
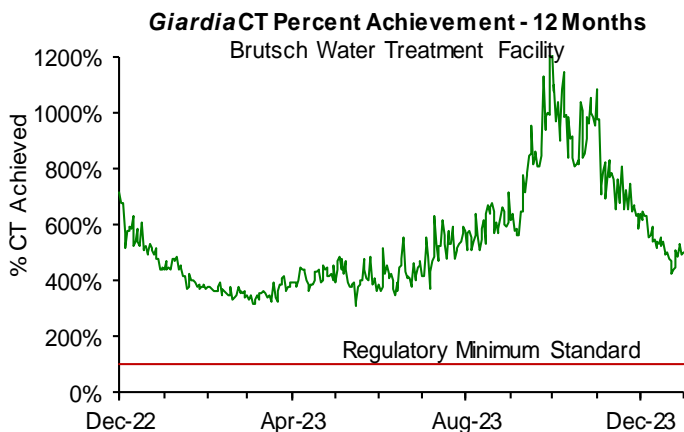
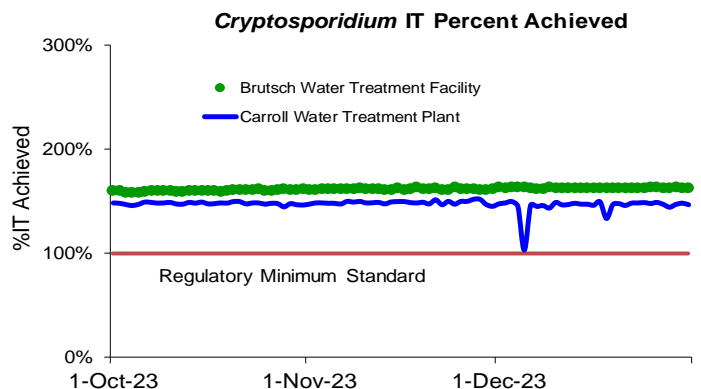
Wachusett Reservoir – MetroWest/Metro Boston Supply:

- The chlorine dose at the CWTP varied between 3.2 and 4.4 mg/L for the quarter.
- Ozone dose at the CWTP varied between 2.1 to 3.2 mg/L for the quarter.
- Giardia* CT was maintained above 100% at all times the plant was providing water into the distribution system this quarter, as well as every day for the last fiscal year.
- Cryptosporidium* IT was maintained above 100% for the quarter. Off-spec water was less than 5%.
- On December 7, 2023, CWTP had a brief shut down due to high oxygen supply pressure. There was a temporary reduction in UV inactivation levels. All regulatory targets were met.



Quabbin Reservoir (CVA Supply) at: Brutsch Water Treatment Facility

- The chlorine dose at BWTF is adjusted in order to achieve MWRA’s seasonal target of 0.75 - 0.85 mg/L (November 1 – May 31) and 0.85 - 1.05 mg/L (June 1 – October 31) at Ludlow Monitoring Station.
- The chlorine dose at BWTF varied between 1.35 to 1.64 mg/L for the quarter.
- Giardia* CT was maintained above 100% at all times the plant was providing water into the distribution system for the quarter.
- Cryptosporidium* IT was maintained above 100% for the quarter. Off-spec water was less than 5%.

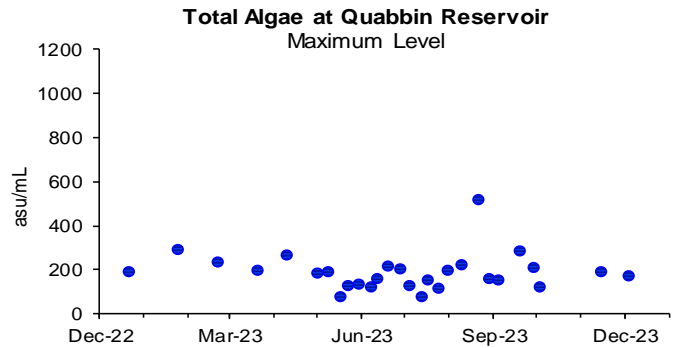
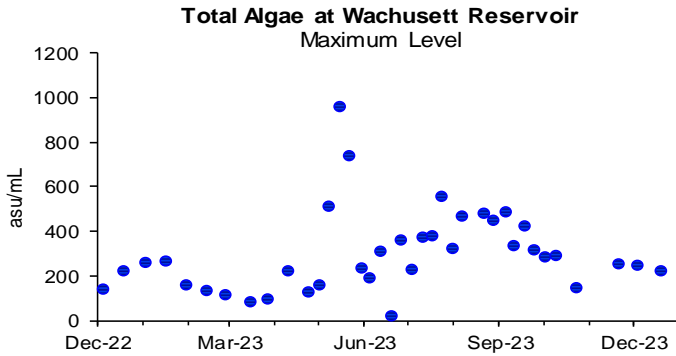


Source Water - Algae 2nd Quarter – FY24

Algae levels in the Wachusett and Quabbin Reservoir are monitored by DCR and MWRA. These results, along with taste and odor complaints, are used to make decisions on source water treatment for algae control.

Taste and odor complaints at the tap may be due to algae, which originate in source reservoirs, typically in trace amounts. Occasionally, a particular species grows rapidly, increasing its concentration in water. When *Synura*, *Anabaena*, or other nuisance algae bloom, MWRA may treat the reservoirs with copper sulfate, an algacide. During the winter and spring, diatom numbers may increase. While not a taste and odor concern, consumers that use filters may notice a more frequent need to change their filters.

In the 2nd quarter, there were no complaints which may be related to algae reported from the local water departments.



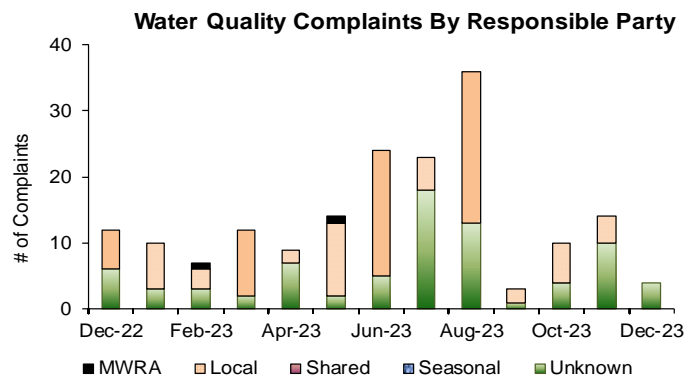
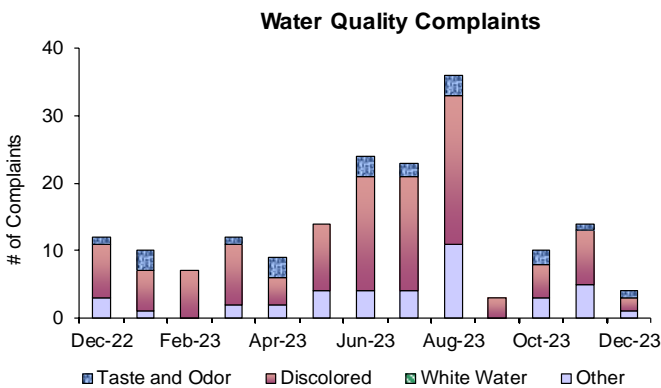
Drinking Water Quality Customer Complaints: Taste, Odor, or Appearance

MWRA collects information on water quality complaints that typically fall into four categories: 1) discoloration due to MWRA or local pipeline work; 2) taste and odor due to algae blooms in reservoirs or chlorine in the water; 3) white water caused by changes in pressure or temperature that traps air bubbles in the water; or 4) "other" complaints including no water, clogged filters or other issues.

MWRA routinely contacts communities to classify and tabulate water complaints from customers. This count, reflecting only telephone calls to towns, probably captures only a fraction of the total number of customer complaints. Field Operations staff have improved data collection and reporting by keeping track of more kinds of complaints, tracking complaints to street addresses and circulating results internally on a daily basis.

Communities reported 28 complaints during the quarter compared to 48 complaints from 2nd Quarter of FY23. Of these complaints, 15 were for "discolored water", 4 were for "taste and odor", and 9 were for "other". Of these complaints, 10 were local community issues and 18 were unknown in origin.

Communities with discolored water (DW) complaints due to hydrant flushing performed during the quarter: (October – Arlington (2) and Somerville (1); November – Arlington (1) and Waltham (1).



Bacteria & Chlorine Residual Results for Communities in MWRA Testing Program

2nd Quarter – FY24

While all communities collect bacteria samples and chlorine residual data for the Total Coliform Rule (TCR), data from the 44 systems that use MWRA's Laboratory are reported below.

The MWRA TCR program has 144 sampling locations. These locations include sites along MWRA's transmission system, water storage tanks and pumping stations, as well as a subset of the community TCR locations.

Samples are tested for total coliform and *Escherichia coli* (*E.coli*). *E.coli* is a specific coliform species whose presence likely indicates potential contamination of fecal origin.

If *E.coli* are detected in a drinking water sample, this is considered evidence of a potential public health concern. Public notification is required if repeat tests confirm the presence of *E.coli* or total coliform.

Total coliform provide a general indication of the sanitary condition of a water supply. If total coliform are detected in more than 5% of samples in a month (or if more than one sample is positive when less than 40 samples are collected), the water system is required to investigate the possible source/cause with a Level 1 or 2 Assessment, and fix any identified problems.

A disinfectant residual is intended to maintain the sanitary integrity of the water; MWRA considers a residual of 0.2 mg/L a minimum target level at all points in the distribution system.

Highlights

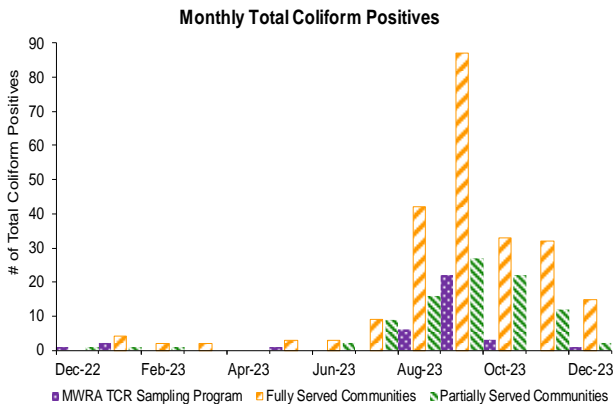
In the second quarter, 116 of the 6426 fully and partially served samples (1.8%) submitted to MWRA labs for analysis tested positive for total coliform. 4 of the 1863 Shared Community/MWRA samples (0.2%) tested positive for total coliform. None of the 396 CVA/MWRA community samples (0.0%) tested positive for total coliform.

These communities needed to perform Level Assessments for the quarter, breakdown by month: in October, Bedford, Everett, Lynnfield, Wakefield, Winthrop; in November, Everett, Wakefield, Winthrop; in December, Bedford, Revere, Winthrop. No samples confirmed for *E.coli*.

1.1% of the Fully Served community quarterly samples had chlorine residuals lower than 0.2 mg/L.

NOTES:

- MWRA total coliform and chlorine residual results include data from community locations. In most cases these community results are indicative of MWRA water as it enters the community system; however, some are strongly influenced by local pipe conditions. Residuals in the MWRA system are typically between 1.0 and 2.8 mg/L.
- The number of samples collected depends on the population served and the number of repeat samples required.
- These communities are partially supplied, and may mix their chlorinated supply with MWRA chloraminated supply.
- Part of the Chicopee Valley Aqueduct System. Free chlorine system.



	Total Coliform		E.coli Positive	# Assessment Required
	# Samples (b)	# (%) Positive		
MWRA a	MWRA Locations	362	2 (0.6%)	0
	Shared Community/MWRA sites	1501	2 (0.1%)	0
	Total: MWRA	1863	4 (0.2%)	0
Fully Served b	ARLINGTON	156	0 (0%)	0
	BELMONT	107	1 (0.9%)	0
	BOSTON	792	6 (0.8%)	0
	BROOKLINE	237	0 (0%)	0
	CHELSEA	169	0 (0%)	0
	DEER ISLAND	52	0 (0%)	0
	EVERETT	184	8 (4.4%)	0
	FRAMINGHAM	237	0 (0%)	0
	LEXINGTON	122	1 (0.8%)	0
	LYNNFIELD	24	3 (12.5%)	0
	MALDEN	234	0 (0%)	0
	MARBLEHEAD	72	0 (0%)	0
	MARLBOROUGH	126	0 (0%)	0
	MEDFORD	222	2 (0.9%)	0
	MELROSE	117	0 (0%)	0
	MILTON	102	0 (0%)	0
	NAHANT	30	0 (0%)	0
	NEWTON	303	8 (2.6%)	0
	NORTHBOROUGH	48	0 (0%)	0
	NORWOOD	99	0 (0%)	0
	QUINCY	318	0 (0%)	0
	READING	136	2 (1.5%)	0
	REVERE	193	8 (4.2%)	0
	SAUGUS	104	0 (0%)	0
SOMERVILLE	252	0 (0%)	0	
SOUTHBOROUGH	30	0 (0%)	0	
STONEHAM	91	0 (0%)	0	
SWAMPSCOTT	57	0 (0%)	0	
WALTHAM	222	2 (0.9%)	0	
WATERTOWN	143	0 (0%)	0	
WESTON	45	0 (0%)	0	
WINTHROP	102	39 (38.2%)	0	
Total: Fully Served	5126	80 (1.6%)		
Partially Served c	BEDFORD	76	14 (18.4%)	0
	BURLINGTON	129	1 (0.8%)	0
	CANTON	90	0 (0%)	0
	NEEDHAM	126	1 (0.8%)	0
	PEABODY	217	0 (0%)	0
	WAKEFIELD	155	17 (11.0%)	0
	WELLESLEY	113	0 (0%)	0
	WILMINGTON	87	0 (0%)	0
	WINCHESTER	94	0 (0%)	0
	WOBURN	213	3 (1.4%)	0
Total: Partially Served	1300	36 (2.8%)		
Total: Community Samples No CVA		6426	116 (1.8%)	
CVA d	MWRA CVA Locations	105	0 (0%)	0
	CHICOPEE	186	0 (0%)	0
	SOUTH HADLEY FD1	60	0 (0%)	0
	WILBRAHAM	45	0 (0%)	0
Total: CVA	396	0 (0.0%)		

Chlorine Residuals in Fully Served Communities

	2022		2023											
	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
% <0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.2	0.2	0.3	
% <0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.3	1.8	1.0	1.2	1.0	
% <0.5	1.5	1.2	0.7	0.5	0.3	0.3	1.0	1.2	3.1	6.2	5.2	5.7	3.2	
% <1.0	3.9	2.4	1.8	1.3	1.4	1.9	3.4	4.8	12.5	16.0	13.2	14.4	8.4	
% >1.0	96.2	97.7	98.2	98.7	98.6	98.1	96.6	95.2	87.5	84.0	86.8	85.6	91.6	

Treated Water Quality: Disinfection By-Product (DBP) Levels in Communities

2nd Quarter – FY24

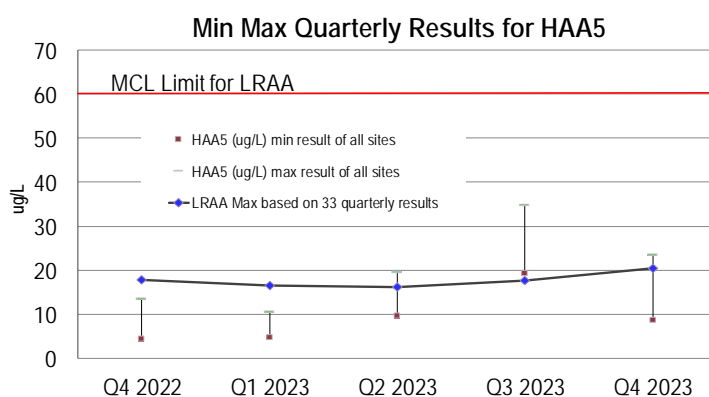
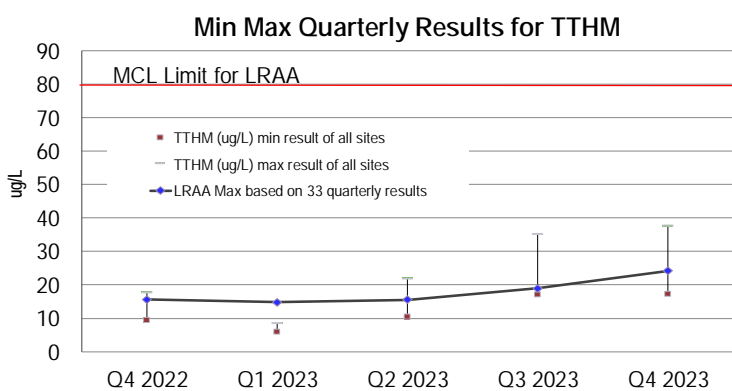
Total Trihalomethanes (TTHMs) and Haloacetic Acids (HAA5s) are by-products of disinfection treatment with chlorine. They are of concern due to their potential adverse health effects at high levels. EPA’s locational running annual average (LRAA) standard, using the most recent four quarterly results, is 80 µg/L for TTHMs and 60 µg/L for HAA5s. The locational running annual average at each individual sampling location must be below the standard.

Bromate is tested monthly as required for water systems, like CWTP, that treat with ozone. EPA’s RAA Maximum Contaminant Level (MCL) standard for bromate is 10 µg/L. The current RAA for Bromate at the CWTP finished water tap is 0.0 µg/L.

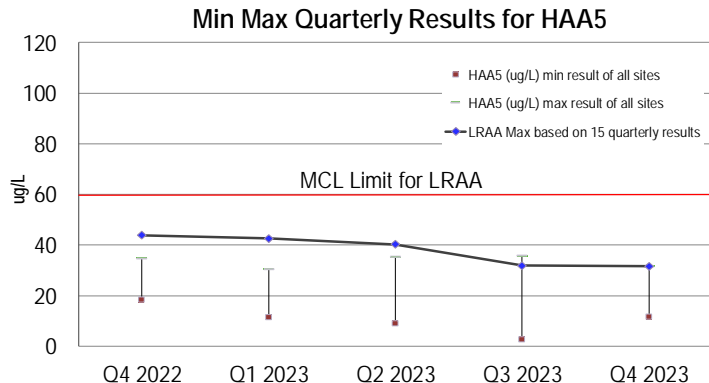
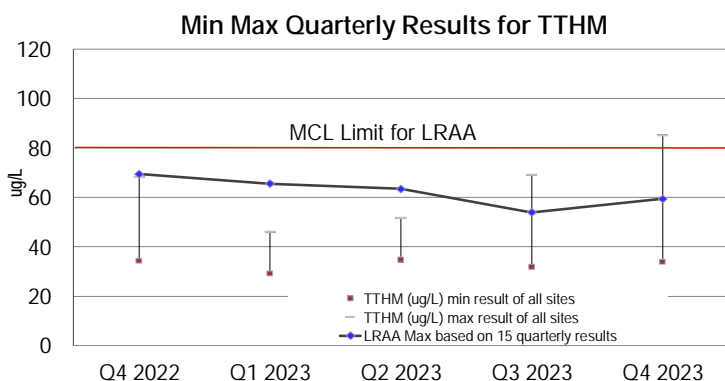
MWRA’s TTHM and HAA5 sampling program includes sampling at 33 MetroWest and Metro Boston communities sites. Partially served and CVA communities are responsible for their own compliance monitoring and are regulated individually.

The LRAA for TTHMs and HAA5s for MWRA’s Compliance Program (represented as the line in the top two graphs below) remains below current standards. The Max LRAA in the quarter for TTHMs = 24.2 µg/L; HAA5s = 20.5 µg/L. No LRAA exceedances or violations occurred this quarter for MetroBoston and for any of the CVA communities.

MetroBoston Disinfection By-Products



CVA Disinfection By-Products (Combined Results Chicopee, Wilbraham, & South Hadley FD1)



Water Supply and Source Water Management

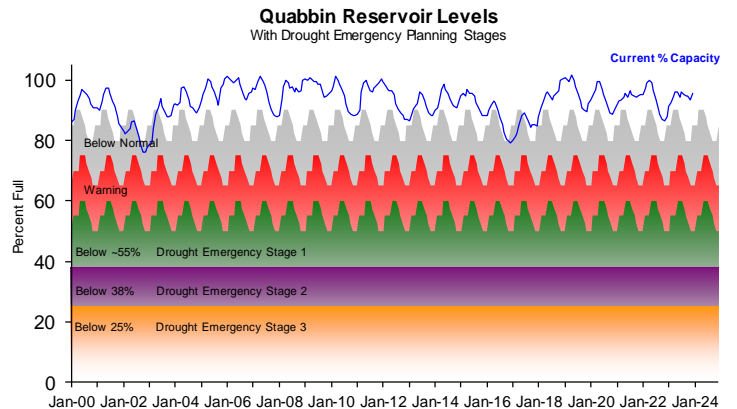
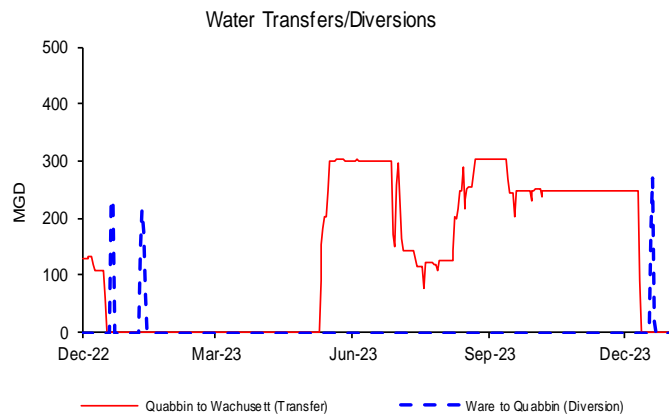
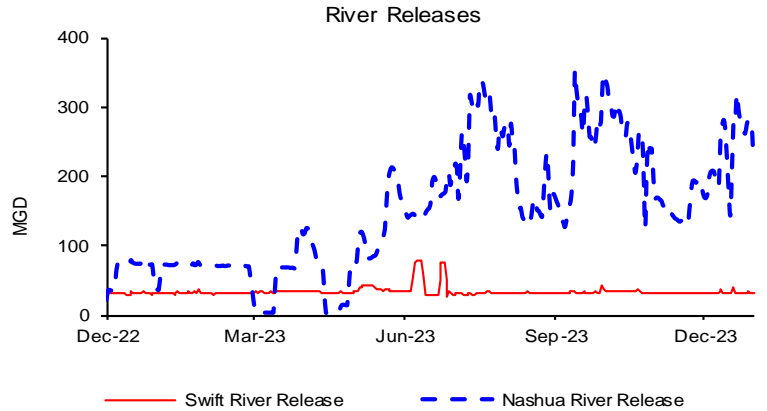
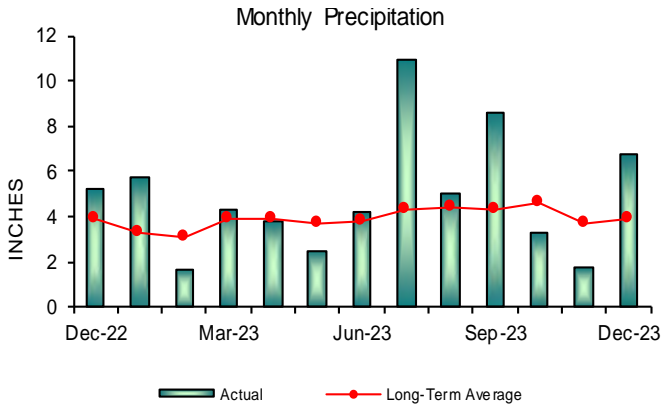
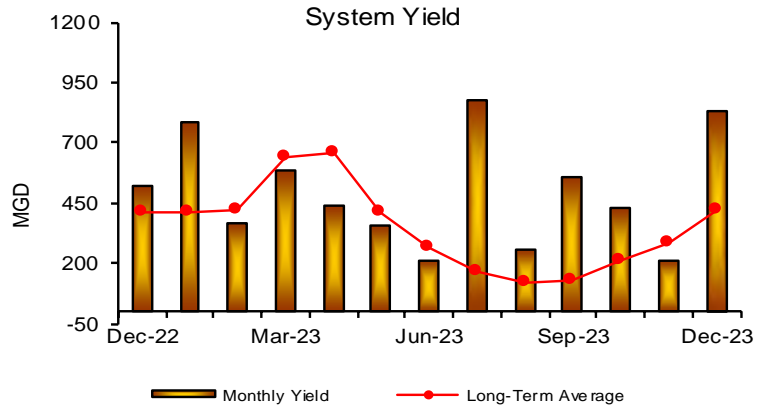
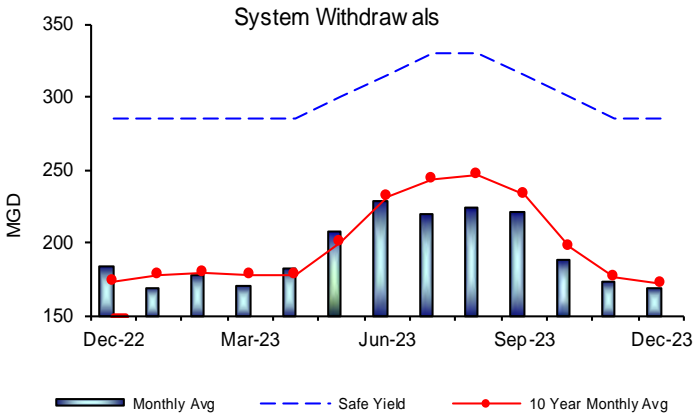
2nd Quarter – FY24

Background

A reliable supply of water in MWRA's reservoirs depends on adequate precipitation during the year and seasonal hydrologic inputs from watersheds that surround the reservoirs. Demand for water typically increases with higher summer temperatures and then decreases as temperatures decline. Quabbin Reservoir was designed to effectively supply water to the service areas under a range of climatic conditions and has the ability to endure a range of fluctuations. Wachusett Reservoir serves as a terminal reservoir to meet the daily demands of the Greater Boston area. A key component to this reservoir's operation is the seasonal transfer of Quabbin Reservoir water to enhance water quality during high demand periods. On an annual basis, Quabbin Reservoir accounts for nearly 50% of the water supplied to Greater Boston. The water quality of both reservoirs (as well as the Ware River, which is also part of the System Safe Yield) depend upon implementation of DCR's DEP-approved Watershed Protection Plans. System Yield is defined as the water produced by its sources, and is reported as the net change in water available for water supply and operating requirements.

Outcome

The volume of the Quabbin Reservoir was at 95.7% as of December 31, 2023; a 0.8 % increase for the quarter, which represents a gain of more than 3.1 billion gallons of storage and an increase in elevation of 0.41'. System withdrawal was below its long term quarterly average. Precipitation and Yield quarterly averages were above their respective long term quarterly averages. Quabbin is in Normal Operating Range for this time of year.



WASTEWATER QUALITY

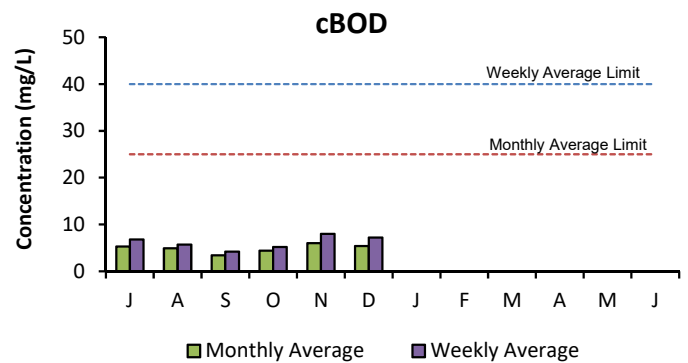
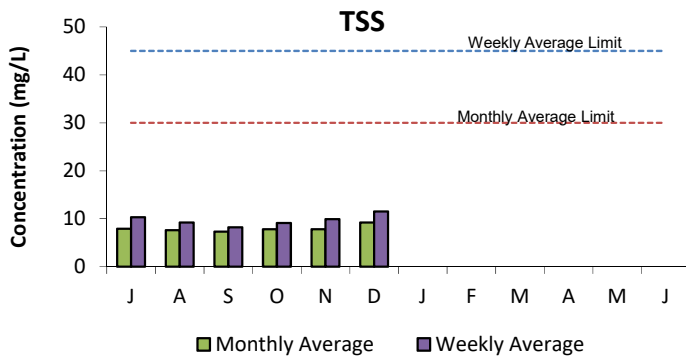
NPDES Permit Compliance: Deer Island Treatment Plant

2nd Quarter - FY24

NPDES Permit Limits

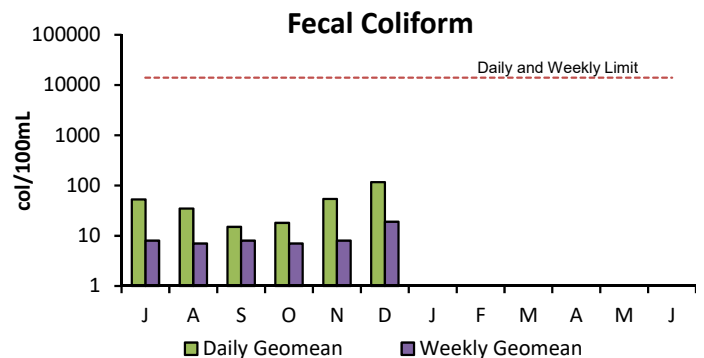
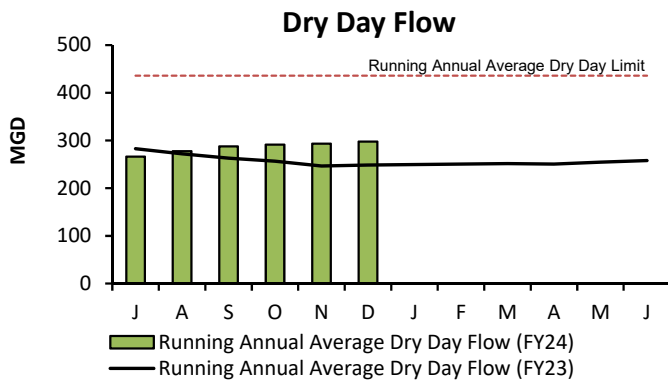
Effluent Characteristics	Units	Limits	October	November	December	2nd Quarter Violations	FY24 YTD Violations	
Dry Day Flow (365 Day Average):	mgd	436	291.3	293.4	297.7	0	0	
cBOD:	Monthly Average	mg/L	4.4	6.0	5.4	0	0	
	Weekly Average	mg/L	5.2	8.0	7.2	0	0	
TSS:	Monthly Average	mg/L	30	7.8	7.8	9.2	0	0
	Weekly Average	mg/L	45	9.1	9.9	11.5	0	0
TCR:	Monthly Average	ug/L	456	0.0	0.0	0.4	0	0
	Daily Maximum	ug/L	631	0.0	0.0	13.3	0	0
Fecal Coliform:	Daily Geometric Mean	col/100mL	14000	18	54	117	0	0
	Weekly Geometric Mean	col/100mL	14000	7	8	19	0	0
	% of Samples >14000	%	10	0	0	0	0	0
Consecutive Samples >14000	#	3	0	0	0	0	0	
pH:	SU	6.0-9.0	6.4-6.8	6.5-6.9	6.4-6.9	0	0	
PCB, Aroclors:	Monthly Average	ug/L	UNDETECTED			0	0	
Acute Toxicity:	Inland Silverside	%	≥50	>100	>100	>100	0	0
	Mysid Shrimp	%	≥50	>100	>100	>100	0	0
Chronic Toxicity:	Inland Silverside	%	≥1.5	25	50	50	0	0
	Sea Urchin	%	≥1.5	100	100	100	0	0

There have been no permit violations in FY24 to date at the Deer Island Treatment Plant (DITP).



Total Suspended Solids (TSS) in the effluent is a measure of the amount of solids that remain suspended after treatment. All TSS measurements for the 2nd Quarter were within permit limits.

Carbonaceous Biochemical Oxygen Demand (cBOD) is a measure of the amount of dissolved oxygen required for the decomposition of organic materials in the environment. All cBOD measurements for the 2nd Quarter were within permit limits.



Running Annual Average Dry Day Flow is the average of all dry weather influent flows over the previous 365 days. The Dry Day Flow for the 2nd Quarter was well below the permit limit of 436 MGD.

Fecal Coliform is an indicator for the possible presence of pathogens. The levels of these bacteria after disinfection show how effectively the plant is inactivating many forms of disease-causing microorganisms. In the 2nd Quarter, all permit conditions for fecal coliform were met.

NPDES Permit Compliance: Clinton Wastewater Treatment Plant

2nd Quarter - FY24

NPDES Permit Limits

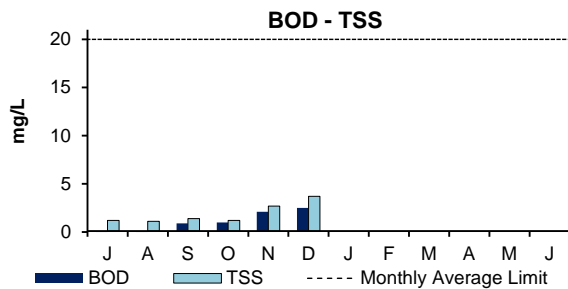
Effluent Characteristics		Units	Limits	October	November	December	2nd Quarter Violations	FY24 YTD Violations
Flow:	12-month Rolling Average:	mgd	3.01	3.17	3.23	3.35	3	3
BOD:	Monthly Average:	mg/L	20	1.0	2.1	2.5	0	0
	Weekly Average:	mg/L	20	1.4	3.8	3.0	0	0
TSS:	Monthly Average:	mg/L	20	1.2	2.7	3.7	0	0
	Weekly Average:	mg/L	20	1.8	4.3	5.1	0	0
pH:		SU	6.5-8.3	7.3-7.7	7.4-7.9	7-7.6	0	0
Dissolved Oxygen:	Daily Average Minimum:	mg/L	6	8.8	9.3	9.9	0	0
E. Coli:	Monthly Geometric Mean:	cfu/100mL	126	7	5	10	0	0
	Daily Geometric Mean:	cfu/100mL	409	27	7	56	0	0
TCR:	Monthly Average:	ug/L	20	0.05	<20	0.13	0	0
	Daily Maximum:	ug/L	30.4	1.67	<20	4.00	0	0
Copper:	Monthly Average:	ug/L	11.6	5.76	6.20	7.19	0	0
	Daily Maximum:	ug/L	14.0	6.30	6.20	7.19	0	0
Total Ammonia Nitrogen: November 1st - March 31st	Monthly Average:	mg/L	6.6	0.01	<0.1	<0.1	0	0
	Daily Maximum:	mg/L	35.0	0.03	<0.1	<0.1	0	0
Total Phosphorus: November 1st - March 31st	Monthly Average:	mg/L	1.00	0.06	0.15	0.14	0	0
	Daily Maximum:	mg/L	RPT	0.16	0.18	0.16	0	0
Acute Toxicity ⁺ :	Daily Minimum:	%	≥100	>100	N/A	N/A	0	0
Chronic Toxicity ⁺ :	Daily Minimum:	%	≥62.5	100.0	N/A	N/A	0	0

There have been three permit violations in FY24 at the Clinton Treatment Plant.

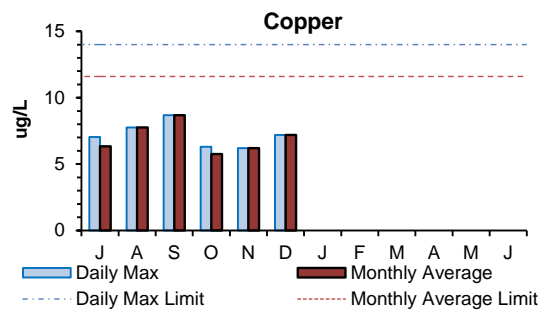
1st Quarter: There were no permit violations in the first quarter.

2nd Quarter: There were three permit violations in the second quarter, each for 12 month rolling-average flow.

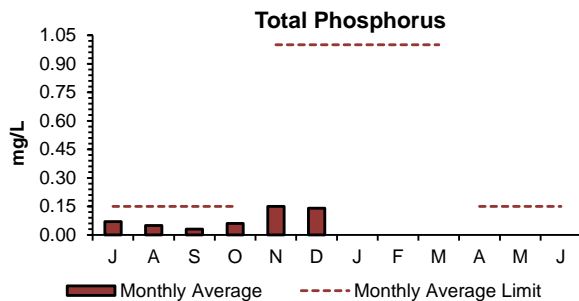
+ Toxicity testing at the Clinton Treatment Plant is conducted on a quarterly basis.



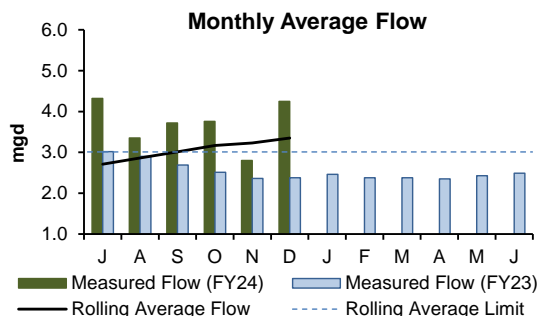
Monthly average concentrations of BOD and TSS were below permit limits in the 2nd Quarter. The permit monthly limit for both parameters is 20 mg/L.



Daily maximum and monthly average concentrations of copper were below permit limits in the 2nd Quarter. Permit daily and monthly limits are 14.0 ug/L and 11.6 ug/L respectively.



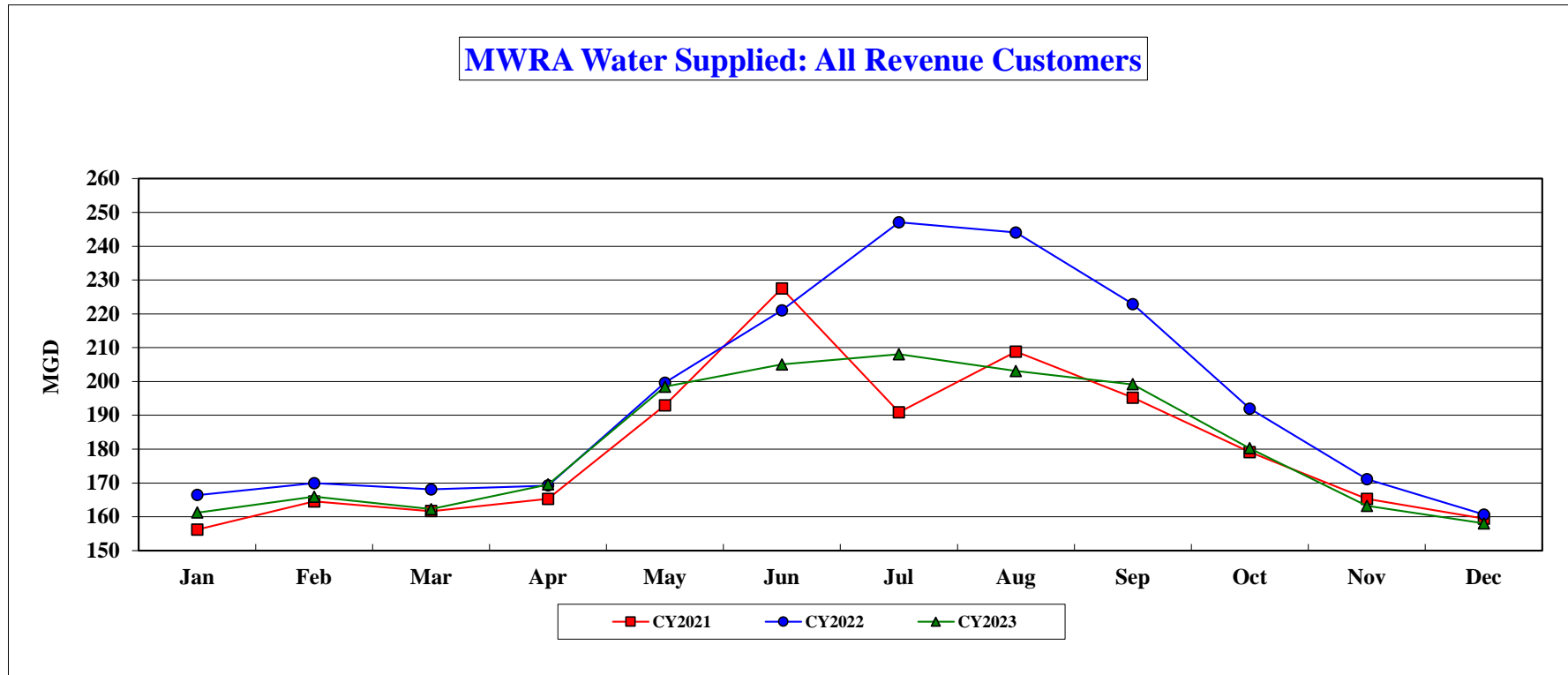
Total phosphorus limits are most stringent during the growing season from April to October. The 2nd Quarter's monthly average concentrations for total phosphorus were below permit limits.



The graph depicts the rolling annual average monthly flow, measured in million gallons per day, exiting the plant. The 12-month rolling average flows during the 2nd Quarter were above the permit limit.

COMMUNITY FLOWS AND PROGRAMS

Customer Water Use 2nd Quarter - FY24



Water Use (million gallons per day)														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD Average	Annual Average
CY2021	156.213	164.567	161.697	165.284	192.998	227.522	190.945	208.810	195.229	179.116	165.302	159.442	180.641	180.641
CY2022	166.445	169.923	168.101	169.253	199.626	221.002	247.075	244.069	222.906	192.000	171.170	160.697	194.537	194.537
CY2023	161.248	165.963	162.265	169.567	198.473	205.015	208.069	203.122	199.168	180.271	163.254	158.074	181.299	181.299

The December 2023 Community Water Use Report was recently distributed to communities and customers served by the MWRA's Metropolitan and Chicopee Valley waterworks systems. Each community's annual water use relative to the system as a whole is the primary factor in allocating the annual water rate revenue requirement to MWRA water communities. Calendar year 2023 water use will be used to allocate the FY2025 water utility rate revenue requirement.

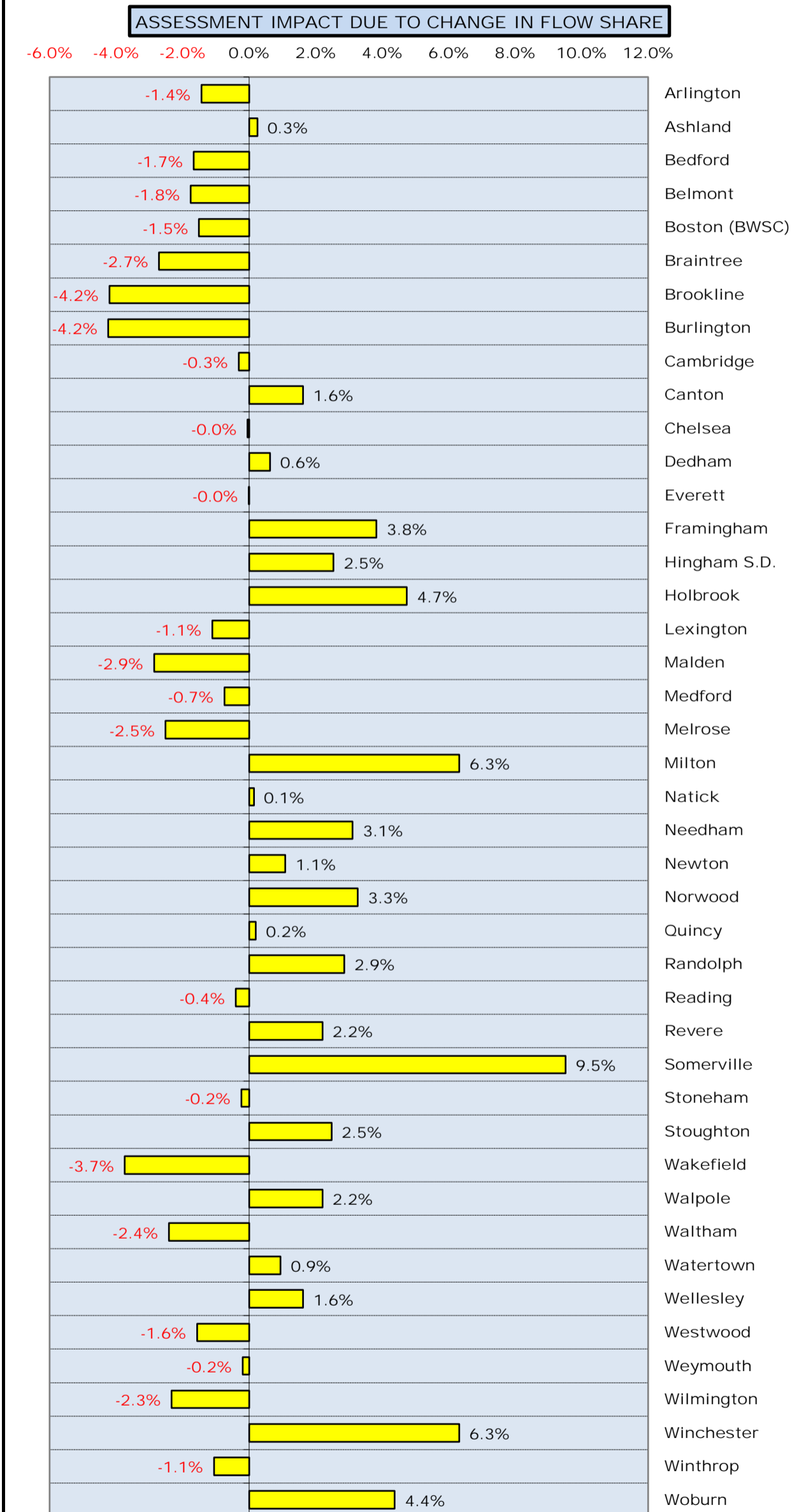
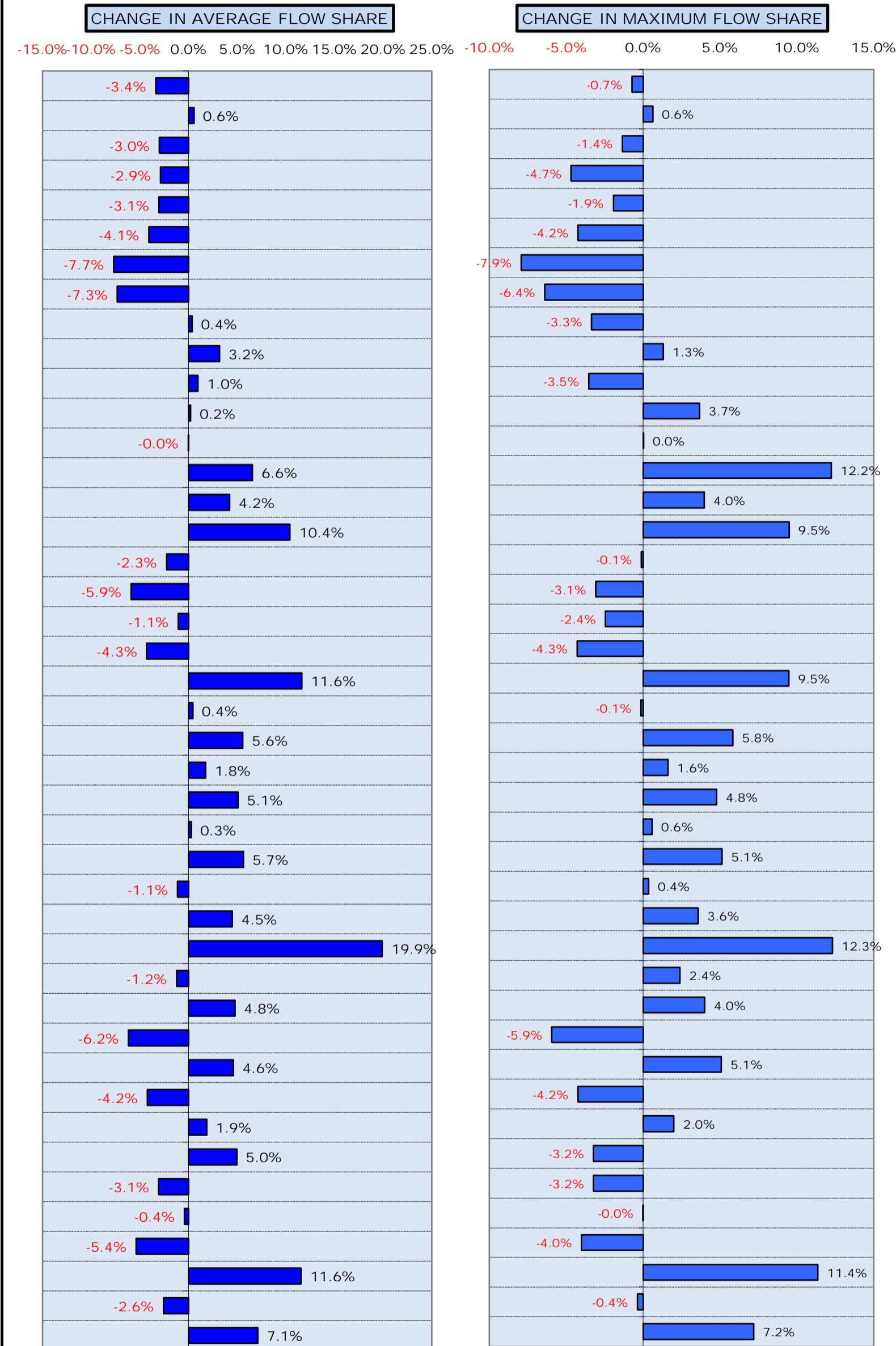
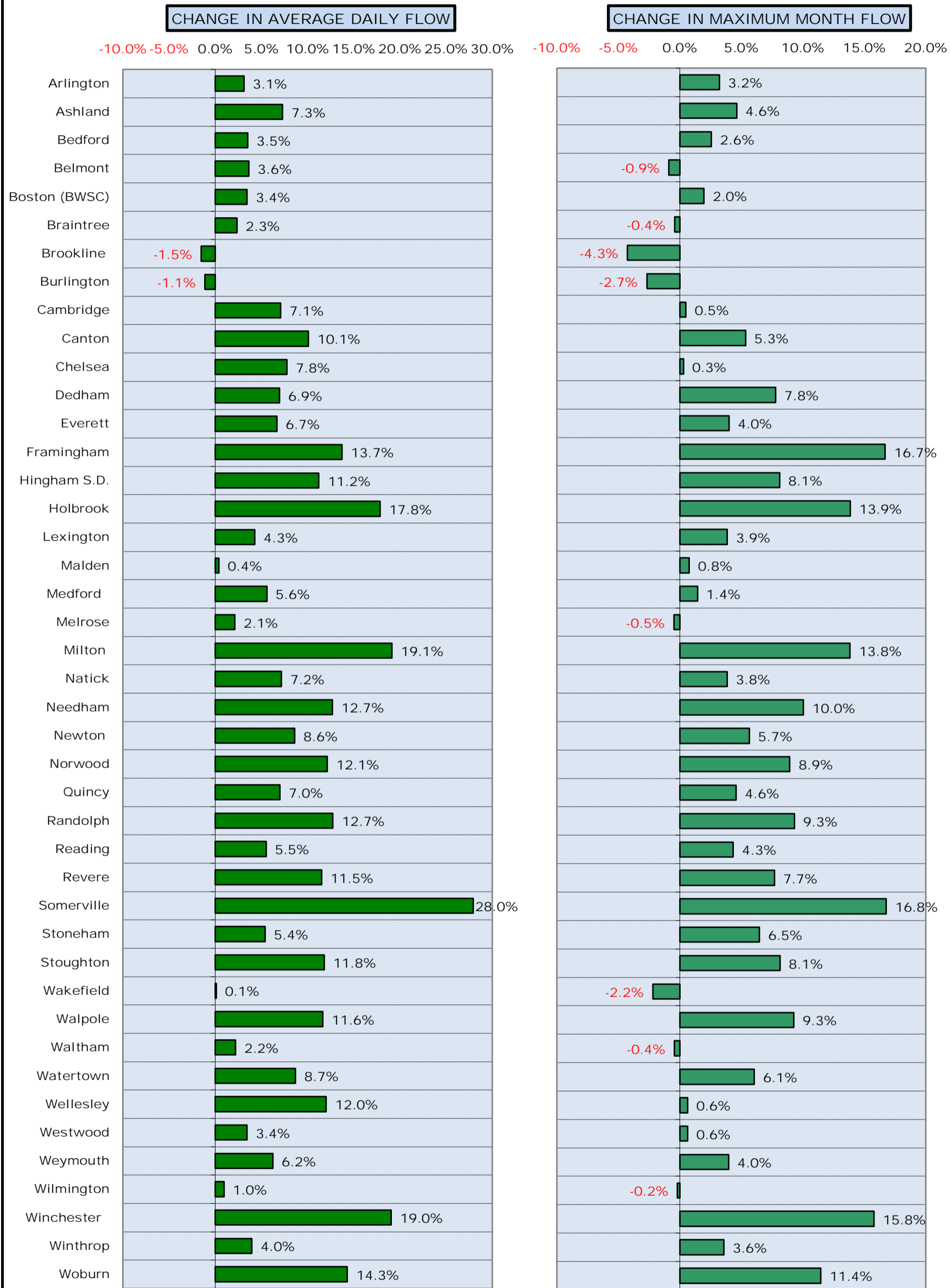
MWRA customers used an average of 167.2 mgd in the 2nd quarter (Oct-Dec 2023) of FY2024. This is a decrease of 7.4 mgd or 4.28% compared to the 2nd quarter of FY2023.

How CY2021-23 Community Wastewater Flows Could Effect FY2025 Sewer Assessments ^{1,2,3}

The flow components of FY2025 sewer assessments will be calculated using a 3-year average of CY2021 to CY2023 wastewater flows compared to FY2024 assessments that will use a 3-year average of CY2020 to CY2022 wastewater flows.

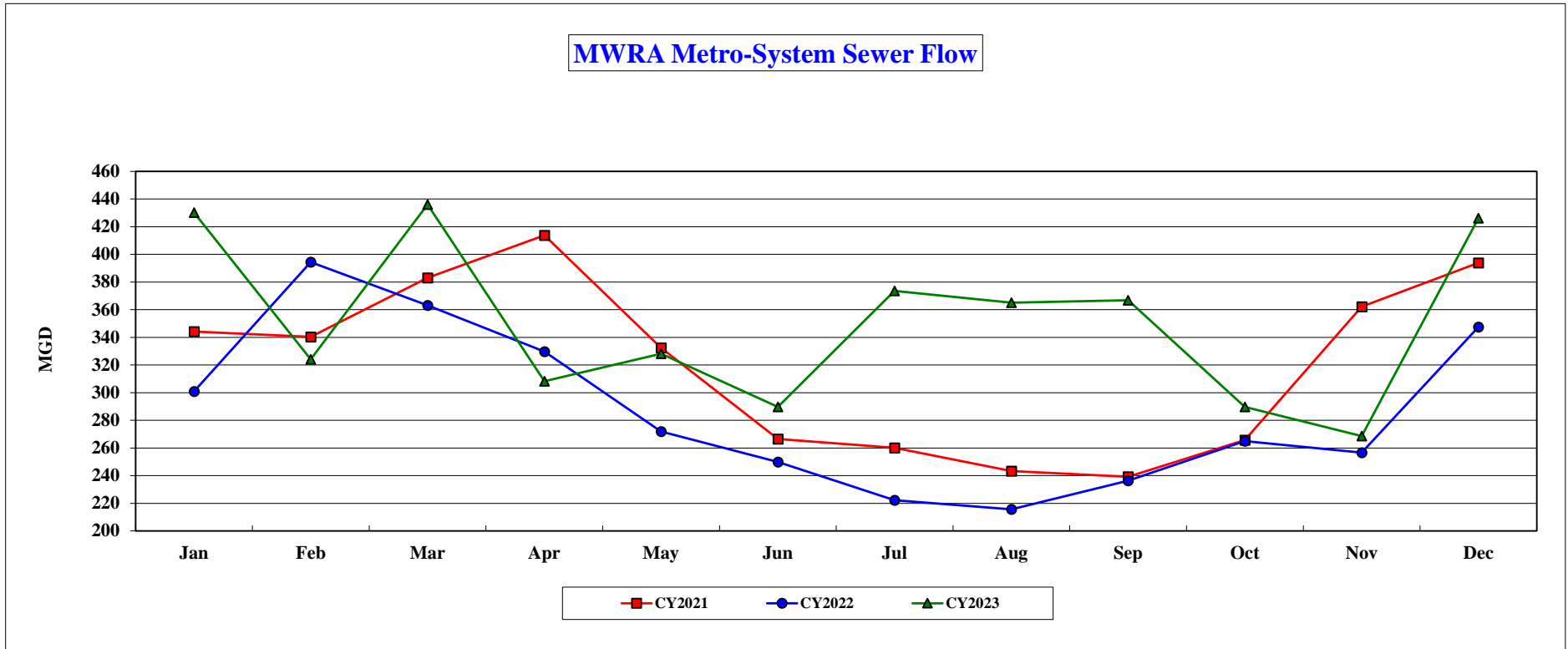
But as MWRA's sewer assessments are a ZERO-SUM calculation, a community's assessment is strongly influenced by the RELATIVE change in CY2021 to CY2023 flow share compared to CY2020 to CY2022 flow share, compared to all other communities in the system.

The chart below illustrates the change in the TOTAL BASE assessment due to FLOW SHARE CHANGES. ⁴



¹ MWRA uses a 3-year flow average to calculate sewer assessments. Three-year averaging smoothes the impact of year-to-year changes in community flow share, but does not eliminate the long-term impact of changes in each community's relative contribution to the total flow.
² Based on actual flows for 2022 and 2023 (through February), and January to March, and June to December 2020. April & May 2020 based on the average of 3 prior years, adjusted for 2020 water use. January to December 2021 estimated based on the average of the 3 prior years.
³ Flow data is preliminary and subject to change pending additional MWRA and community review.
⁴ Represents ONLY the impact on the total BASE assessment resulting from the changes in average and maximum wastewater FLOW SHARES.

Community Sewer Flow YTD - FY24



Sewer Flow (million gallons per day)														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD Average	Annual Average
CY2021	344.203	340.320	383.107	413.769	332.385	266.443	260.030	243.310	239.147	265.670	362.143	393.833	320.199	320.199
CY2022	300.930	394.400	363.110	329.710	271.890	249.840	222.280	215.600	236.380	264.960	256.590	347.420	287.098	287.098
CY2023	430.140	324.050	436.070	308.150	328.200	289.710	373.580	365.150	366.850	289.710	268.570	426.160	351.209	351.209

The 2023 12-Month Community Sewer Flow Report was recently distributed to the 43 communities served by the MWRA's Metropolitan sewer system. Each community's share of sewer flow relative to the system as a whole is used to allocate the annual sewer rate revenue requirement to MWRA sewer communities. The average of calendar year 2021-2023 sewer flow will be used to allocate the FY2025 sewer utility rate revenue requirement.

MWRA customer sewer flow averaged 351.2 mgd in CY2023. This is an increase of 61.1 mgd or 22.3% compared to CY2022.

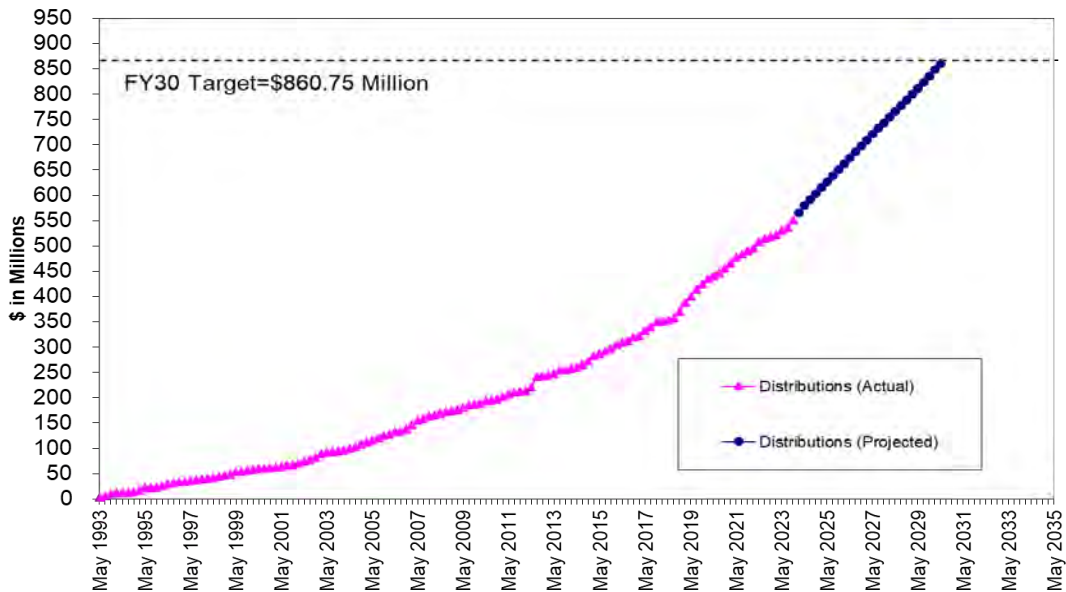
Community Support Programs

2nd Quarter – FY24

Infiltration/Inflow Local Financial Assistance Program

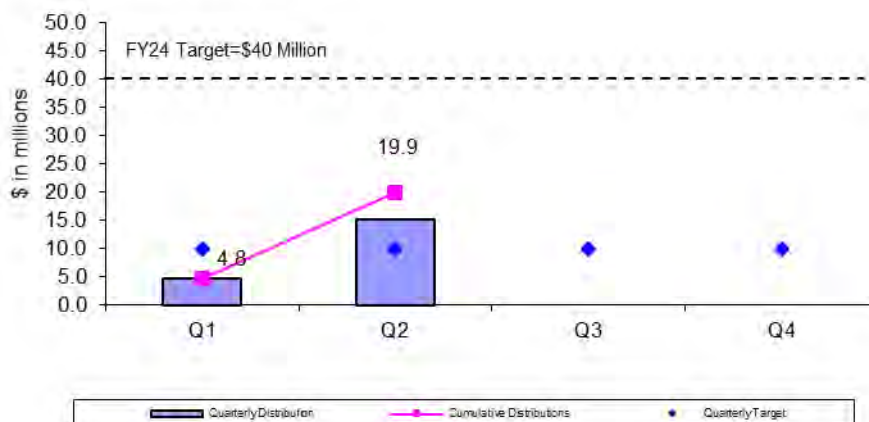
MWRA's Infiltration/Inflow (I/I) Local Financial Assistance Program provides \$860.75 million in grants and interest-free loans (average of about \$22 million per year from FY93 through FY30) to member sewer communities to perform I/I reduction and sewer system rehabilitation projects within their locally-owned collection systems. Eligible project costs include: sewer rehabilitation construction, pipeline replacement, removal of public and private inflow sources, I/I reduction planning, engineering design, engineering services during construction, etc. I/I Local Financial Assistance Program funds are allocated to member sewer communities based on their percent share of MWRA's wholesale sewer charge. Phase 1-8 funds (total \$300.75 million) were distributed as 45% grants and 55% loans with interest-free loans repaid to MWRA over a five-year period. Phase 9 through 12 funds (total \$360 million) are distributed as 75% grants and 25% loans with interest-free loans repaid to MWRA over a ten-year period. Phase 13 provides an additional \$100 million in ten-year loan-only funds. Phase 14 funds (total \$100 million) are distributed as 75% grants and 25% loans with interest-free loans repaid to MWRA over a ten-year period.

I/I Local Financial Assistance Program Distribution FY93-FY30



During the 2nd Quarter of FY24, \$15.1 million in financial assistance (grants and interest-free loans) was distributed to fund local sewer rehabilitation projects in Boston, Brookline, Dedham, Somerville, Stoneham, Wakefield, and Westwood. Total grant/loan distribution to date for FY24 is \$19.9 million. From FY93 through the 2nd Quarter of FY24, all 43 member sewer communities have participated in the program and \$551 million has been distributed to fund 676 local I/I reduction and sewer system rehabilitation projects. Distribution of the remaining funds has been approved through FY30 and community loan repayments will be made through FY40. All scheduled community loan repayments have been made.

FY24 Quarterly Distributions of Sewer Grant/Loans



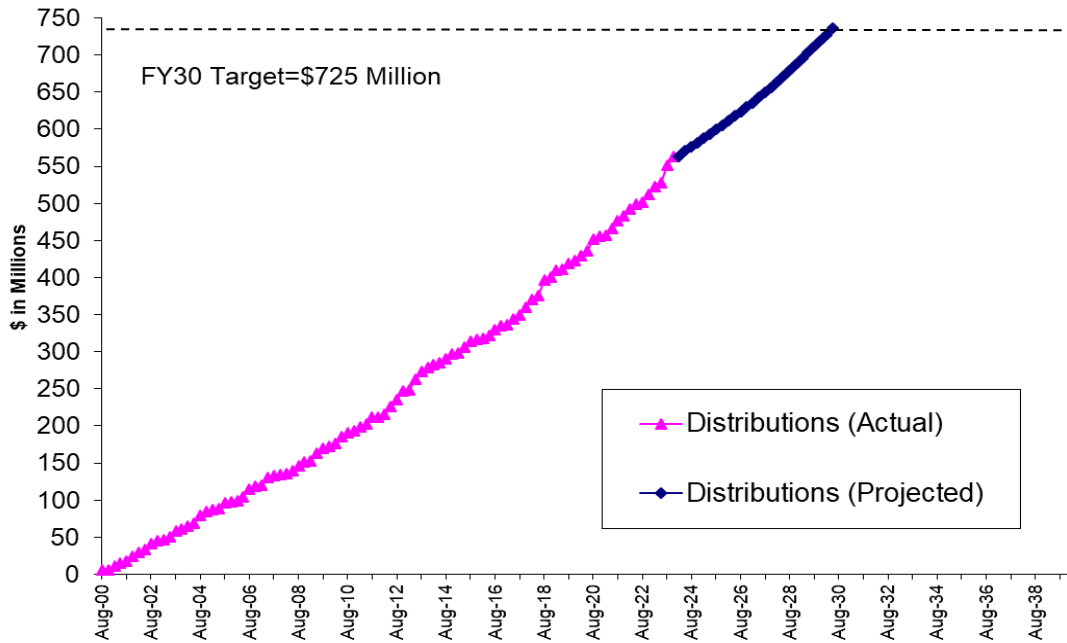
Community Support Programs

2nd Quarter – FY24

Local Water System Assistance Program

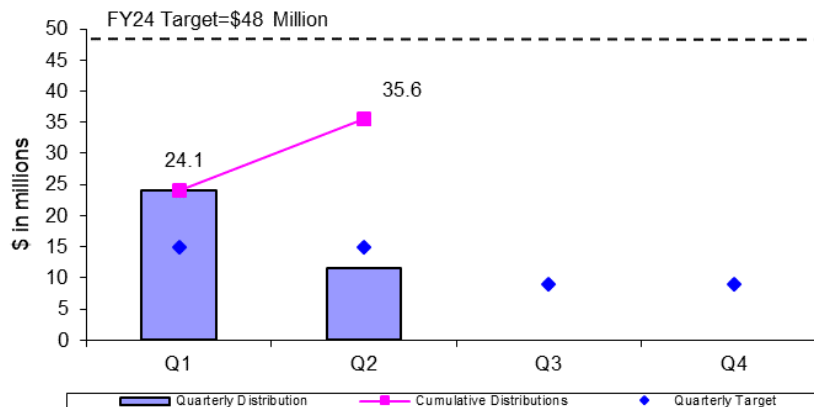
MWRA's Local Water System Assistance Programs (LWSAP) provides \$725 million in interest-free loans (an average of about \$24 million per year from FY01 through FY30) to member water communities to perform water main rehabilitation projects within their locally-owned water distribution systems. There have been three (3) funding phases: Phase 1 at \$222 Million, Phase 2 at \$210 Million, and Phase 3 at \$293 Million. Eligible project costs include: water main cleaning/lining, replacement of unlined water mains, lead service replacements, valve, hydrant, water meter, tank work, engineering design, engineering services during construction, etc. MWRA partially-supplied communities receive pro-rated funding allocations based on their percentage use of MWRA water. Interest-free loans are repaid to MWRA over a ten-year period beginning one year after distribution of the funds. The Phase 1 water loan program concluded in FY13 with \$222 million in loan distributions. The Phase 2 - LWSAP continues distributions through FY25. The Phase 3 Water Loan Program is authorized for distributions from FY18 through FY30.

Local Water System Assistance Program Distribution FY01-FY30



During the 2nd Quarter of FY24, \$11.5 million in interest-free loans was distributed to fund local water projects in Boston, and Newton. Total loan distribution to date for FY24 is \$35.6 million. From FY01 through the 2nd Quarter of FY24, \$563 million has been distributed to fund 529 local water system rehabilitation projects in 43 MWRA member water communities. Distribution of the remaining funds has been approved through FY30 and community loan repayments will be made through FY40. All scheduled community loan repayments have been made.

FY24 Quarterly Distributions of Water Loans



Community Support Programs

2nd Quarter – FY24

Lead Service Line Replacement Loan Program

By its vote on March 16, 2016, the Board approved an enhancement to the Local Water System Assistance Program to provide up to \$100 million in 10-year zero-interest loans to communities solely for efforts to fully replace lead service lines. The Lead Service Line Replacement Loan Program is also referenced as the Lead Loan Program or LLP. Each community can develop its own program, tailored to their local circumstances. MWRA's goal in providing financial assistance to member communities is to improve local water systems so that the high quality water MWRA delivers can make it all the way to the consumer's tap. The presence of a lead service line connecting a home to the main in the street can lead to elevated lead levels in tap water, especially if that water sits stagnant for an extended period. MWRA's stable water quality and effective corrosion control treatment reduce the risk that a lead service line will cause elevated lead levels, and measured lead levels in high risk homes have decreased by 90 percent since corrosion control was brought on-line in 1996. However, the risk of elevated levels remains as long as lead service lines are in use. To date, \$41.3 million dollars have been distributed to 17 communities.

FY17 was the first year of the Lead Service Line Replacement Loan Program - MWRA made three Lead Loans.

FY18 was the second year of the Lead Loan Program - MWRA made five Lead Loans.

FY19 was the third year of the Lead Loan Program - MWRA made four Lead Loans.

FY20 was the fourth year of the Lead Loan Program - MWRA made eight Lead Loans.

FY21 is the fifth year of the Lead Loan Program - MWRA made seven Lead Loans.

FY22 is the sixth year of the Lead Loan Program - MWRA made six Lead Loans.

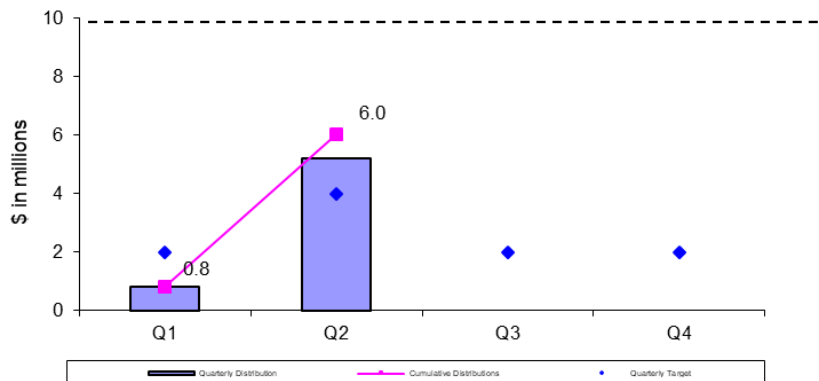
FY23 is the seventh year in the Lead Loan Program - MWRA has made six Lead Loans.

FY24 is the eighth year in the Lead Loan Program - MWRA has made five Lead Loans in the first two quarters.

Summary of Lead Loans:

Chelsea in FY24	\$0.30	Million	Everett in FY20	\$0.50	Million
Melrose in FY24	\$1.04	Million	Marlborough in FY20	\$1.00	Million
Lexington in FY24	\$3.88	Million	Winchester in FY20	\$0.60	Million
Watertown in FY24	\$0.30	Million	Winthrop in FY20	\$0.70	Million
Malden in FY24	\$0.50	Million	Weston in FY20	\$0.20	Million
Chelsea in FY23	\$0.50	Million	Everett in FY20	\$1.00	Million
Watertown in FY23	\$0.30	Million	Somerville in FY20	\$0.90	Million
Winthrop in FY23	\$0.70	Million	Chelsea in FY20	\$0.30	Million
Reading in FY23	\$1.50	Million	Marlborough in FY19	\$1.00	Million
Watertown in FY23	\$0.30	Million	Winthrop in FY19	\$0.50	Million
Winchester in FY23	\$0.60	Million	Chelsea in FY19	\$0.10	Million
Everett in FY22	\$1.50	Million	Everett in FY19	\$1.00	Million
Boston in FY22	\$0.90	Million	Needham in FY18	\$1.00	Million
Winthrop in FY22	\$0.80	Million	Winchester in FY18	\$0.50	Million
Somerville in FY22	\$1.60	Million	Revere in FY18	\$0.20	Million
Revere in FY22	\$1.30	Million	Winthrop in FY18	\$0.30	Million
Chelsea in FY22	\$0.30	Million	Marlborough in FY18	\$1.00	Million
Watertown in FY21	\$0.60	Million	Newton in FY17	\$4.00	Million
Marlborough in FY21	\$2.00	Million	Quincy in FY17	\$1.50	Million
Everett in FY21	\$1.50	Million	Winchester in FY17	\$0.50	Million
Boston in FY21	\$2.60	Million			
Winthrop in FY21	\$0.80	Million	TOTAL	\$41.3	Million
Chelsea in FY21	\$0.30	Million			
Winchester in FY21	\$0.60	Million			

FY24 Quarterly Distributions of Lead Service Line Replacement Loans

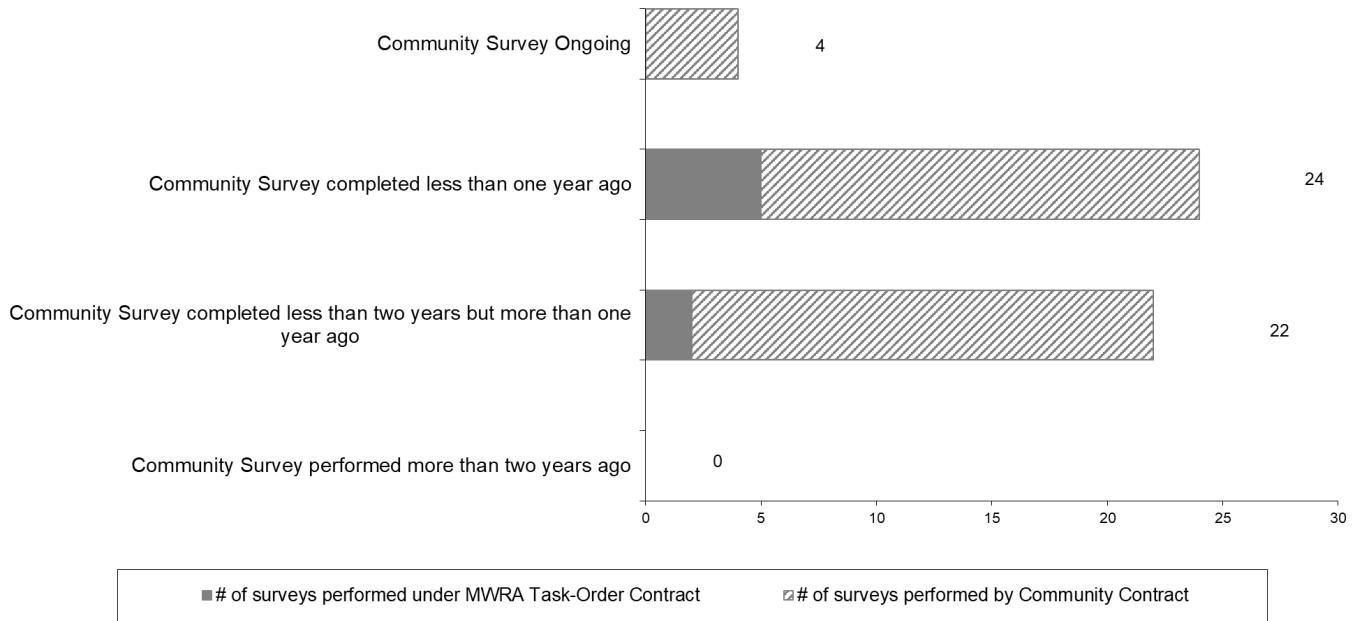


Community Support Programs

2nd Quarter – FY24

Community Water System Leak Detection

To ensure member water communities identify and repair leaks in locally-owned distribution systems, MWRA developed leak detection regulations that went into effect in July 1991. Communities purchasing water from MWRA are required to complete a leak detection survey of their entire distribution system at least once every two years. Communities can accomplish the survey using their own contractors or municipal crews; or alternatively, using MWRA’s task order leak detection contract. MWRA’s task order contract provides leak detection services at a reasonable cost that has been competitively procured (3-year, low-bid contract) taking advantage of the large volume of work anticipated throughout the regional system. Leak detection services performed under the task order contract are paid for by MWRA and the costs are billed to the community the following year. During the 2nd Quarter of FY24, all member water communities were in compliance with MWRA’s Leak Detection Regulation.



Community Water Conservation Outreach

MWRA’s Community Water Conservation Program helps to maintain average water demand below the regional water system’s safe yield of 300 mgd. Current 5-year average water demand is less than 200 mgd. The local Water Conservation Program includes distribution of water conservation education brochures (indoor - outdoor bill-stuffers) and low-flow water fixtures and related materials (shower heads, faucet aerators, and toilet leak detection dye tabs), all at no cost to member communities or individual customers. The Program’s annual budget is \$25,000 for printing and purchase of materials. Annual distribution targets and totals are provided in the table below. Distributions of water conservation materials are made based on requests from member communities and individual customers.

	Annual Target	Q1	Q2	Q3	Q4	Annual Total
Educational Brochures	100,000	357	8,330			8,687
Low-Flow Fixtures (showerheads and faucet aerators)	10,000	1,175	796			1,971
Toilet Leak Detection Dye Tablets	_____	1,065	193			1,258

BUSINESS SERVICES

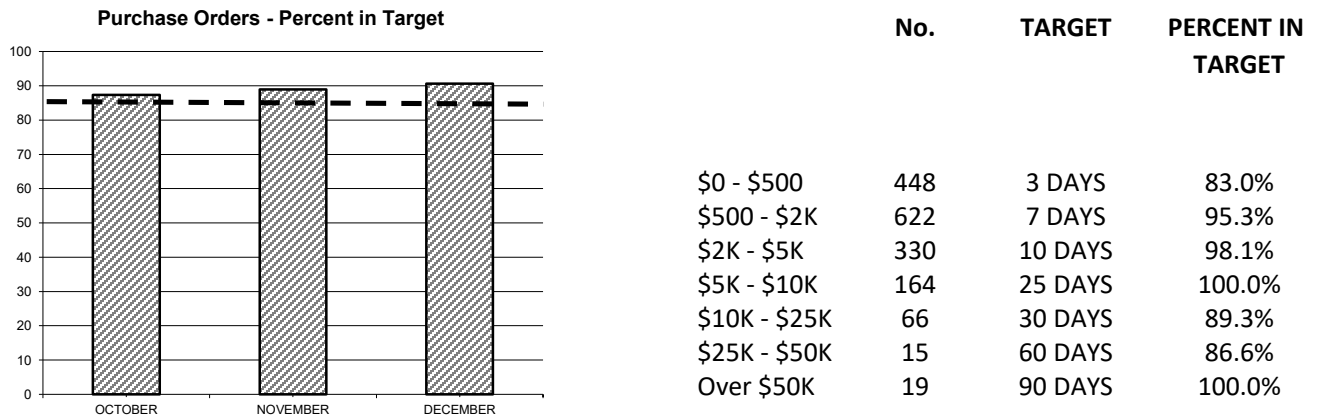
Procurement: Purchasing and Contracts

2nd Quarter - FY24

Background: Goal is to process 85% of Purchase Orders and 80% of Contracts within Target timeframes.

Highlights: Processed 93% of purchase orders within target; Average Processing Time was 4.14 days vs. 5.04 days in Qtr 2 of FY23. Processed 53% (8 of 15) of contracts within target timeframes; Average Processing Time was 172 days vs. 199 days in Qtr 2 of FY23.

Purchasing



The Purchasing Unit processed 1664 purchase orders, 14 less than the 1678 processed in Qtr 2 of FY23 for a total value of \$7,668,533 versus a dollar value of \$11,782,181 in Qtr 2 of FY23.

The purchase order processing target was not met for the \$0 - \$500 dollar category due to vendor delays providing quotes and end user approvals.

Contracts, Change Orders and Amendments

Procurement executed fifteen contracts with a value of \$375,324,349 and thirteen amendments with a value of \$2,936,238. Seven contracts were not executed within the target timeframes. One contract was cancelled due to the inability of the contractor to obtain DCAMM re-certification. Another contract was delayed due to delays obtaining permits resulting in a project time extension. A third contract was delayed due to a significant number of addendas which extended the bid opening date in addition to the need for considerable discussion regarding the status of the low bidder. An additional three contracts were delayed due to the consultant's use of a large number of sub-consultants resulting in delayed cost data submittals. The final contract was delayed given that the contract required a two-stage procurement process resulting in a longer processing time.

Staff reviewed 53 proposed change orders and 21 draft change orders.

Twenty three change orders were executed during the period. The dollar value of all non-credit change orders during Qtr 2 was \$1,380,114 and the value of credit change orders was (\$3,556,415).

Note: A credit change order is a change order that results in a decrease in contract value.

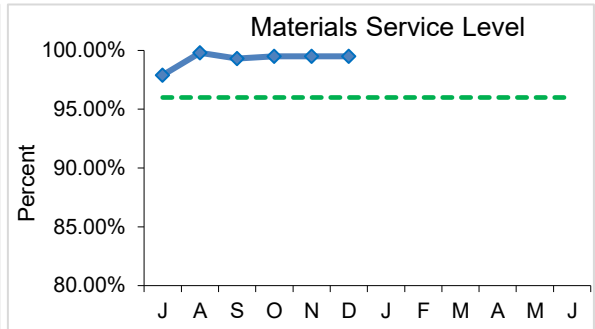
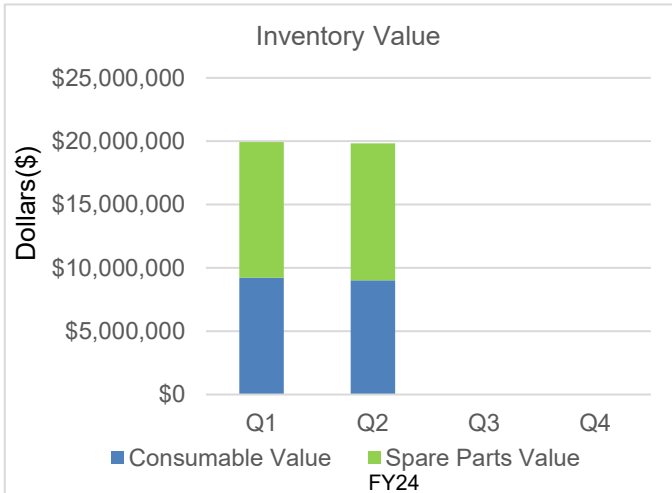
Materials Management

2nd Quarter - FY24

The Materials Management department manages the three regional warehouses (Chelsea, Deer Island and Southboro). This includes the replenishment and receipt of both consumable and spare parts items to meet the needs of the MWRA. Additionally, MWRA tools and equipment are safeguarded through the Property Pass unit within the Materials Management department.

Inventory goals focus on:

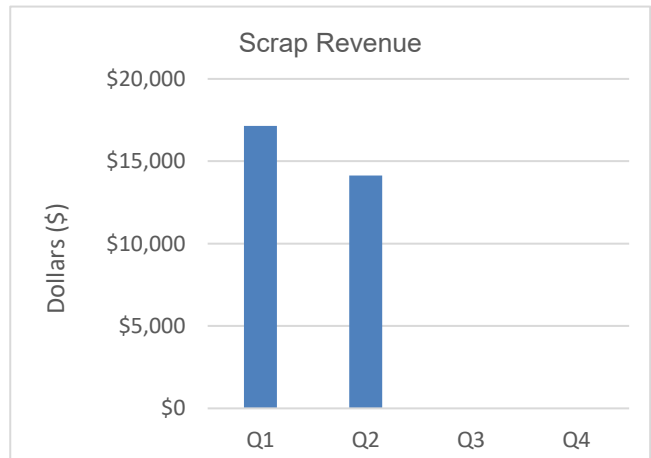
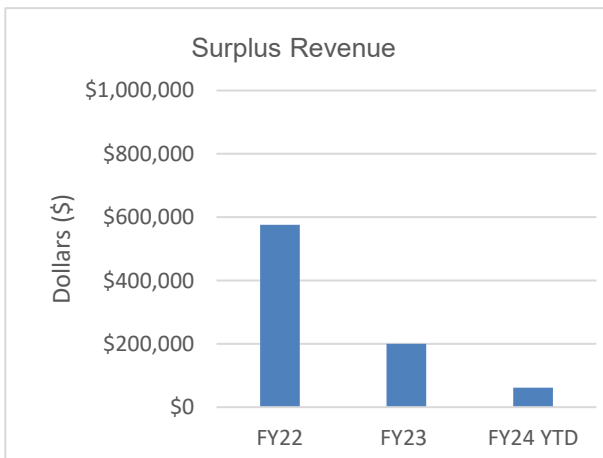
- Maintaining optimum levels of consumables inventory (office supplies, electrical, safety, etc.) and spare parts inventory (critical items such as actuators, motors, muffin monsters, etc.) necessary to support MWRA Operations and Maintenance. Typically spare parts carry longer lead times.
- Adding new items to inventory to meet changing business needs.
- Reviewing consumables and spare parts for obsolescence.
- Managing and controlling valuable equipment and tools via the Property Pass Program.



The service level is the percentage of stock requests filled. The goal is to maintain a service level of 96%. Staff issued 7,626 (99.5%) of the 7,667 items requested in Q2 from the inventory locations for a total dollar value of \$610,308.

Property Pass Program:

- Conducts audits of tools and equipment to ensure the safeguarding of MWRA assets.
- Manages the disposition and sale of surplus tools and equipment through GovDeals, an online auction site.
- Manages the surplusing of scrap metals and materials generating revenue to the MWRA staff.

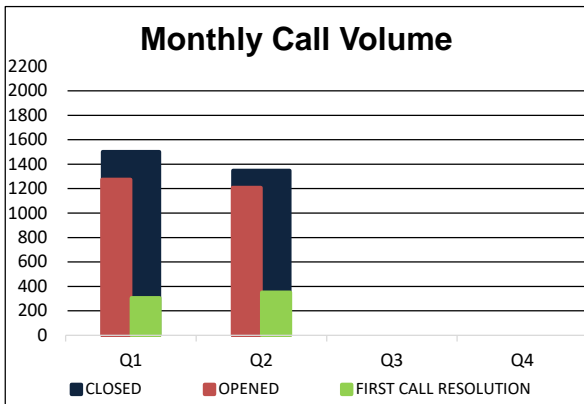


MIS Program

2nd Quarter – FY24

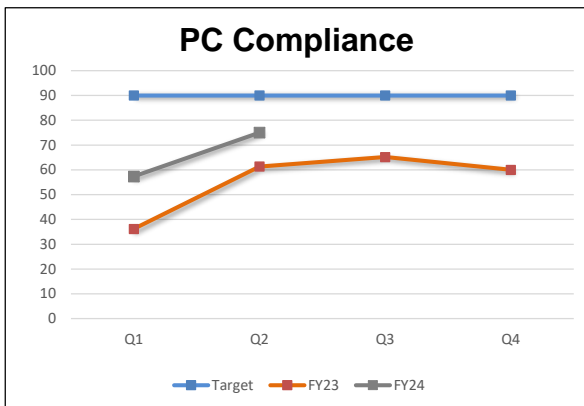
Numbers & Statistics

Monthly Call Volume



Summary of calls managed by the Helpline.

PC Compliance



Percentage of user endpoints that are in compliance with system updates. These numbers are a direct reflection of accessibility to these systems. Daytime patching began in January for mobile devices.

Project Updates

Infrastructure & Security

Network Resiliency Improvements: SD-WAN implementation completed at all MPLS sites. Migration of branch offices to Fortigate firewalls underway. Wireless network expanded to DI Admin Lab 3rd & 4th floor, Cosgrove, Southboro, and CWTP.

VMWare Workspace ONE: Smartphone users migrated to the new solution for email access on mobile devices. MIS staff devices migrated to new WorkspaceONE and all new device deployments will be on WorkspaceONE.

Conference Room Media Upgrades: Upgraded 13 of 16 conference rooms have been to new MWRA meeting standard across the Authority. Three rooms are awaiting procurement of additional media kits.

Security Awareness Training: Cyber Security Training rolled out at the start of October. 62 % of staff (690/1120) completed training during the quarter.

VOIP: Migrated additional DITP extensions to Cisco VOIP solution, remaining migrations pending cabling upgrades.

MFD Hardware Refresh: Completed hardware refresh of 64 MFDs

Core Switch Hardware Refresh: Kickoff held and switches being configured by vendor. Implementation scheduled to begin in March.

Oracle Database Upgrades: Completed upgrades of Dev, Test and Production databases.

Library, Record Center, & Training

Library: Undertook 10 research requests, supplied books and reports for circulation. Renewed various library subscriptions. The MWRA Library Portal supported 430 end user searches. Research topics included: Common Algae in freshwater, foundation of dynamic equipment and Nitrogen removal in an oxygen facility.

Record Center (RC): Added 37 new boxes to the RC and handled 125 total boxes. The RC Manager attended 2 virtual RCB meetings. The RC shredded on-site eight 65-gallon bins, and one 96-gallon bin of confidential documentation. The RC performed 29 database/physical box searches for various departments. Research included: Invoices, staff summaries, AP vouchers. Geo samples and project related information. The RC staff is involved in on-going ECM training and testing to upgrade our Record Management database.

MIS Training: In Q2, 3 online IT lessons were taken (8 YTD), by 62 employees (124 YTD).

Applications

ECM/Electronic Document Management: Completed User Acceptance Testing and went live with all Engineering and Construction workflows in mid-November. Continued to work with vendor to fix minor issues as they occur. Plan to migrate all DITP drawings into production in January.

MWRA Website Refresh: Received the first iteration of the new mwra.com. MWRA and the vendor are working together to test and update the new site with all of the information from the old site. Go live planned for early 2024.

Infor Upgrade/Migration: MIS, end users and the vendor completed the project kick off, current state review and the Reports, Integrations, Customizations and Extensions (RICE) discovery. The SaaS (cloud) environments are configured and integrated with OKTA. Began preparation for the data migration and conference room pilot (design workshop – planned for in early February). MIS staff attended a technical training workshop hosted by the vendor.

Maximo/Lawson Interface: Currently in final preparations for User Acceptance Testing (UAT). Development is complete, messages that need to be reprocessed due to errors are being analyzed for remediation and reprocessing and reports have been completed. Configured the Maximo Test server for use in testing. UAT expected to finish in February with a production implementation planned for late March.

Discoverer to Business Objects Enterprise (BOE) Migration: Successfully completed this upgrade and migration project. Upgraded all Business Object reports to BOE version 4.3 and migrated the Oracle Discoverer reports to the SAP Webi platform. Training was provided to end users and administrators.

Maximo Version Upgrade: MIS staff continues to configure and validate the upgraded development and test environments that are using the latest versions of the application. Once validated, the production environment will be built and implemented as part of the Maximo-Lawson Interfaces project. MIS staff is also reviewing application security groups and reconciling user access against licensing entitlements.

Legal Matters 2nd Quarter FY2024

PROJECT ASSISTANCE – 2nd Quarter FY 2024

Real Estate, Contract, Energy, Environmental and Other Support:

- **8(m) Permits and License Agreements:** Reviewed eighty-nine (89) 8(m) permits, including any related MEPA Section 61 Findings.
- **Real Property:** Assisted with notice of offer letter, an offer of acceptance, grant of easements, trustees' certificate, plans, and six licenses related to the acquisition of certain property rights needed for MWRA Contract 6224/6225 - Siphon and Junction Rehabilitation Phase I and MWRA Contract 7991/6898 – West Roxbury Tunnel Inspection – Sections 637 and 637A.

Assisted with three draft notices of offer and plan related to the acquisition of certain property rights needed for MWRA Contract 7117 - Northern Intermediate High Section 89 Pipeline. Reviewed property rights in Newton for existing water main in Commonwealth Avenue.

Reviewed property rights in West Newton in the area of Cheesecake Brook.

Prepared staff summary and three eminent domain orders of taking and related documents for the acquisition of certain property rights needed for MWRA Contract 6224/6225 - Siphon and Junction Rehabilitation Phase I and MWRA Contract 7991/6898 – West Roxbury Tunnel Inspection – Sections 637 and 637A. Reviewed new plan and easement locations related to the acquisition of certain property rights needed for MWRA Contract 7117 - Northern Intermediate High Section 89 Pipeline.

Drafted cease and desist order for unpermitted work being performed at 352 Broadway in Saugus in the immediate vicinity of MWRA's Section 70 Northern High Service water pipeline. Assisted with preparation of materials for surplus of an sewer easement on Charles Park Road, Boston to DCAMM.

Finalized three eminent domain orders of taking and related documents and three notice of taking letters for the acquisition of certain property rights needed for MWRA Contract 6224/6225 - Siphon and Junction Rehabilitation Phase I and MWRA Contract 7991/6898 – West Roxbury Tunnel Inspection – Sections 637 and 637A.

Assisted with notices of offer related to the acquisition of certain property rights needed for MWRA Contract 7117 - Northern Intermediate High Section 89 Pipeline. Assisted with Notice to Extend Records Center Lease Temporary Expansion Space.

- **Energy:** Reviewed public notice regarding the Department of Public Utilities investigation of the *Petition of Massachusetts Electric Company and Nantucket Electric Company, each d/b/a National Grid, pursuant to G.L. c. 164, § 94 and 220 CMR 5.00, for Approval of a General Increase in Base Distribution Rates for Electric Service and a Performance-Based Ratemaking Plan*. D.P.U. 23-150.
- **Environmental:** Assisted Operations and Procurement with Pellet Plant Operator solicitation and draft contractor agreement.

Assisted Operations in the preparation of comments regarding the draft NPDES permit, and related state permit, for the Deer Island Treatment Plant.

Prepared and finalized First Amendments to the Memorandum of Understanding and Financial Assistance Agreement with the Boston Water and Sewer Commission for the implementation of Fort Point Channel and Mystic/Chelsea Confluence Combined Sewer Overflow Control Projects.

- **Miscellaneous:** Participated as a Selection Committee Member in the RFQ/P for Broker/Dealer Services, MWRA Contract No. F271. Participated as a Selection Committee Member in the RFQ/P for Bond Counsel services, MWRA Contract F273. Reviewed and edited MCLE Environmental Law chapter regarding the Authority's history, intent, and key provisions.

Assisted Tunnel Redundancy Program regarding access notice letters for test borings on various properties. Reviewed Massachusetts House Bill H.2096.

- **Public Records Requests:** During the months of October, November and December 2023, MWRA received and responded to one hundred fifty two (152) public records requests.

LITIGATION/CLAIMS – 2nd Quarter FY 2024

New Lawsuits:

- There are three new lawsuits in the 2nd Quarter FY 2024

In Re: Zymergen, Inc., et al.; USBC Delaware Case No. 23-11661-KBO

On Nov 6, 2023 Law Division received a Notice of Chapter 11 bankruptcy. Law Division determined that MWRA does not have a claim as a creditor.

In re Rite Aid Corp. et al., USBC New Jersey, Case No. 23-18993

On December 1, 2023, Law Division received a Notice of Chapter 11 bankruptcy. Law Division determined that MWRA does not have a claim as a creditor.

In re Payment Card Interchange Fee and Merchant Discount Antitrust Litigation, USDC (E.D. N.Y.), MDL 1720 (MKB)

MWRA received notice of a class action settlement with Visa, MasterCard and their issuing banks. Plaintiffs alleged that defendants wrongfully inflated Interchange fees from January 1, 2004 through January 25, 2019.

New Claims:

- There are no new claims in 2nd Quarter FY 2024.

Significant Developments:

- In re Aqueous Film-Forming Foam Products Liability Litigation, MDL No. 2:18-mn-02873-RMG U.S. District Court for the District of South Carolina: PFAS Class Action Settlements MWRA filed Requests for Exclusion, opting out of settlements in these class actions.
- (Current employee) v. MWRA, et al.; Suffolk Superior Court C.A. No. 284CV01434. Mediation conducted.

Closed Cases:

- There was one closed case in 2nd Quarter FY 2024:

MWRA v. Department of Unemployment Assistance and (former employee), Chelsea District Court, 2314CV180. The Court allowed MWRA’s Motion for Judgment on the Pleadings and reversed the DUA’s decision, ordering the entry of a finding of ineligibility. The DUA had sixty days to appeal by October 10. No appeal filed, the matter is closed.

Closed Claims:

- There was one closed claim in 2nd Quarter FY 2024:

Edgar G. Marques MVA Claim: Settled for \$50,000. Release executed and the matter is closed.

Subpoenas:

- During the 2nd Quarter FY 2024, one subpoena was received and one subpoena is pending.

Wage Garnishments

- There is one wage garnishment matter that is active and monitored by Law Division.

SUMMARY OF PENDING LITIGATION MATTERS

TYPE OF CASE/MATTER	As of Dec 2023
Construction/Contract/Bid Protest	1
Tort/Labor/Employment	3
Environmental/Regulatory/Other	3
Eminent Domain/Real Estate	0
TOTAL	7
Other Litigation matters (restraining orders, etc.) - Class Action suits	2
TOTAL – all pending lawsuits	9
Claims not in suit	0
Bankruptcy	5
Wage Garnishment	1
TRAC/Adjudicatory Appeals	3
Subpoenas	1
TOTAL – ALL LITIGATION MATTERS	19

TRAC/MISC. ADMIN. APPEALS

Appeals Pending:

- There are three pending TRAC appeals in 2nd Quarter FY 2024:

1058 Beacon Street, Newton, MA; MWRA Docket No. 22-01

Tri-Town Regional Water District; MWRA Docket No. 23-03

Marriott Courtyard Downtown Boston; MWRA Docket No. 23-04

Settlement by Agreement of Parties

A Settlement Agreement Term Sheet was executed during the Second Quarter FY 2024.

Stipulation of Dismissal

No Stipulations of Dismissal filed in 2nd Quarter FY 2024.

Notice of Dismissal

Fine paid in full

No Notices of Dismissal, Fines Paid in Full in 2nd Quarter FY 2024.

Tentative

No Tentative Decisions were issued in 2nd Quarter FY 2024.

Final Decisions

No Final Decisions were issued in 2nd Quarter FY 2024.

LABOR AND EMPLOYMENT – 2nd Quarter FY 2024

New Matters

- A former employee filed an appeal of the Department of Unemployment Assistance's determination that the former employee was disqualified from receiving unemployment benefits.
- A Union filed a request for arbitration after the MWRA denied a grievance alleging that the MWRA unjustly suspended a Union member and disputing that the member engaged in inappropriate and unprofessional behavior toward his supervisor.

Significant Developments

- The Department of Labor Relations deferred to arbitration a charge of prohibited practice in which a Union alleged that the MWRA unilaterally altered working conditions when it filled an open position with an employee in an acting role.

Matters Concluded

- The Massachusetts Commission Against Discrimination dismissed two charges that an employee filed against the MWRA for discrimination and retaliation, after mediation and settlement.

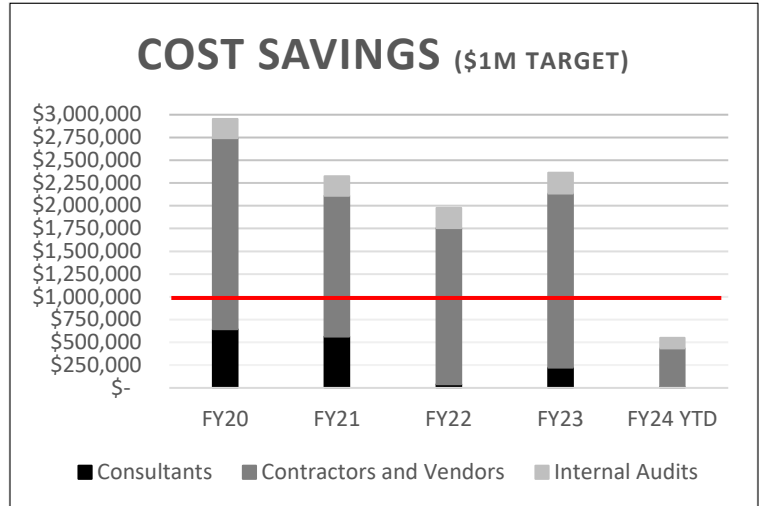
INTERNAL AUDIT AND CONTRACT AUDIT ACTIVITIES

2nd Quarter - FY24

Purpose

Internal Audit evaluates the effectiveness of internal controls and procedures and monitors the quality, efficiency and integrity of the Authority's operating and capital programs. Through our audits and reviews, we assess whether internal controls are functioning as intended and that only reasonable, allowable and allocable costs are paid to consultants, contractors and vendors.

Cost Savings	FY24 YTD
Consultants	\$8,302
Contractors and Vendors	\$426,142
Internal Audits	\$117,110
Total	\$551,554



Highlights

During the 2nd quarter FY24, an audit of Accounts Payable Process controls and procedures and an audit of Payroll Process controls and procedures progressed and are nearing completion. A review of travel reimbursement (employee owned car usage) is nearing completion and an internal review of MIS assets is progressing.

In addition, IA completed 1 incurred cost audits, 3 labor burden reviews, and 1 consultant preliminary reviews. There are 4 incurred cost audits, 2 labor burden reviews, and 1 consultant review in process. IA also issued 30 indirect cost rate letters to consultants following a review of their consultant disclosure statements. Internal Audit has continued to monitor Harbor Electric Energy Company (HEEC) Cross-Harbor Cable project costs as incurred and reviewed HEEC's filing with the DPU.

Internal Audit participated in the Operations and Maintenance of the Fore River Pelletizing Plant selection process. Internal Audit has also supported various policy updates.

Status of Recommendations

During FY24, 2 recommendations were closed.

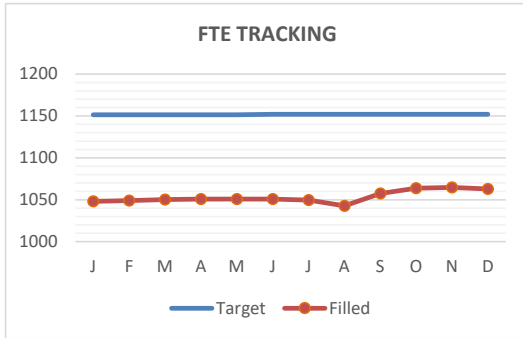
IA follows-up on open recommendations on a continuous basis. All open recommendations have target dates for implementation and are generally targeted to be closed within 12 months of the audit report issue date.

Report Title (issue date)	Audit Recommendations		
	Open	Closed	Total
Water and Wastewater Licenses and Certifications (3/31/23)	0	3	3
Total Recommendations	0	3	3

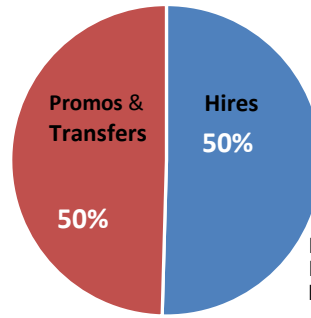
OTHER MANAGEMENT

Workforce Management

2nd Quarter - FY24



Position Filled by Hires/Promos & Transfer for YTD



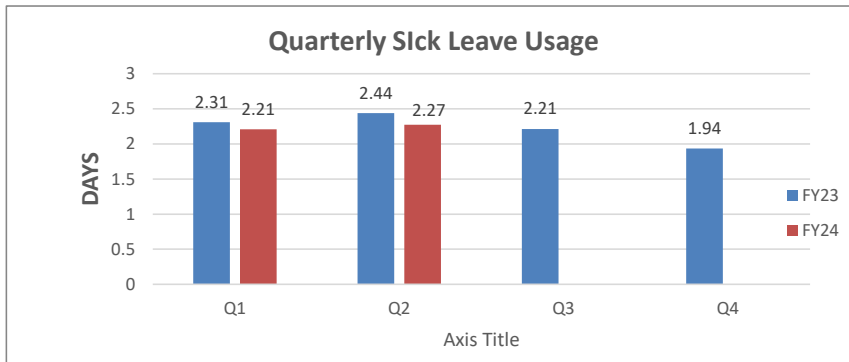
	Pr/Trns	Hires	Total
FY22	138 (68%)	65 (32%)	203
FY23	133 (59%)	91 (41%)	224
FY24	56 (50%)	57 (50%)	113

FY24 Budget for FTE's = 1152
 FTE's as of Dec = 1062.7
 Tunnel Redundancy as of Dec 2023 = 10

POSITION CHANGE by FY

FY	HIRES	PROMOS	TRANSFER	RETIRE	RESIGN	DISMISS	DECEASED
FY20	58	70	14	38	23	2	1
FY21	64	66	15	58	15	2	2
FY22	65	108	30	82	45	2	3
FY23	91	118	15	46	31	5	5
FY24*	57	49	7	27	15	2	1

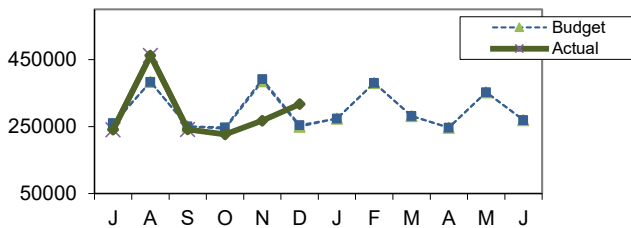
* as of 12/31/2023



Average quarterly sick leave for the 2nd Quarter of FY24 has decreased as compared to the 2nd Quarter of FY23. (2.27 from 2.44)

Field Operations

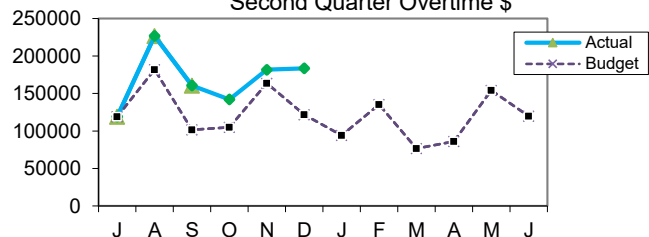
2nd Qtr Overtime \$



Total Overtime for FOD for 2nd Quarter FY24 was \$893k which is \$81k under budget, or 9.1%. Emergency overtime was \$231k, or 49.2% of expended OT, primarily because of numerous rain events. Rain events totaled \$157k and Emergency Maintenance was \$53k. Coverage overtime was \$228k, which is 28.7% of the 2nd Qtr OT, primarily due to numerous vacant shift coverage requirements. Planned overtime was \$334k, \$65k, or 24.3% over for the 2nd Quarter FY24 OT spending.

Deer Island Treatment Plant

Second Quarter Overtime \$

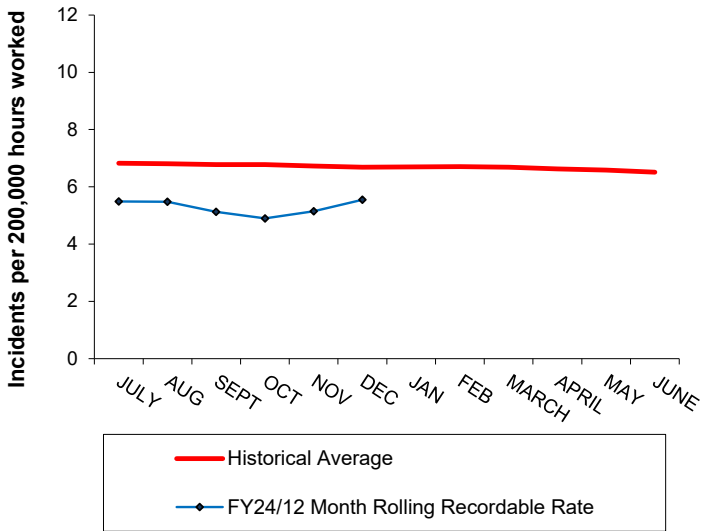


Deer Island's total overtime expenditure for the second quarter was \$507k, which is \$117k or 29.9% over budget due to higher than anticipated shift coverage of \$143K - driven by Wastewater Ops \$122K. Planned/Unplanned overtime of \$19K. This is offset by lower storm coverage of (\$45K).

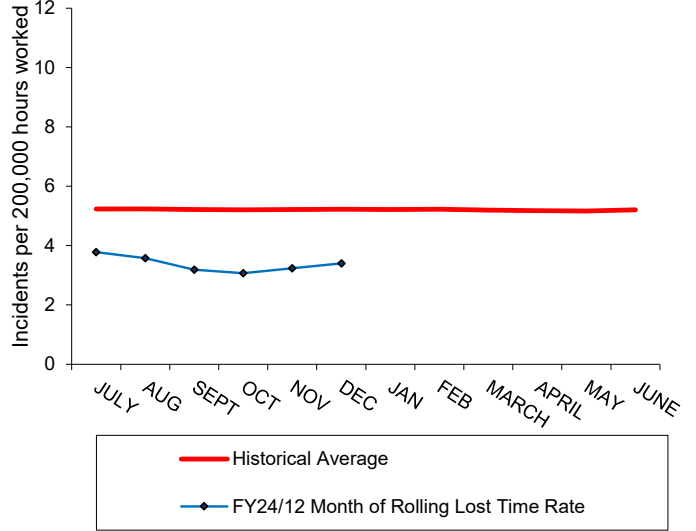
Workplace Safety

2nd Quarter - FY24

Recordable Injury & Illness Rates



Lost Time Injury & Illness Rates

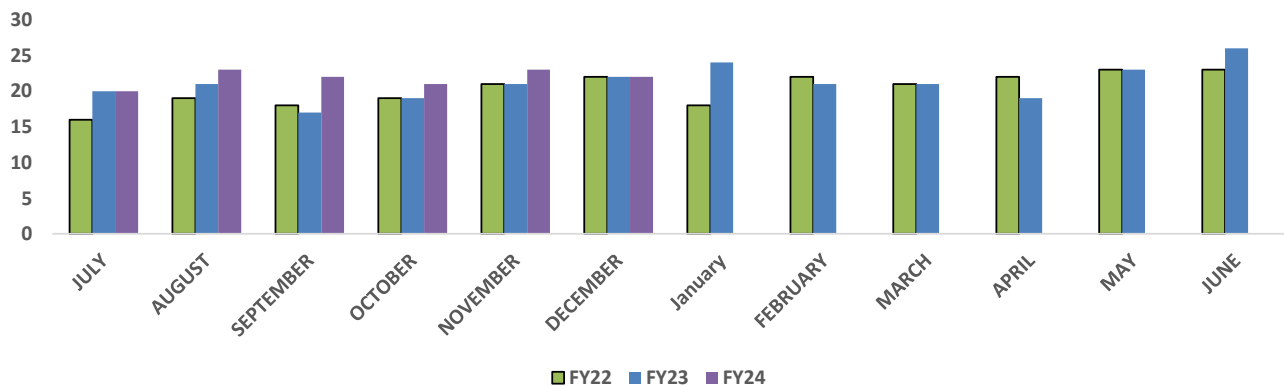


- 1 "Recordable" incidents are all work-related injuries and illnesses which result in death, loss of consciousness, restriction of work or motion, transfer to another job, or require medical treatment beyond first aid. Each month this rate is calculated using the previous 12 months of injury data.
- 2 "Lost-time" incidents, a subset of the recordable incidents, are only those incidents resulting in any days away from work, days of restricted work activity or both - beyond the first day of injury or onset of illness. Each month this rate is calculated using the previous 12 months of injury data.
- 3 The "Historical Average" is computed using the actual MWRA monthly incident rates for FY03 through FY24

WORKERS COMPENSATION HIGHLIGHTS

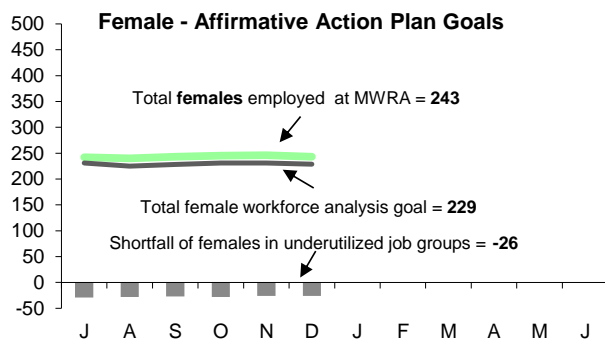
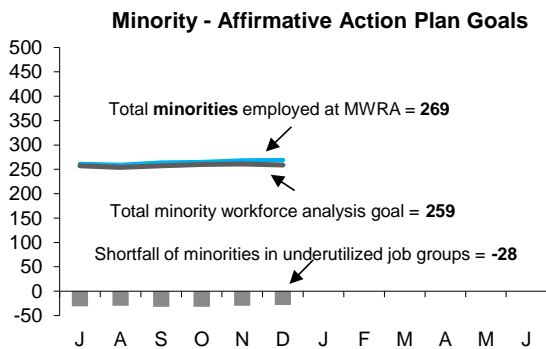
	2nd Quarter Information		Open Claims
	New	Closed	
Lost Time	1	5	27
Medical Only	5	4	105
Report Only	4	4	
	QYTD		FYTD
Regular Duty Returns	3		6
Light Duty Returns	0		0
Indemnity payments as of December 2023 included in open claims listed			22

Worker Compensation Settlements by FY



MWRA Job Group Representation

2nd Quarter - FY24



Highlights:

At the end of Q2 FY24, 6 job groups or a total of 28 positions are underutilized by minorities as compared to 3 job groups for a total of 19 positions at the end of Q2 FY23; for females 6 job groups or a total of 26 positions are underutilized by females as compared to 8 job groups or a total of 30 positions at the end of Q2 FY23. During Q2, 7 minorities and 7 females were hired. During this same period 3 minorities and 7 females were terminated.

Underutilized Job Groups - Workforce Representation

Job Group	Employees as of 12/31/2023	Minorities as of 12/31/2023	Achievement Level	Minority Over or Underutilized	Females As of 12/31/2023	Achievement Level	Female Over or Underutilized
Administrator A	23	4	2	2	9	5	4
Administrator B	25	4	5	-1	8	8	0
Clerical A	24	8	5	3	20	18	2
Clerical B	22	6	5	1	3	11	-8
Engineer A	83	18	21	-3	21	21	0
Engineer B	61	21	17	4	16	15	1
Craft A	115	19	26	-7	0	6	-6
Craft B	128	28	28	0	1	5	-4
Laborer	58	16	17	-1	5	3	2
Management A	89	19	22	-3	33	25	8
Management B	36	11	10	1	5	8	-3
Operator A	64	3	16	-13	4	7	-3
Operator B	60	19	9	10	4	2	2
Professional A	28	8	7	1	14	13	1
Professional B	163	50	47	3	72	52	20
Para Professional	43	15	10	5	20	20	0
Technical A	50	17	11	6	7	9	-2
Technical B	5	3	1	2	1	1	0
Total	1077	269	259	38/-28	243	229	41/-26

AACU Candidate Referrals for Underutilized Positions

Job Group	Job Title	# of Vacancies	Requisition Internal/ External	Promotions/ Transfers	AACU Referral External	Position Status = New Hire/Promotion
Administrative B	Asst Director, Engineering	1	Int.	1	1	PROMO = BF
Engineer A	Pics Project Engineer	1	Ext.	0	0	NH = WM
Engineer A	Project Manager	1	Ext.	0	0	NH = HM
Engineer A	Sr Program Manager, T&T Ops	1	Int./Ext.	1	0	PROMO= WM
Engineer A	Program Manager, Pics Control	1	Int./Ext.	1	0	PROMO= WM
Engineer A	Manager, Trans & Treatment	1	Int./Ext.	1	0	PROMO= WM
Engineer A	Sr Monitoring & Control Eng	1	Int./Ext.	1	0	PROMO= WM
Craft A	Heavy Equipment Operator II	3	Int./Ext.	3	0	PROMO=2WM, 1HM
Craft A	Electrical Operations Supervisor	1	Int.	1	0	PROMO= WM
Craft A	Unit Supervisor-Electrician	1	Int./Ext.	1	0	PROMO = WM
Craft B	Plumber/Pipefitter	2	Ext.	0	0	NH = 1WM, 1BM
Craft B	Equipment Repair Specialist	1	Ext.	0	0	NH = 1WM
Craft B	Electrician	2	Ext.	0	0	NH = 1WM, 1BM
Craft B	Heavy Equipment Operator I	2	Int./Ext.	1	0	NH=TM, PROMO=WM
Craft B	Facilities Specialist	2	Int./Ext.	1	0	NH=HM, PROMO=WM
Craft B	Junior Instrument Technician	1	Int.	1	0	PROMO=WM
Craft B	Third Class Engineer	1	Int.	1	0	PROMO=WM
Laborer	OMC Laborer	3	Ext.	0	0	NH=2WM, 1TM
Management A	Project Mgr, Envir Permitting	1	Int./Ext.	1	0	PROMO = WF
Management B	Asset Control Supervisor	1	Int.	1	0	PROMO = WM
Operator A	Sr Trans/Treatment Operator	1	Int.	1	0	PROMO = WM
Technical A	Sr Field Service Technician	1	Int./Ext.	0	0	NH= WM
Technical A	Sr Instrument Technician	1	Int./Ext.	1	0	PROMO = WM

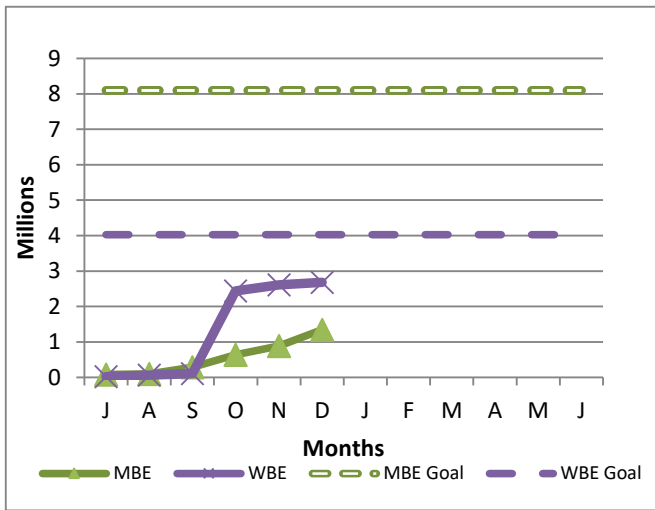
MBE/WBE Expenditures

2nd Quarter - FY24

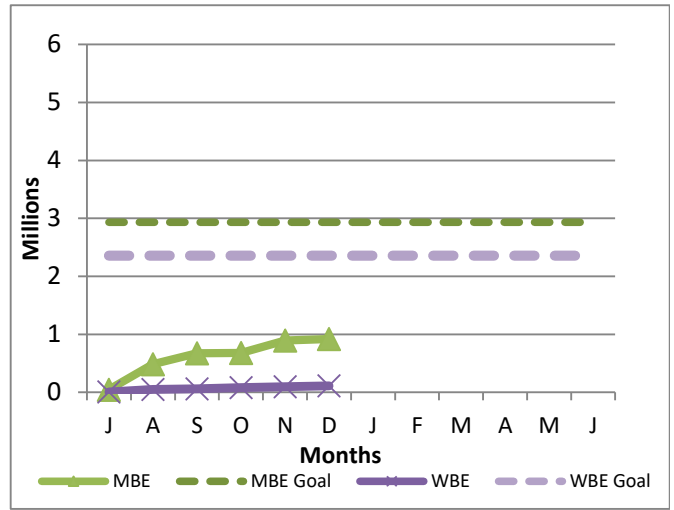
MBE/WBE targets are determined based on annual MWRA expenditure forecasts in the procurement categories noted below. The goals for FY24 are based on 85% of the total construction and 75% of the total professional projected spending for the year. Certain projects have been excluded from the goals as they have no MBE/WBE spending goals.

MBE/WBE percentages are the results from a 2002 Availability Analysis, and MassDEP's Availability Analysis. As a result of the Availability Analyses, the category of Non-Professional Services is included in Goods/Services. Consistent with contractor reporting requirements, MBE/WBE expenditure data is available through December.

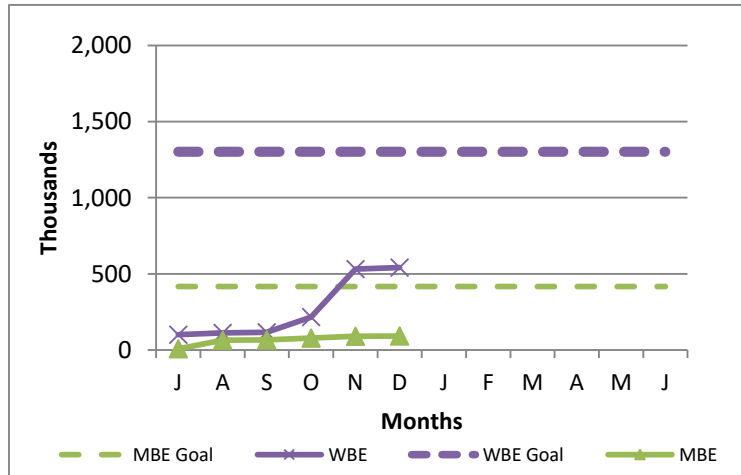
Construction



Professional Services



Goods/Services



FY24 spending and percentage of goals achieved, as well as FY23 performance are as follows:

MBE			
FY24 YTD		FY23	
Amount	Percent	Amount	Percent
1,345,342	17.5%	2,808,124	34.7%
918,194	20.0%	2,794,126	95.3%
91,592	22.4%	69,250	16.6%
2,355,128	18.5%	5,671,500	49.6%

WBE			
FY24 YTD		FY23	
Amount	Percent	Amount	Percent
2,682,373	70.0%	4,927,964	95.3%
110,085	3.0%	1,220,172	51.8%
541,503	8.4%	174,521	13.4%
3,333,961	37.5%	6,322,657	82.3%

Construction
Prof Svcs
Goods/Svcs
Totals

FY24 MBE/WBE dollar totals do not include MBE and WBE payments to prime contractors and consultants.

MWRA FY24 CEB Expenses

2nd Quarter – FY24

As of December 2023, total expenses are \$396.1 million, \$12.4 million or 3.0% lower than budget, and total revenue is \$441.3 million, \$3.9 million or 0.9% over the estimate, for a net variance of \$16.3 million.

Expenses –

Direct Expenses are \$138.8 million, \$11.4 million or 7.7% under budget.

- **Wages & Salaries** are \$7.3 million under budget or 12.1%. Regular pay is \$7.4 million under budget, due to lower head count, and timing of backfilling positions. YTD through December, the average Full Time Equivalent (FTE) positions were 1,066, 102 below the 1,168 FTE's budgeted.
- **Chemicals** are lower than budget by \$2.0 million or 14.9%. Lower than budget spending on Sodium Hypochlorite of \$1.1 million driven by Water Operations of \$1.1 and Wastewater Operations of \$143k due to contract pricing, partially offset by higher DITP of \$200k due to additional usage for disinfection and odor control due to higher flows. Carbon Dioxide was lower than budget by \$354k primarily due to lower dosage needed, Sodium Bisulfite of \$127k primarily driven by Deer Island due to lower quantities to dechlorinate the effluent, Aqua Ammonia of \$160k due to lower usage and deliveries due to lower flow, Other Oxidizers (Bioxide) at Framingham PS was lower than budget by \$111k due to less deliveries and lower price. DITP flows are 5.2% greater than the budget and the CWTP preliminary flows are 4.1% less than the budget through December. It is important to note that Chemical variances are also based on deliveries which in general reflect the usage patterns. However, the timing of deliveries is an important factor.
- **Professional Services** expenses are \$1.3 million under budget or 26.3%, primarily due to lower Other Professional Services of \$594k, lower spending on a Computer Consultant of \$208k, lower Lab Testing & Analysis of \$171k, and lower Legal expense of \$166k.
- **Other Services** are lower than budget by \$1.3 million or 7.9% driven by Telecommunications of \$561k due to less than anticipated costs, Sludge Pelletization and Grit & Screenings Removal of \$223k and \$222k, respectively, due to lower quantities, and Police Details of \$83k due to less than anticipated need.
- **Ongoing Maintenance** expenses are \$1.1 million over budget or 5.3% primarily due to the actual timing of projects.
- **Fringe Benefits** expenses are \$870k under budget or 6.9%, primarily due to under spending for Health Insurance of \$880k, reflecting the lower than budget head count. As of December, FTEs were 102 below budget.

Indirect Expenses are \$35.6 million, \$1.0 million or 2.8% under budget due to lower Watershed Reimbursement of \$1.3 million.

Capital Finance Expenses totaled \$221.6 million, matching budget after the transfer of \$1.6 million to the Defeasance account. The transfer reflects lower variable rate debt expense due to lower than budget variable interest expense of \$1.6 million as a result of lower interest rates as well as the savings from the swap terminations.

Revenue and Income –

Total Revenue and Income is \$441.3 million, \$3.9 million or 0.9% over the estimate. The favorable variance was driven by Investment Income of \$14.6 million, \$4.0 million or 37.6% over the budget due to higher than budget interest rates and higher average balances.

	Dec 2023 Year-to-Date			
	Period 6 YTD Budget	Period 6 YTD Actual	Period 6 YTD Variance	%
EXPENSES				
WAGES AND SALARIES	\$ 59,899,414	\$ 52,644,767	\$ (7,254,647)	-12.1%
OVERTIME	2,910,062	3,033,220	123,158	4.2%
FRINGE BENEFITS	12,683,527	11,813,159	(870,368)	-6.9%
WORKERS' COMPENSATION	1,072,197	1,171,801	99,604	9.3%
CHEMICALS	13,502,534	11,490,114	(2,012,420)	-14.9%
ENERGY AND UTILITIES	15,255,312	14,988,460	(266,852)	-1.7%
MAINTENANCE	20,760,785	21,869,227	1,108,442	5.3%
TRAINING AND MEETINGS	278,658	180,345	(98,313)	-35.3%
PROFESSIONAL SERVICES	5,127,251	3,777,963	(1,349,288)	-26.3%
OTHER MATERIALS	2,391,828	2,817,881	426,053	17.8%
OTHER SERVICES	16,360,275	15,061,918	(1,298,357)	-7.9%
TOTAL DIRECT EXPENSES	\$ 150,241,843	\$ 138,848,855	\$ (11,392,987)	-7.6%
INSURANCE	\$ 2,032,690	\$ 2,255,817	\$ 223,127	11.0%
WATERSHED/PILOT	9,597,465	8,313,612	(1,283,853)	-13.4%
HEEC PAYMENT	4,232,163	4,252,503	20,340	0.5%
MITIGATION	889,543	889,543	-	0.0%
ADDITIONS TO RESERVES	3,930,518	3,930,518	-	0.0%
RETIREMENT FUND	15,972,804	15,972,804	-	0.0%
POST EMPLOYEE BENEFITS	-	-	-	---
TOTAL INDIRECT EXPENSES	\$ 36,655,183	\$ 35,614,797	\$ (1,040,386)	-2.8%
STATE REVOLVING FUND	\$ 40,920,462	\$ 40,920,462	\$ -	0.0%
SENIOR DEBT	145,534,072	145,534,072	-	0.0%
DEBT SERVICE ASSISTANCE	(1,187,297)	(1,187,297)	-	0.0%
CURRENT REVENUE/CAPITAL	-	-	-	---
SUBORDINATE MWRA DEBT	34,713,059	34,713,059	-	0.0%
LOCAL WATER PIPELINE CP	-	-	-	---
CAPITAL LEASE	1,608,530	1,608,530	-	0.0%
VARIABLE DEBT	-	(1,578,944)	(1,578,944)	---
DEFEASANCE ACCOUNT	-	1,578,944	1,578,944	---
DEBT PREPAYMENT	-	-	-	---
TOTAL CAPITAL FINANCE EXPENSE	\$ 221,588,825	\$ 221,588,825	\$ -	0.0%
TOTAL EXPENSES	\$ 408,485,851	\$ 396,052,477	\$ (12,433,373)	-3.0%
REVENUE & INCOME				
RATE REVENUE	\$ 417,134,000	\$ 417,134,000	\$ -	0.0%
OTHER USER CHARGES	5,256,048	5,208,738	(47,310)	-0.9%
OTHER REVENUE	4,311,235	4,283,045	(28,190)	-0.7%
RATE STABILIZATION	152,741	152,741	-	0.0%
INVESTMENT INCOME	10,585,807	14,566,381	3,980,574	37.6%
TOTAL REVENUE & INCOME	\$ 437,439,831	\$ 441,344,905	\$ 3,905,074	0.9%

Cost of Debt 2nd Quarter – FY24

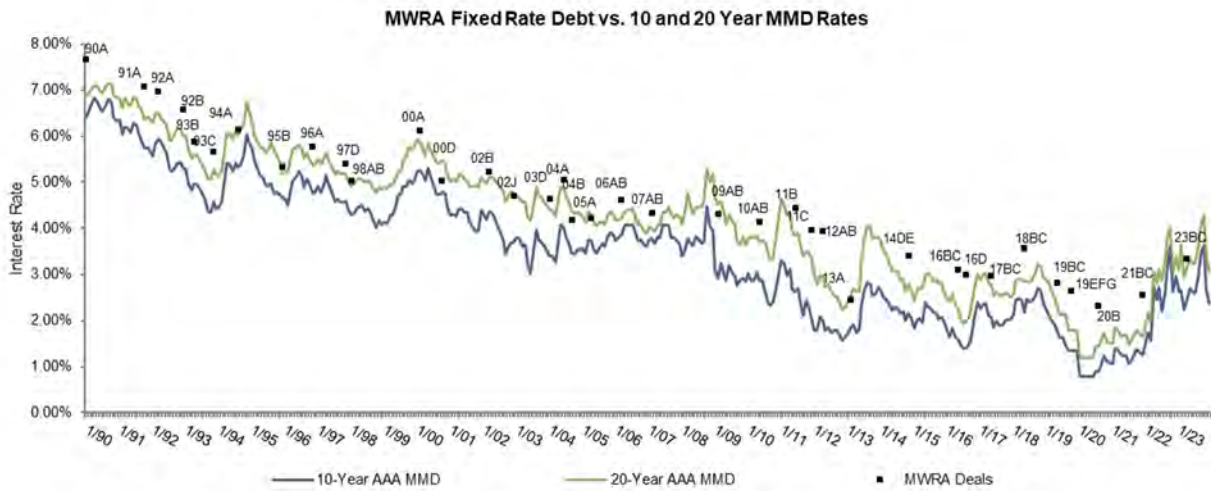
MWRA borrowing costs are a function of the fixed and variable tax exempt interest rate environment, the level of MWRA's variable interest rate exposure and the perceived creditworthiness of MWRA. Each of these factors has contributed to decreased MWRA borrowing costs since 1990.

Average Cost of MWRA Debt FYTD

Fixed Debt (\$2.91 billion)	3.12%
Variable Debt (\$382.4 million)	4.12%
SRF Debt (\$808.83 million)	1.70%
Weighted Average Debt Cost (\$4.11 billion)	3.04%

Most Recent Senior Fixed Debt Issue April 2023

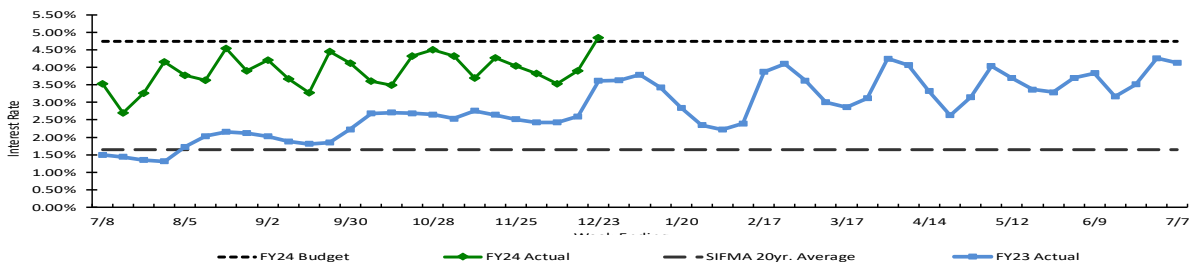
2023 Series B and C (\$234.3 million) 3.35%



Bond Deal	1997D	1998AB	2000A	2000D	2002B	2002J	2003D	2004A	2004B	2005A	2006AB	2007AB	2009AB	2010AB
Rate	5.40%	5.04%	6.11%	5.03%	5.23%	4.71%	4.64%	5.05%	4.17%	4.22%	4.61%	4.34%	4.32%	4.14%
Avg Life	21.6 yrs	24.4 yrs	26.3 yrs	9.8 yrs	19.9 yrs	19.6 yrs	18.4 yrs	19.6 yrs	13.5 yrs	18.4 yrs	25.9 yrs	24.4 yrs	15.4 yrs	16.4 yrs
Bond Deal	2011B	2011C	2012AB	2013A	2014D	2016BC	2016D	2017BC	2018BC	2019BC	2019EFG	2020B	2021BC	2023BC
Rate	4.45%	3.95%	3.93%	2.45%	3.41%	3.12%	2.99%	2.98%	3.56%	2.82%	2.66%	2.33%	2.56%	3.35%
Avg Life	18.8 yrs	16.5 yrs	17.9 yrs	9.9 yrs	15.1 yrs	17.4 yrs	18.8yrs	11.2 yrs	11.7yrs	11.9yrs	9.73 yrs.	15.6 yrs	12.2 yrs	10.45 yrs

Weekly Average Variable Interest Rates vs. Budget

MWRA currently has eight variable rate debt issues with \$382.4 million outstanding, excluding commercial paper. Variable rate debt has been less expensive than fixed rate debt in recent years as short-term rates have remained lower than long-term rates on MWRA debt issues. In December, the Securities Industry and Financial Markets Association rate ranged from a high of 4.52% to a low of 2.98% for the month. MWRA's issuance of variable rate debt, although consistently less expensive in recent years, results in exposure to additional interest rate rise as compared to fixed rate debt.

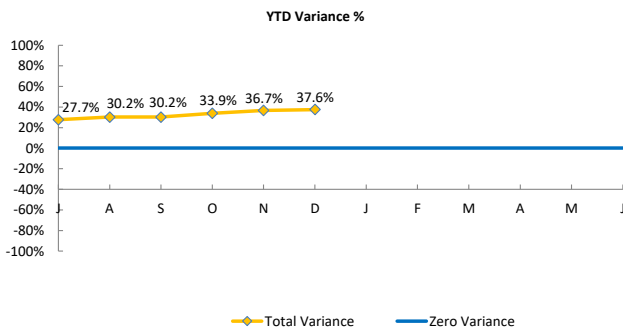


Investment Income

2nd Quarter – FY24

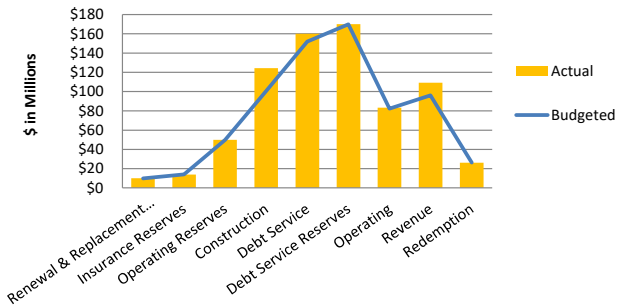
Year To Date

➤ YTD variance is 37.6%, \$4.0 million, over budget due to higher than budgeted interest rates and higher than budgeted average balance.



	YTD BUDGET VARIANCE			
	(\$000)			
	BALANCES IMPACT	RATES IMPACT	TOTAL	%
Renewal & Replacement Reserves	\$0	\$157	\$157	140.7%
Insurance Reserves	\$0	\$109	\$109	112.1%
Operating Reserves	\$0	\$684	\$685	198.4%
Construction	\$481	-\$141	\$340	16.5%
Debt Service	\$165	\$980	\$1,145	36.8%
Debt Service Reserves	\$1	\$138	\$139	10.6%
Operating Revenue	\$16	\$487	\$503	31.3%
Revenue	\$250	\$654	\$904	49.7%
Redemption	\$0	\$0	\$0	-0.1%
Total Variance	\$914	\$3,067	\$3,981	37.6%

YTD Average Balances Budgeted vs. Actual

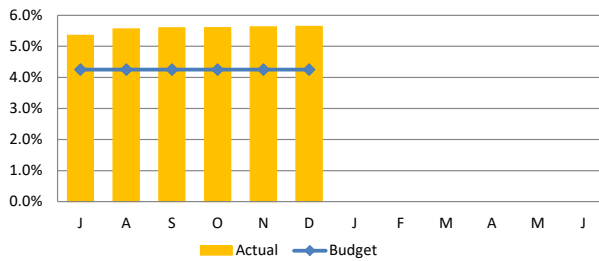


YTD Average Interest Rate Budgeted vs. Actual

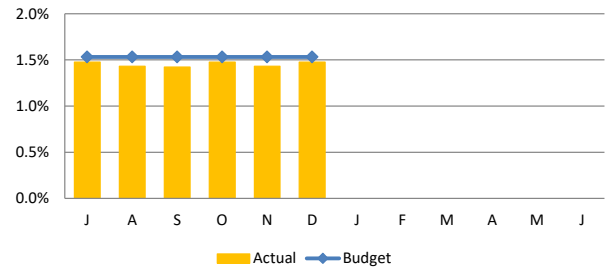


Monthly

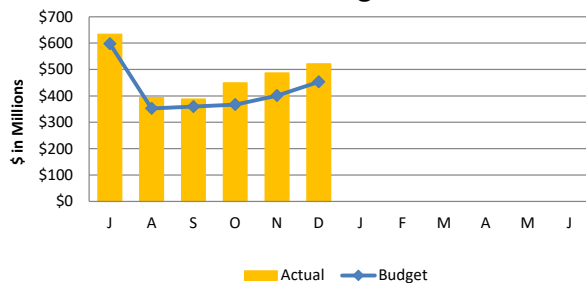
Short -Term Interest Rates



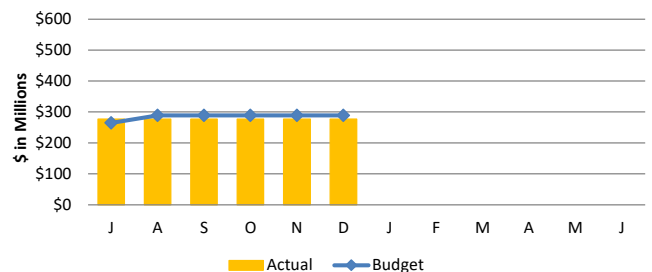
Long -Term Interest Rates



Short-Term Average Balances



Long-Term Average Balances



STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: February 21, 2024
SUBJECT: FY24 Financial Update and Summary through January 2024

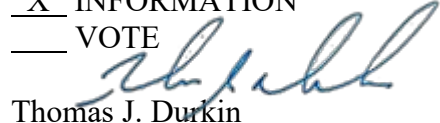


COMMITTEE: Administration, Finance & Audit

INFORMATION

VOTE

Michael J. Cole, Budget Director
James J. Coyne, Budget Manager
Preparer/Title



Thomas J. Durkin
Director, Finance

RECOMMENDATION:

For information only. This staff summary provides the financial results and variance highlights for Fiscal Year 2024 through January 2024, comparing actual spending to the budget, and includes a projection to June 30, 2024.

DISCUSSION:

MWRA is continuing the practice of setting aside favorable Capital Finance variances into the Defeasance Account with the intention of recommending Board approval to use these funds to defease debt and provide rate relief in future years. Targeted defeasances are a critical component of the Authority’s multi-year rate management strategy. As such, in January the year-to-date debt related savings of \$1.9 million was transferred to the Defeasance Account. This variance is primarily due to lower than budgeted variable interest expense.

The total Year-to-Date variance for the FY24 CEB is \$19.2 million, due to lower direct expenses of \$13.4 million, indirect expenses of \$1.2 million, and higher revenue of \$4.6 million. The year-end favorable variance is projected at \$48.7 million, of which \$13.0 million is related to debt service. Beyond debt service savings, staff project a favorable variance of approximately \$35.6 million at year-end of which \$26.3 million would be from lower direct expenses, \$1.3 million from lower indirect expenses, and \$7.9 million from greater than budgeted revenues.

As the year progresses and more actual spending information becomes available, staff will continue to refine the year-end projections and update the Board accordingly.

FY24 Current Expense Budget

The CEB expense variances through January 2024 by major budget category were:

- Lower Direct Expenses of \$13.4 million or 7.7% under budget. Spending was lower for Wages & Salaries, Chemicals, Other Services, Professional Services, Fringe Benefits,

Training & Meetings, and Utilities. Spending was higher than budget for Other Materials, Maintenance, Workers' Compensation, and Overtime.

- Lower Indirect Expenses of \$1.2 million or 3.0% under budget due primarily to lower Watershed Reimbursements.
- Debt Service expenses were on budget after the transfer of \$1.9 million to the defeasance account.
- Revenue was \$4.6 million or 0.9% over budget driven by higher Investment Income of \$4.8 million due to higher than budgeted interest rates and higher average balances.

FY24 Budget and FY24 Actual Variance by Expenditure Category
(in millions)

	FY24 Budget	FY24 Actual	\$ Variance	% Variance
Direct Expenses	\$174.5	\$161.1	-\$13.4	-7.7%
Indirect Expenses	\$40.3	\$39.0	-\$1.2	-3.0%
Capital Financing	\$256.6	\$256.6	\$0.0	0.0%
Total	\$471.4	\$456.8	-\$14.6	-3.1%

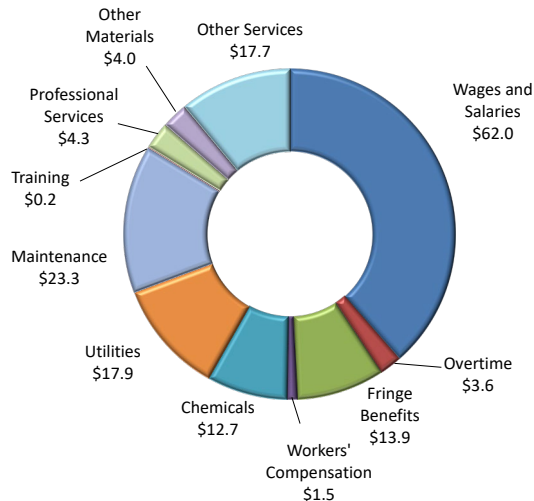
Totals may not add due to rounding

Please refer to Attachment 1 for a more detailed comparison by line item of the budget variances for FY24.

Direct Expenses

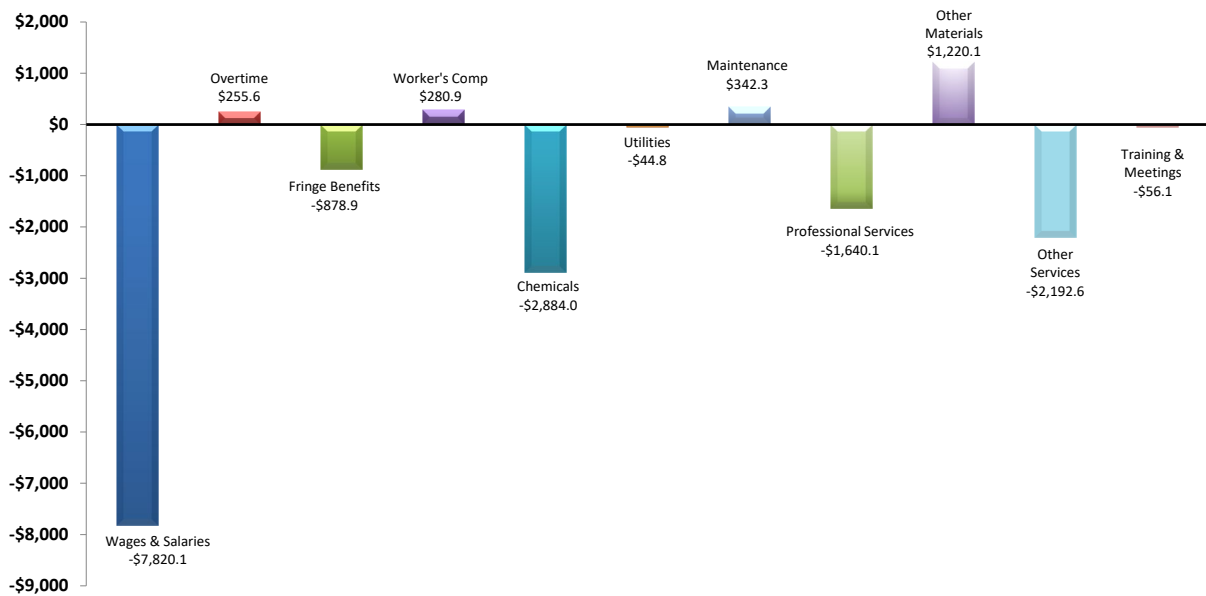
FY24 Direct Expenses through January totaled \$161.1 million, which was \$13.4 million or 7.7% less than budgeted.

FY24 Direct Expenses
(in millions)



Spending was lower than budget for Wages & Salaries, Chemicals, Other Services, Professional Services, Fringe Benefits, Training & Meetings, and Utilities. These were partially offset by higher than budgeted spending for Other Materials, Maintenance, Workers' Compensation, and Overtime.

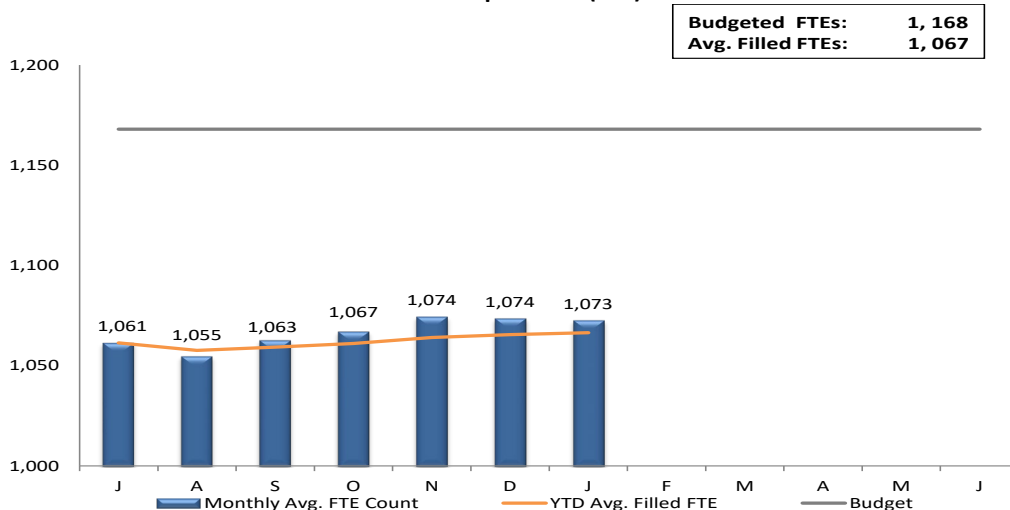
**FY24 Direct Expense Variance
(in thousands)**



Wages and Salaries

Wages and Salaries were under budget by \$7.8 million or 11.2%. Through January, there were 101 fewer average FTEs (1,067 versus 1,168 budget) or 8.6% and lower average salaries for new hires versus retirees. The timing of backfilling vacant positions also contributed to Regular Pay being under budget.

FY24 MWRA Full Time Equivalent (FTE) Position Trend



Chemicals

Chemicals were lower than budget by \$2.9 million or 18.5%. Lower than budget spending on Sodium Hypochlorite of \$1.5M driven by Water Operations of \$1.3 million and Wastewater Operations of \$120,000 due to favorable contract pricing, and Deer Island of \$125,000 due to additional usage for disinfection due to higher flows. Carbon Dioxide was lower than budget by \$416,000 primarily due to lower volume, lower contract price, and lower dose required to meet target residual levels in finished water, Ferric Chloride of \$317,000 due to decreased usage to maintain digested sludge orthophosphate levels within the target range, Aqua Ammonia of \$207,000 due to lower price, lower volume delivered, and lower flows, Sodium Bisulfite of \$150,000 primarily driven by Water Operations of \$88,000 due to lower dose and volume due to lower flows and Deer Island of \$59,000 due to lower quantities to dechlorinate the effluent, Polymer of \$130,000 due to lower secondary waste sludge production due to the multiple rain events resulting in higher plant flows, and Other Oxidizers (Bioxide) at Framingham Pump Station was lower than budget by \$118,000 due to lower price and less deliveries. These are partially offset by higher Hydrogen Peroxide of \$244,000 which is added to the Deer Island influent to reduce elevated H₂S levels for odor pretreatment and corrosion control, and allows staff to perform maintenance activities more safely within the tanks. Deer Island flows are 11.7% greater than budget and the Carroll Plant flows are 3.5% less than budget through January. It is important to note that Chemical variances are also based on deliveries which in general reflect the usage patterns. However, the timing of deliveries is an important factor.

Other Services

Other Services were lower than budget by \$2.2 million or 11.0% driven by Sludge Pelletization of \$1.1 million primarily due to \$969,000 of the \$6.2 million of potential landfill costs due to anticipated PFAS regulations that were budgeted in the second half of FY24 as well as lower quantities, and Grit & Screenings Removal of \$165,000 due to lower quantities, Telecommunications of \$637,000 due to updated and less than anticipated costs, Other Services of \$131,000 due to timing and less than anticipated need, and Police Details of \$83,000 due to less than anticipated need.

Professional Services

Professional Services were less than budget by \$1.6 million or 27.8% driven by lower Other Services of \$639,000 due to timing of services including the Disparity Study, Computer Systems Consultant of \$296,000, Lab & Testing Analysis of \$281,000, and Legal Services of \$216,000, all due to timing of spending.

Other Materials

Other Materials were greater than budget by \$1.2 million or 43.3% driven by higher Computer Hardware of \$1.1 million primarily due to the timing of equipment purchases and purchases that will be reclassified to the CIP, and Vehicle Purchases of \$148,000 due to timing of purchases.

Fringe Benefits

Fringe Benefit spending was lower than budget by \$879,000 or 6.0%. Spending was lower than budget for Health Insurance of \$906,000, due to fewer than budgeted participants in health insurance plans, increased contribution by external new hires vs. lower contribution rates of staff retiring, and the shift from family to individual plans which are less expensive.

Maintenance

Maintenance was greater than budget by \$342,000 or 1.5%, largely driven by the timing of projects. Maintenance Materials are over budget by \$645,000 driven by higher Plant & Machinery Materials of \$927,000 due to timing and higher costs for glass lined pipe/fittings, seals, and grinder cartridges and Warehouse Inventory of \$559,000 due to need for spare parts as well as purchasing of materials early due to supply chain issues, partially offset by lower Special Equipment Materials of \$464,000 due to timing including the purchase of hatch covers at Loring Road, HVAC Materials of \$196,000, Computer Materials of \$116,000, and Building and Grounds Materials of \$74,000, all due to timing. Maintenance Services were lower than budget by \$303,000 driven by lower Electrical Services of \$544,000 due to timing of work including the Carroll Plant Ozone generator PLC replacement and emergency generator emissions monitoring PLC repair, Building & Grounds Services of \$243,000 and Computer Services of \$159,000 due to timing of work. This lower than budgeted spending was partially offset by higher Computer Software-Licenses/Upgrades of \$555,000 primarily due to timing of purchases.

Worker's Compensation

Worker's Compensation expenses were greater than budget by \$281,000 or 22.5%. The higher than budgeted expenses were due to Medical Payments of \$154,000 and Compensation Payments of \$151,000, partially offset by lower Administrative Expenses of \$25,000. Due to uncertainties of when spending will happen, the budget is spread evenly throughout the year.

Overtime

Overtime expenses were greater than budget by \$256,000 or 7.7%. Greater than budget spending at Deer Island of \$307,000 and Field Operations of \$32,000 due to shift coverage as well as rain and snow removal events, partially offset by lower Engineering & Construction of \$35,000. Year-to-date rainfall was a major contributor for the increased overtime.

Training & Meetings

Training & Meetings was lower than budget by \$56,000 or 19.6% primarily due to timing of spending.

Utilities

Utilities were lower than budget by \$45,000 or 0.2%. Underspending on Diesel Fuel of \$1.6 million is primarily due to timing of purchasing at Deer Island. The purchase is expected later in the fiscal year. Overspending in Electricity of \$1.6 million primarily at Deer Island of \$824,000 is driven by a new pass through cost associated with the Mystic Power Station as well as higher

demand usage due to the many rain events. Electricity in Field Operations was greater than budget by \$742,000 primarily due to higher use as a result of the many rain events for pumping and fan use for odor control.

Indirect Expenses

Indirect Expenses totaled \$39.0 million, which is \$1.2 million or 3.0% lower than budget. The variance is driven by lower Watershed Reimbursements.

Based on FY24 operating activity only, the Watershed Division is \$1.4 million or 12.1% under budget. Lower spending on Wages and Salaries, Fringe Benefits, and Maintenance are driving the variance. When factoring in the FY23 balance forward of \$157,000 which was a credit towards FY24, Watershed Reimbursement is \$1.6 million or 13.4% below budget through January 2024.

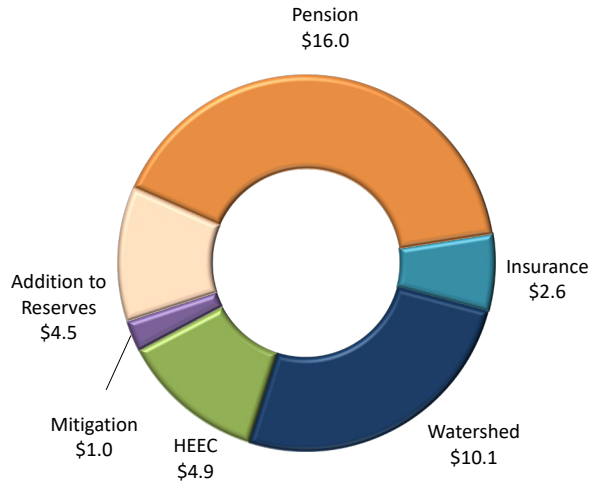
FY24 Watershed Protection Variance

\$ in millions	YTD Budget	YTD Actual	YTD \$ Variance	YTD % Variance
Operating Expenses	12.3	10.8	-1.5	-12.5%
Operating Revenues - Offset	0.7	0.6	-0.1	-18.4%
FY24 Operating Totals	11.6	10.2	-1.4	-12.1%
DCR Balance Forward (FY23 year-end accrual true-up)	0.0	-0.2	-0.2	
FY24 Adjusted Operating Totals	11.6	10.1	-1.6	-13.4%
PILOT	0.0	0.0	0.0	0.0%
Total Watershed Reimbursement	11.6	10.1	-1.6	-13.4%

Totals may not add due to rounding

MWRA reimburses the Commonwealth of Massachusetts Department of Conservation (DCR) and Recreation - Division of Water Supply Protection – Office of Watershed Management for expenses. The reimbursements are presented for payment monthly in arrears. Accruals are being made monthly based on estimates provided by DCR and trued-up monthly based on the monthly invoice. MWRA’s budget is based on the annual Fiscal Year Work Plan approved by the Massachusetts Water Supply Protection Trust (with a vacancy adjustment applied). The FTE count at the end of January was 147 (and 144.9 on a year-to-date basis) vs. a budget of 150.

**FY24 Indirect Expenses
(in millions)**

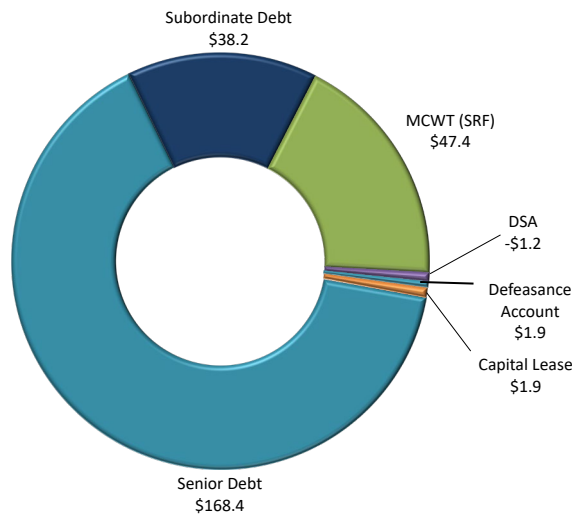


Capital Financing

Capital Financing expenses include the principal and interest payments for fixed senior debt, the variable subordinate debt, the Massachusetts Clean Water Trust (SRF) obligation, the commercial paper program for the local water pipeline projects, current revenue for capital, Optional Debt Prepayment, and the Chelsea Facility lease payment.

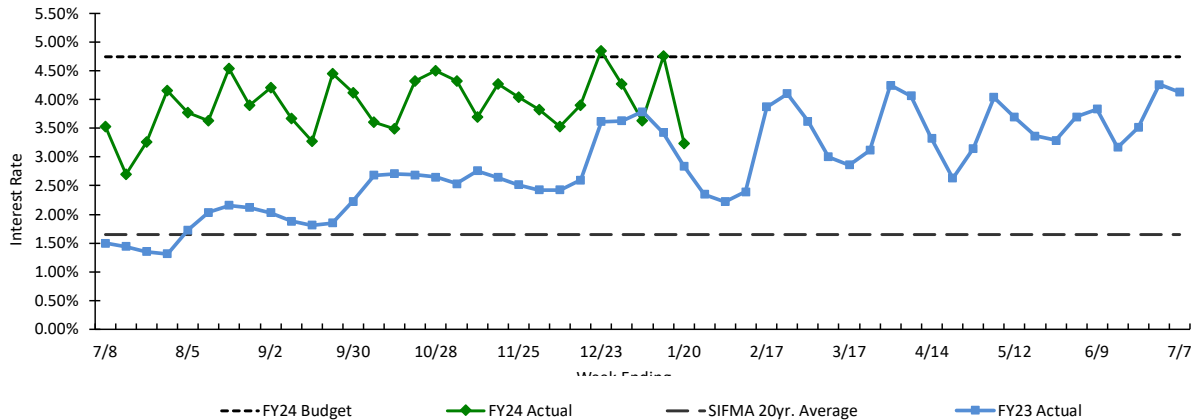
Capital Financing expenses for FY24 through January totaled \$256.6 million, which is at budget after the transfer of \$1.9 million year-to-date to the Defeasance account. The transfer reflects lower variable rate debt expense due to lower than anticipated interest rates, partially offset by higher SRF spending due to timing.

**FY24 Capital Finance
(\$ in millions)**



The graph below reflects the FY24 actual variable rate trend by week against the FY24 Budget.

**Weekly Average Interest Rate on MWRA Variable Rate Debt
(Includes liquidity support and remarketing fees)**



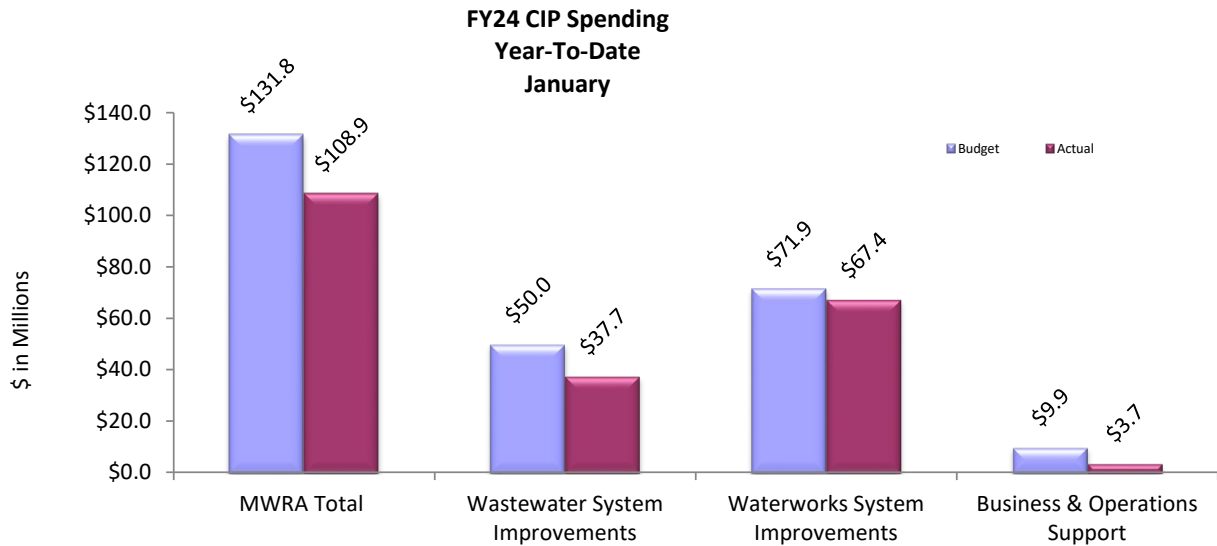
Revenue & Income

Revenues of \$510.2 million were \$4.6 million or 0.9% over the estimate driven by Investment Income which was \$4.8 million or 38.8% over the estimate due to higher than anticipated interest rates and higher average balances.

FY24 Capital Improvement Program

Capital expenditures in Fiscal Year 2024 through January total \$108.9 million, \$22.9 million or 17.4% under planned spending.

After accounting for programs which are not directly under MWRA’s control, most notably the Inflow and Infiltration (I/I) grant/loan program, the Local Water System Assistance loan program, and the community managed Combined Sewer Overflow (CSOs) projects, capital spending totaled \$67.6 million, \$30.6 million or 31.2% under planned spending.



Overall, CIP spending reflects under planned spending in Wastewater Improvements (\$12.3 million), Waterworks (\$4.4 million) and Business and Operations Support (\$6.2 million). Major variances in Wastewater are primarily due to timing of community grants and loans for the I/I Local Financial Assistance Program, timing of work and construction delays for Braintree/Weymouth Improvements – Construction, delay in performing shaft inspections and issuing NTP for Final Design for the Ward Street & Columbus Park Headworks Upgrades - Design/CA contract, lower than projected task order work for Deer Island As-Needed Design contracts, and work scheduled for FY24 that was completed in FY23 for Chelsea 008 Pipe Replacement. This was partially offset by equipment received ahead of schedule for the Clarifier Rehabilitation Phase 2 – Construction contract, claim settlements for Chelsea Creek Upgrades, and contractor progress for Deer Island Radio Repeater System Upgrade.

Waterworks variances are primarily due to timing of work for Section 89/29 Replacement – Construction, timing of consultant’s work for Tunnel Redundancy Preliminary Design and Massachusetts Environmental Policy Act (MEPA) Review, and timing of services for Geotechnical Support. This was partially offset by timing of community loan distributions for the Water Loan Program, timing of work for Waltham Water Pipeline, contractor progress for CP-2, Sections 25 & 24 – Construction contracts, and work scheduled in FY23 that was completed in FY24 for the Carroll Plant Chemical Feed System Improvements – Construction.

\$ in Millions	Budget	Actuals	\$ Var.	% Var.
Wastewater System Improvements				
Interception & Pumping	16.6	10.3	(6.4)	-38.3%
Treatment	10.0	10.1	0.2	1.5%
Residuals	0.0	0.0	0.0	0.0%
CSO	2.3	1.3	(1.0)	-43.6%
Other	21.1	16.0	(5.1)	-24.2%
Total Wastewater System Improvements	\$50.0	\$37.7	(\$12.3)	-24.6%
Waterworks System Improvements				
Drinking Water Quality Improvements	2.0	1.3	(0.7)	-36.1%
Transmission	28.3	21.0	(7.3)	-25.9%
Distribution & Pumping	24.7	17.2	(7.5)	-30.4%
Other	16.9	28.0	11.1	65.7%
Total Waterworks System Improvements	\$71.9	\$67.4	(\$4.4)	-6.2%
Business & Operations Support	\$9.9	\$3.7	(\$6.2)	-62.5%
Total MWRA	\$131.8	\$108.9	(\$22.9)	-17.4%

FY24 Spending by Program:

The main reasons for the project spending variances in order of magnitude are:

Other Waterworks: Net over planned spending of \$11.1 million

- \$12.6 million for Local Financial Assistance due to timing of community loan distributions.
- This over planned spending was partially offset by less than planned spending of \$1.2 million for Steel Tank Improvements due to updated schedule.

Water Distribution and Pumping: Net under planned spending of \$7.5 million

- \$3.5 million for Section 89/29 Replacement – Construction, \$2.2 million for CP-1 NEH Improvements due to timing of work, and \$1.5 million for Section 75 Extension - Construction CP-1 due to updated schedule.

Waterworks Transmission: Net under planned spending of \$7.3 million

- \$3.2 million for Tunnel Redundancy Preliminary Design & MEPA Review due to timing of consultant work.
- \$1.1 million for WASM 3 Rehabilitation CP-1 due to work scheduled for FY24 performed in FY23.
- \$0.9 million for Geotechnical Support Services due to timing of support services.
- This under planned spending was partially offset by over planned spending of \$2.9 million for Waltham Water Pipeline due to work scheduled in FY23 that was performed in FY24.

Interception & Pumping: Net under planned spending of \$6.4 million

- \$3.9 million for Braintree/Weymouth Improvements – Construction due to timing, long lead time for equipment and delay in fabrication of structural steel.
- \$1.1 million for Ward Street & Columbus Park Headworks Upgrades - Design/CA due to delay in performing shaft inspections and issuing NTP for Final Design.

Business & Operations Support: Net under planned spending of \$6.2 million

- \$2.3 million for As-Needed Design Contracts due to lower than projected task order work.
- \$1.2 million for Security Equipment & Installation due to timing of security initiatives.
- \$0.7 million for MAXIMO Interface Enhancements, \$0.6 million for Lawson Upgrade, \$0.4 million for Oracle Database Appliance, \$0.4 million for Enterprise Content Management, and \$0.3 for Core Switches due to timing and scheduling of work.

Other Wastewater: Net under planned spending of \$5.1 million

\$5.1 million for Community I/I due to timing of community distributions of grants and loans.

Combined Sewer Overflow: Net underspending of \$1.0 million

- \$0.7 million for Chelsea 008 CSO Pipe Replacement due to work scheduled for FY24 performed in FY23, and \$0.2 million for Somerville Marginal New Pipe Connection due to schedule change.

Drinking Water Quality Improvements: Net underspending of \$0.7 million

- \$1.2M for Carroll Plant Technical Assistance due to lower than projected task order work, partially offset by \$0.6 million for Carroll Plant Chemical Feed System Improvements Construction due to work scheduled for FY23 that was performed in FY24.

Wastewater Treatment: Net over planned spending of \$0.2 million

- \$2.5 million for Clarifier Rehabilitation Phase 2 – Construction due to equipment received ahead of schedule.
- \$0.3 million for Radio Repeater System Upgrade 2 due to contractor progress.
- This over planned spending was partially offset by under planned spending of \$0.7 million for Deer Island As-Needed Design contracts due to lower than projected task order work, and \$0.7 million for Deer Island Roofing Replacement due to timing of work.

Construction Fund Balance

The construction fund balance was \$114.8 million as of the end of January. Commercial Paper/Revolving Loan available capacity was \$120 million.

ATTACHMENTS:

Attachment 1 – Variance Summary January 2024

Attachment 2 – Current Expense Variance Explanations

Attachment 3 – Capital Improvement Program Variance Explanation

Attachment 4 – Year-End Current Expense Projections vs. Budget

ATTACHMENT 1
FY24 Actuals vs. FY24 Budget

	Jan 2024 Year-to-Date				
	Period 7 YTD Budget	Period 7 YTD Actual	Period 7 YTD Variance	%	FY24 Approved
	<u>EXPENSES</u>				
WAGES AND SALARIES	\$ 69,822,502	\$ 62,002,423	\$ (7,820,079)	-11.2%	\$ 127,828,242
OVERTIME	3,328,473	3,584,108	255,635	7.7%	5,727,593
FRINGE BENEFITS	14,748,406	13,869,551	(878,855)	-6.0%	25,823,383
WORKERS' COMPENSATION	1,250,897	1,531,846	280,949	22.5%	2,144,395
CHEMICALS	15,604,925	12,720,951	(2,883,974)	-18.5%	28,269,124
ENERGY AND UTILITIES	17,966,395	17,921,559	(44,836)	-0.2%	31,064,890
MAINTENANCE	22,954,696	23,296,986	342,290	1.5%	38,574,256
TRAINING AND MEETINGS	286,246	230,149	(56,097)	-19.6%	498,597
PROFESSIONAL SERVICES	5,901,752	4,261,622	(1,640,130)	-27.8%	10,410,484
OTHER MATERIALS	2,817,900	4,038,001	1,220,101	43.3%	7,167,400
OTHER SERVICES	19,862,799	17,670,224	(2,192,575)	-11.0%	38,494,660
TOTAL DIRECT EXPENSES	\$ 174,544,991	\$ 161,127,420	\$ (13,417,570)	-7.7%	\$ 316,003,024
<u>INDIRECT EXPENSES</u>					
INSURANCE	\$ 2,345,411	\$ 2,596,286	\$ 250,875	10.7%	\$ 4,065,380
WATERSHED/PILOT	11,610,606	10,050,020	(1,560,586)	-13.4%	30,358,187
HEEC PAYMENT	4,776,911	4,865,359	88,448	1.9%	7,500,650
MITIGATION	1,026,395	1,026,395	-	0.0%	1,779,086
ADDITIONS TO RESERVES	4,535,213	4,535,213	-	0.0%	7,861,035
RETIREMENT FUND	15,972,804	15,972,804	-	0.0%	15,972,804
POST EMPLOYEE BENEFITS	-	-	-	---	2,849,365
TOTAL INDIRECT EXPENSES	\$ 40,267,340	\$ 39,046,077	\$ (1,221,264)	-3.0%	\$ 70,386,507
<u>CAPITAL FINANCE EXPENSES</u>					
STATE REVOLVING FUND	\$ 47,215,917	\$ 47,449,330	\$ 233,413	0.5%	\$ 90,798,263
SENIOR DEBT	168,383,545	168,383,545	-	0.0%	294,055,644
DEBT SERVICE ASSISTANCE	(1,187,297)	(1,187,297)	-	0.0%	(1,187,297)
CURRENT REVENUE/CAPITAL	-	-	-	---	19,200,000
SUBORDINATE MWRA DEBT	40,367,456	40,367,456	-	0.0%	69,931,072
LOCAL WATER PIPELINE CP	-	-	-	---	7,744,625
CAPITAL LEASE	1,855,996	1,855,996	-	0.0%	3,217,060
VARIABLE DEBT	-	(2,178,342)	(2,178,342)	---	-
DEFEASANCE ACCOUNT	-	1,944,930	1,944,930	---	-
DEBT PREPAYMENT	-	-	-	---	4,000,000
TOTAL CAPITAL FINANCE EXPENSE	\$ 256,635,617	\$ 256,635,617	\$ -	0.0%	\$ 487,759,367
TOTAL EXPENSES	\$ 471,447,948	\$ 456,809,114	\$ (14,638,834)	-3.1%	\$ 874,148,898
<u>REVENUE & INCOME</u>					
RATE REVENUE	\$ 481,308,462	\$ 481,308,462	\$ -	0.0%	\$ 834,268,000
OTHER USER CHARGES	7,265,589	7,140,782	(124,807)	-1.7%	10,390,434
OTHER REVENUE	4,562,492	4,469,062	(93,430)	-2.0%	5,838,903
RATE STABILIZATION	176,240	176,240	-	0.0%	305,482
INVESTMENT INCOME	12,300,338	17,068,499	4,768,161	38.8%	23,346,079
TOTAL REVENUE & INCOME	\$ 505,613,120	\$ 510,163,045	\$ 4,549,924	0.9%	\$ 874,148,898

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY24 Budget YTD January	FY24 Actuals January	FY24 YTD Actual vs. FY24 Budget		Explanations
			\$	%	
Direct Expenses					
Wages & Salaries	69,822,502	62,002,423	(7,820,079)	-11.2%	Wages and Salaries are under budget by \$7.8 million or 11.2%. Year to date, there have been 101 fewer average FTEs (1,067 versus 1,168 budget), lower average new hire salaries versus retirees, the timing of backfilling vacant positions.
Overtime	3,328,473	3,584,108	255,635	7.7%	Overtime expenses were greater than budget by \$256,000 or 7.7%. Greater than budget spending at Deer Island of \$307,000 and Field Operations of \$32,000 due to shift coverage as well as rain and snow removal events, partially offset by Engineering & Construction of \$35,000. Year-to-date rainfall was a major contributor for the increased overtime.
Fringe Benefits	14,748,406	13,869,551	(878,855)	-6.0%	Fringe Benefit spending was lower than budget by \$879,000 or 6.0%. Spending was lower than budget for Health Insurance of \$906,000, due to fewer than budgeted participants in health insurance plans, increased contribution by external new hires vs. lower contribution rates of staff retiring, and the shift from family to individual plans which are less expensive.
Worker's Compensation	1,250,897	1,531,846	280,949	22.5%	Worker's Compensation expenses were greater than budget by \$281,000 or 22.5%. The higher than budgeted expenses were due to Medical Payments of \$154,000 and Compensation Payments of \$151,000, partially offset and Administrative Expenses of \$25,000. Due to uncertainties of when spending will happen, the budget is spread evenly throughout the year.

**ATTACHMENT 2
Current Expense Variance Explanations**

Total MWRA	FY24 Budget YTD January	FY24 Actuals January	FY24 YTD Actual vs. FY24 Budget		Explanations
			\$	%	
Chemicals	15,604,925	12,720,951	(2,883,974)	-18.5%	Chemicals were lower than budget by \$2.9 million or 18.5%. Lower than budget spending on Sodium Hypochlorite of \$1.5M driven by Water Operations of \$1.3 million and Wastewater Operations of \$120,000 due to contract pricing, and DITP of \$125,000 due to additional usage for disinfection due to higher flows. Carbon Dioxide was lower than budget by 416,000 primarily due to lower volume, lower contract price, and lower dose required to meet target residual levels in finished water, Ferric Chloride of \$317,000 due to decreased usage to maintain digested sludge orthophosphate levels within the target range, Aqua Ammonia of \$207,000 due to lower price, lower volume delivered, and lower flows, Sodium Bisulfite of \$150,000 primarily driven by Water Operations of \$88,000 due to lower dose and volume due to lower flows and DITP of \$59,000 due to lower quantities to dechlorinate the effluent, and Polymer of \$130,000 due to lower secondary waste sludge production due to the multiple rain events resulting in higher plant flows, and Other Oxidizers (Bioxide) at Framingham PS was lower than budget by \$118,000 due to lower price and less deliveries, partially offset by Hydrogen Peroxide of \$244,000 which is added to the DITP influent to reduce elevated H2S levels for odor pretreatment and corrosion control, and allows staff to perform maintenance activities more safely within the tanks. DITP flows are 11.7% greater than the budget and the CWTP flows are 3.5% less than the budget through January. It is important to note that Chemical variances are also based on deliveries which in general reflect the usage patterns. However, the timing of deliveries is an important factor.
Utilities	17,966,395	17,921,559	(44,836)	-0.2%	Utilities were lower than budget by \$45,000 or 0.2%. Underspending in Diesel Fuel of \$1.6 million primarily due to timing of purchasing at Deer Island Treatment Plant (DITP). Purchase is expected later in the fiscal year. Overspending in Electricity of \$1.6 million primarily at DITP of \$824,000 driven by new pass through cost associated with the Mystic Power Station and higher demand usage due to the many rain events. Electricity in Field Operations was greater than budget by \$742,000 primarily due to higher use as a result of the many rain events for pumping and fan use for odor control.
Maintenance	22,954,696	23,296,986	342,290	1.5%	Maintenance was greater than budget by \$342,000 or 1.5%, largely driven by the timing of projects. <i>Maintenance Materials</i> are over budget by \$645,000 driven by Plant & Machinery Materials of \$927,000 due to timing and higher spending for glass lined pipe/fittings, seals, and grinder cartridges and Warehouse Inventory of \$559,000 due to need for spare parts as well as purchasing of materials early due to supply chain issues, partially offset by Special Equipment Materials of \$464,000 due to timing including the purchase of hatch covers at Loring Road, HVAC Materials of \$196,000, Computer Materials of \$116,000, and Building and Grounds Materials of \$74,000, all due to timing. <i>Maintenance Services</i> were lower than budget by \$303,000 driven by Electrical Services of \$544,000 due to timing of work including the JCWTP Ozone generator PLC replacement and JCWTP emergency generator emissions monitoring PLC repair, Building & Grounds Services of \$243,000, and Computer Services of \$159,000, also due to timing of work. This lower than budgeted spending was partially offset by Computer Software-Licenses/Upgrades of \$555,000 primarily due to timing of purchases.

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY24 Budget YTD January	FY24 Actuals January	FY24 YTD Actual vs. FY24 Budget		Explanations
			\$	%	
Training & Meetings	286,246	230,149	(56,097)	-19.6%	Training & Meetings was lower than budget by \$56,000 or 19.6% is primarily due to timing driven by MIS (\$50,000), Procurement (\$10,000), Water Redundancy (\$18,000), and Engineering & Construction (\$10,000), partially offset by higher spending in Field Operations of \$21,000 and Operations Administration of \$15,000.
Professional Services	5,901,752	4,261,622	(1,640,130)	-27.8%	Professional Services were less than budget by \$1.6 million or 27.8% driven by lower Other Services of \$639,000 due to timing of services including the Disparity Study, Computer Systems Consultant of \$296,000, Lab & Testing Analysis of \$281,000, and Legal Services of \$216,000, all due to timing of spending.
Other Materials	2,817,900	4,038,001	1,220,101	43.3%	Other Materials were greater than budget by \$1.2 million or 43.3% driven by Computer Hardware of \$1.1 million primarily due to timing of equipment purchases and purchases that will be reclassified to the CIP, Vehicle Purchases of \$148,000 due to timing of purchases, Vehicle Expense of \$97,000 due to timing of vehicle expenses including the electrical vehicle charging stations originally anticipated to be completed by FY23, and Health/Safety of \$85,000 due to timing of purchases. These were partially offset by lower than budgeted spending for Other Materials of \$115,000 due to timing including Phase 3 Office Consolidation to Chelsea and DITP and Equipment/Furniture of \$106,000 due to timing of purchases.
Other Services	19,862,799	17,670,224	(2,192,575)	-11.0%	Other Services were lower than budget by \$2.2 million or 11.0% driven by Sludge Pelletization of \$1.1 million primarily due to \$969,000 of the \$6.2 million of potential landfill costs due to anticipated PFAS regulations that were budgeted in the second half of FY24 as well as lower quantities and Grit & Screenings Removal of \$165,000 due to lower quantities, Telecommunications of \$637,000 due to updated and less than anticipated costs, Other Services of \$131,000 due to timing and less than anticipated need, and Police Details of \$83,000 due to less than anticipated need.
Total Direct Expenses	174,544,991	161,127,420	(13,417,571)	-7.7%	

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY24 Budget YTD January	FY24 Actuals January	FY24 YTD Actual vs. FY24 Budget		Explanations
			\$	%	
Indirect Expenses					
Insurance	2,345,411	2,596,285	250,874	10.7%	Higher Payments/Claims of \$232,000 and higher Premiums of \$19,000 than budgeted
Watershed/PILOT	11,610,606	10,050,020	(1,560,586)	-13.4%	Lower Watershed Reimbursement of \$1.6 million driven by lower spending on Wages & Salaries, Fringe Benefits, and Equipment/Maintenance.
HEEC Payment	4,776,911	4,865,359	88,448	1.9%	HEEC Revenue Requirement of \$92,000.
Mitigation	1,026,396	1,026,396	-	0.0%	
Addition to Reserves	4,535,213	4,535,213	-	0.0%	
Pension Expense	15,972,804	15,972,804	-	0.0%	
Post Employee Benefits	-	-	-		
Total Indirect Expenses	40,267,341	39,046,077	(1,221,264)	-3.0%	
Debt Service					
Debt Service	257,822,914	257,822,914	-	0.0%	Capital Financing was on budget after the transfer of \$1.9 million to the Defeasance account. The transfer reflects lower variable rate debt expense due to lower than budget variable interest expense of \$2.2 million as a result of lower interest rates, partially offset by higher SRF spending of \$233k due to timing.
Debt Service Assistance	(1,187,297)	(1,187,297)	-	0.0%	
Total Debt Service Expenses	256,635,617	256,635,617	-	0.0%	
Total Expenses	471,447,949	456,809,114	(14,638,834)	-3.1%	

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY24 Budget YTD January	FY24 Actuals January	FY24 YTD Actual vs. FY24 Budget		Explanations
			\$	%	
Revenue & Income					
Rate Revenue	481,308,461	481,308,462	1	0.0%	
Other User Charges	7,265,589	7,140,782	(124,807)	-1.7%	Other User Charges were \$125,000 or 1.7% lower than budget due to less than anticipated community water treatment plant billing, timing of payment for DCR pools and parks, and DITP water was less than anticipated.
Other Revenue	4,562,492	4,469,062	(93,430)	-2.0%	Other Revenue was \$93,000 or 2.0% lower than budget due to Profit and Loss on Disposal of Equipment of \$163,000 and Energy Revenue of \$159,000, partially offset by Penalties of \$105,000 and Miscellaneous Revenue of \$73,000.
Rate Stabilization	176,240	176,240	-	0.0%	HEEC Reserve.
Investment Income	12,300,338	17,068,499	4,768,161	38.8%	Investment Income is over budget due to higher than budgeted interest rates and higher average balances.
Total Revenue	505,613,120	510,163,045	4,549,925	0.9%	
Net Revenue in Excess of Expenses	34,165,171	53,353,931	19,188,759		

**ATTACHMENT 3
FY24 CIP Variance Report (\$000s)**

	FY24 Budget January	FY24 Actuals January	Actuals vs. Budget		Explanations
			\$	%	
Wastewater					
Interception & Pumping (I&P)	\$16,648	\$10,274	(\$6,374)	-38.3%	<u>Less than planned spending</u> Braintree/Weymouth Improvements - Construction: \$3.9M (timing of work, long lead time for equipment and delay in fabrication of structural steel) Ward Street & Columbus Park Headworks Upgrades - Design/CA: \$1.1M (delay in performing shaft inspections and issuing NTP for Final Design) Siphon Structure Rehabilitation Construction: \$552k (schedule change) <u>Greater than planned spending</u> Chelsea Creek Upgrades: \$723k (claim settlements)
Treatment	\$9,991	\$10,143	\$152	1.5%	<u>Greater than planned spending</u> Clarifier Rehabilitation Phase 2 - Construction: \$2.5M (equipment received ahead of schedule) Radio Repeater System Upgrade 2: \$292k (contractor progress) <u>Less than planned spending</u> DITP As-Needed Design: \$745k (lower than projected task order work) DITP Roofing Replacement: \$667k, and DiStor Membrane Replacements: \$417k (schedule changes) SSPS VFD Replacement - Design/ESDC/REI: \$578k (Preliminary Design Report phase is more complicated than originally believed)
Residuals	\$0	\$0	\$0	0.0%	
CSO	\$2,266	\$1,278	(\$989)	-43.6%	<u>Less than planned spending</u> Chelsea 008 Pipe Replacement: \$699k (work scheduled for FY24 performed in FY23) Somerville Marginal New Pipe Connection: \$217k (schedule change)
Other Wastewater	\$21,099	\$15,992	(\$5,106)	-24.2%	<u>Less than planned spending</u> I/I Local Financial Assistance: \$5.1M (timing of community distributions of grants and loans)
Total Wastewater	\$50,004	\$37,687	(\$12,317)	-24.6%	
Waterworks					

**ATTACHMENT 3
FY24 CIP Variance Report (\$000s)**

	FY24 Budget January	FY24 Actuals January	Actuals vs. Budget		Explanations
			\$	%	
Drinking Water Quality Improvements	\$2,033	\$1,298	(\$735)	-36.1%	<u>Less than planned spending</u> CWTP Technical Assistance: \$1.2M (lower than projected task order work) <u>Greater than planned spending</u> CWTP Chemical Feed System Improvements - Construction: \$625k (work scheduled for FY23 performed in FY24)
Transmission	\$28,257	\$20,951	(\$7,307)	-25.9%	<u>Less than planned spending</u> Tunnel Redundancy Preliminary Design & MEPA Review: \$3.2M (timing of consultant work) Geotechnical Support Services: \$870k (timing of support services) WASM 3 Rehabilitation CP-1: \$1.1M (work scheduled for FY24 performed in FY23) WASM 3 - MEPA/Design/CA/RI: \$755k (timing of consultant work) Wachusett Lower Gatehouse Pipe & Boiler Replacement - Construction: \$1.0M (longer lead time on some larger items and a change in design for the multi-orifice valve) Maintenance Garage/Wash Bay/Storage Building - Construction: \$483k (schedule change) Watershed Land Acquisition: \$445k (timing of land purchases) Program Support Services: \$395k (timing of services) <u>Greater than planned spending</u> Waltham Water Pipeline - Construction: \$2.9M (work scheduled in FY23 performed in FY24)
Distribution & Pumping	\$24,659	\$17,159	(\$7,500)	-30.4%	<u>Less than planned spending</u> Section 89/29 Replacement - Construction: \$3.5M, CP-1 NEH Improvements: \$2.2M Section 75 Extension - Construction CP-1: \$1.5M (updated schedule) <u>Greater than planned spending</u> CP-2, Sections 25 & 24 - Construction: \$468k (contractor progress)
Other Waterworks	\$16,919	\$28,039	\$11,120	65.7%	<u>Greater than planned spending</u> Local Water Pipeline Financial Assistance Program: \$12.6M (timing of community loan distributions) <u>Less than planned spending</u> Steel Tank Improvements - Construction: \$744k and Design/CA: \$426k (updated Construction schedule)
Total Waterworks	\$71,869	\$67,447	(\$4,421)	-6.2%	

ATTACHMENT 3
FY24 CIP Variance Report (\$000s)

	FY24 Budget January	FY24 Actuals January	Actuals vs. Budget		Explanations
			\$	%	
Business & Operations Support					
Total Business & Operations Support	\$9,930	\$3,728	(\$6,202)	-62.5%	<u>Less than planned spending</u> As-Needed Design Contracts: \$2.3M (lower than projected task order work) Security Equipment & Installation: \$1.2M (timing of security initiatives) MAXIMO Interface Enhancements: \$661k, Lawson Upgrade: \$553k, Oracle Database Appliance: \$388k, Enterprise Content Management: \$357k, and Core Switches: \$320k (timing of work) FY24-28 Vehicle Purchases: \$340k (timing of purchases) <u>Greater than planned spending</u> Office Space Modifications: \$823k (FY23 planned work completed in FY24)
Total MWRA	\$131,803	\$108,863	(\$22,940)	-17.4%	

**Attachment 4
FY24 Budget vs. FY24 Projection**

TOTAL MWRA	FY24 Budget	FY24 Projection	Change FY24 Budget vs FY24 Projection	
			\$	%
EXPENSES				
WAGES AND SALARIES	\$ 127,828,242	\$ 114,808,802	\$ (13,019,440)	-10.2%
OVERTIME	5,727,593	6,350,450	622,857	10.9%
FRINGE BENEFITS	25,823,383	24,532,214	(1,291,169)	-5.0%
WORKERS' COMPENSATION	2,144,395	2,466,054	321,659	15.0%
CHEMICALS	28,269,124	21,543,101	(6,726,023)	-23.8%
ENERGY AND UTILITIES	31,064,893	31,928,750	863,857	2.8%
MAINTENANCE	38,574,255	37,574,255	(1,000,000)	-2.6%
TRAINING AND MEETINGS	498,597	436,272	(62,325)	-12.5%
PROFESSIONAL SERVICES	10,410,484	9,410,484	(1,000,000)	-9.6%
OTHER MATERIALS	7,167,398	6,877,398	(290,000)	-4.0%
OTHER SERVICES	38,494,660	33,736,660	(4,758,000)	-12.4%
TOTAL DIRECT EXPENSES	\$ 316,003,024	\$ 289,664,441	\$ (26,338,583)	-8.3%
INSURANCE	\$ 4,065,380	\$ 4,295,270	\$ 229,890	5.7%
WATERSHED/PILOT	30,358,187	28,644,392	(1,713,795)	-5.6%
HEEC PAYMENT	7,500,650	7,643,162	142,512	1.9%
MITIGATION	1,779,086	1,779,086	-	0.0%
ADDITIONS TO RESERVES	7,861,035	7,861,035	-	0.0%
RETIREMENT FUND	15,972,805	15,972,805	-	0.0%
POSTEMPLOYMENT BENEFITS	2,849,365	2,849,365	-	0.0%
TOTAL INDIRECT EXPENSES	\$ 70,386,507	\$ 69,045,115	\$ (1,341,393)	-1.9%
STATE REVOLVING FUND	\$ 90,798,263	\$ 83,358,104	\$ (7,440,159)	-8.2%
SENIOR DEBT	294,055,644	291,943,144	(2,112,500)	-0.7%
SUBORDINATE DEBT	69,931,072	66,443,800	(3,487,272)	-5.0%
LOCAL WATER PIPELINE CP	7,744,625	7,744,625	-	0.0%
CURRENT REVENUE/CAPITAL	19,200,000	19,200,000	-	0.0%
CAPITAL LEASE	3,217,060	3,217,060	-	0.0%
DEBT PREPAYMENT	4,000,000	4,000,000	-	0.0%
DEBT SERVICE ASSISTANCE	(1,187,297)	(1,187,297)	-	0.0%
TOTAL DEBT SERVICE	\$ 487,759,367	\$ 474,719,436	\$ (13,039,931)	-2.7%
TOTAL EXPENSES	\$ 874,148,898	\$ 833,428,991	\$ (40,719,907)	-4.7%
REVENUE & INCOME				
RATE REVENUE	\$ 834,268,000	\$ 834,268,000	\$ -	0.00%
OTHER USER CHARGES	10,390,434	10,349,723	(40,711)	-0.4%
OTHER REVENUE	5,838,903	5,645,942	(192,961)	-3.3%
RATE STABILIZATION	305,482	305,482	-	0.0%
INVESTMENT INCOME	23,346,079	31,520,079	8,174,000	35.0%
TOTAL REVENUE & INCOME	\$ 874,148,898	\$ 882,089,226	\$ 7,940,328	0.9%

VARIANCE: **\$ (48,660,235)** **\$ (48,660,235)**

STAFF SUMMARY




TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: February 21, 2024
SUBJECT: Fiscal Year 2024 Mid-Year Capital Improvement Program Spending Report

COMMITTEE: Administration, Finance & Audit

INFORMATION
 VOTE

Michael J. Cole, Budget Director
James J. Coyne, Budget Manager
Preparer/Title


Thomas J. Durkin
Director, Finance

RECOMMENDATION:

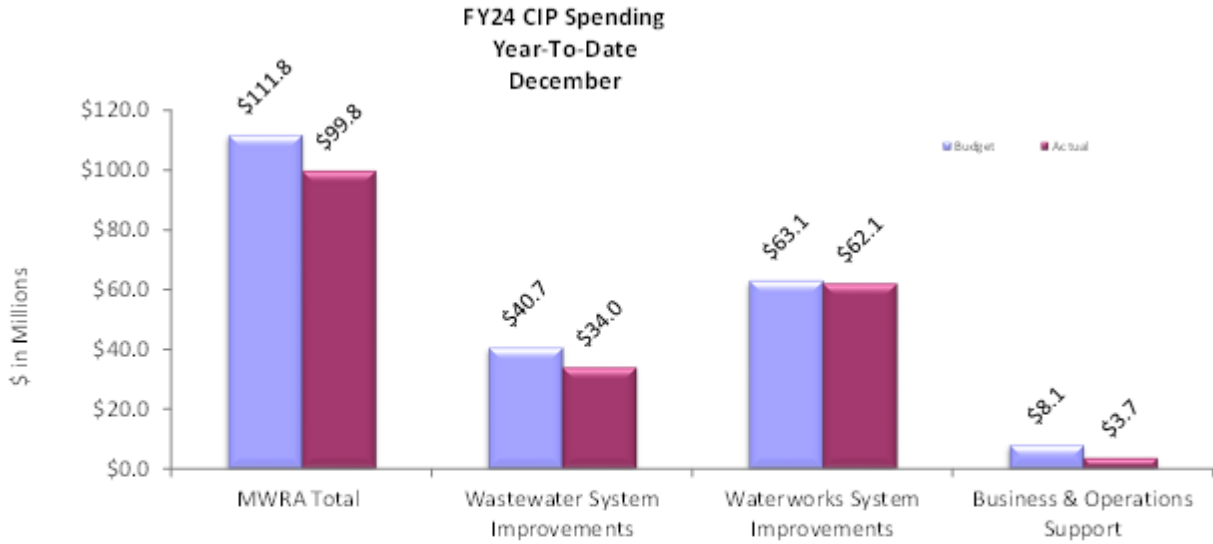
For information only. The Fiscal Year 2024 Mid-Year Capital Improvement Program Spending Report highlights major capital program accomplishments and provides explanations for spending variances and schedule changes versus the plan.

DISCUSSION:

Capital expenditures in Fiscal Year 2024 through December total \$99.8 million, \$12.0 million or 10.7% under planned spending. After accounting for programs which are not directly under MWRA's control, most notably the Inflow and Infiltration (I/I) grant/loan program, the Local Water System Assistance loan program, and the community managed Combined Sewer Overflow (CSOs) projects, capital spending totaled \$59.2 million, \$19.1 million or 24.4% under planned spending.

The projected spending for FY24 updated for the FY25 Proposed CIP is estimated at \$264.1 million which is \$38.5 million or 12.7% lower than plan. Spending over the most recent five fiscal years has been on average 33.5% lower than plan. After accounting for programs which are not directly under MWRA's control, the projected spending for FY24 is estimated at \$175.4, which is \$66.4 million or 27.5% lower than plan. Spending over the most recent five fiscal years has been on average 38.1% lower than plan.

Projected spending may decline due to some major projects that have not yet been awarded. These include Motor Control Center Switch Gear Replacement and Section 75 Extension CP-1. Staff are meeting monthly to discuss planned projects and issues that need to be resolved to ensure timely award of contracts.



Projects that were completed or reached substantial completion in the first half of FY24 include:

- Chelsea Creek Headworks Radio Equipment
 - FY24 Plan: \$0.2 million
 - Completion Date: July 2023
 - Total Project Duration: 0.8 years
- Screw Pump Replacement
 - FY24 Plan: \$3.5 million
 - Completion Date July 2023
 - Total Project Duration: 1.8 years
- Netscalers
 - FY24 Plan: \$0.1 million
 - Completion Date August 2023
 - Total Project Duration: 0.4 years
- Remote Headworks Shaft Access Improvements-Construction
 - FY24 Plan: \$2.5 million
 - Completion Date: August 2023
 - Total Project Duration: 1.1 years
- Archiving & Data Management
 - FY24 Plan: \$.1 million
 - Completion Date: September 2023
 - Total Project Duration: 1.0 years

- Chelsea 008 Pipe Replacement
 - FY24 Plan: \$1.6 million
 - Completion Date: September 2023
 - Total Project Duration: 0.8 years

- Nut Island Headworks Odor Control and HVAC
 - FY24 Plan: \$61.7 million
 - Completion Date September 2023
 - Total Project Duration: 3.6 years

- Section 22 North Facility Alternatives Analysis & Environmental Permits
 - FY24 Plan: \$2.2 million
 - Completion Date September 2023
 - Total Project Duration: 4.0 years

- Wachusett Dam LGH Window & Door Replacement
 - FY24 Plan: \$0.7 million
 - Completion Date: October 2023
 - Total Project Duration: 2.0 years

- As Needed Design Contract 19
 - FY24 Plan: \$2.7 million
 - Completion Date: November 2023
 - Total Project Duration: 3.0 years

- As Needed Design Contract 18
 - FY24 Plan: \$2.6 million
 - Completion Date: December 2023
 - Total Project Duration: 3.0 years

- SAP BO Migration
 - FY24 Plan: \$0.8 million
 - Completion Date: December 2023
 - Total Project Duration: 7.5 years

- Technical Assistance 11
 - FY24 Plan: \$1.2 million
 - Completion Date: December 2023
 - Total Project Duration: 3.0 years

- Technical Assistance 12
 - FY24 Plan: \$1.0 million
 - Completion Date: December 2023
 - Total Project Duration: 3.0 years

MWRA also has a number of projects currently in design or under construction. Expenditures for some of the larger active contracts are:

Wastewater System Improvements

Project	Subphase	FY24 Budget \$s in 000	Expenditures Thru December 2023	% Complete
DI Treatment Plant Asset Protection	Clarifier Rehabilitation Phase 2 - Construction	\$289,360	\$7,673	2.7%
Braintree-Weymouth Relief	B/W Improvements - Construction	\$13,490	\$2,937	21.8%
Corrosion & Odor Control	NI Odor Control HVAC Improvement Construction Phase 2	\$61,340	\$1,996	3.3%
Clinton Wastewater Treatment Plant	Screw Pump Replacement	\$3,453	\$981	28.4%
Facility Asset Protection	Fuel Oil Tank Replacement Construction Phase 2	\$1,820	\$825	45.3%
DI Treatment Plant Asset Protection	Radio Repeater System Upgrade 2	\$2,500	\$789	31.5%
Corrosion & Odor Control	NI Odor Control & HVAC Des/CA/REI	\$8,731	\$587	6.7%

Waterworks System Improvements

Project	Subphase	FY24 Budget \$s in 000	Expenditures Thru December 2023	% Complete
Metro Redundancy Interim Improvements	Waltham Water Pipeline Construction	\$27,553	\$10,402	37.8%
New Connect Mains-Shaft 7 to WASM 3	CP3-Sect 23,24,47, Rehabilitation	\$24,583	\$6,612	26.9%
New Connect Mains-Shaft 7 to WASM 3	Sect 25 & 24 - Construction CP-2	\$21,422	\$4,381	20.5%
Metro Tunnel Redundancy	Geotechnical Support Services	\$12,790	\$3,214	25.1%
NIH Redundancy & Storage	Section 89 & 29 Repl - Construction	\$33,659	\$2,606	7.7%
Central Monitoring System	CWTP SCADA Upgrade Construction	\$13,160	\$2,013	15.3%
Quabbin Transmission System	Wach Lower Gate House Pipe & Boiler Replacement Construction	\$18,994	\$1,274	6.7%
Metro Tunnel Redundancy	Program Support Services	\$17,498	\$891	5.1%
Metro Tunnel Redundancy	Preliminary Design & MEPA Review	\$15,693	\$789	5.0%
Metro Redundancy Interim Improvements	WASM/SPSM West PRV Construction	\$11,606	\$661	5.7%

Community Financial Assistance

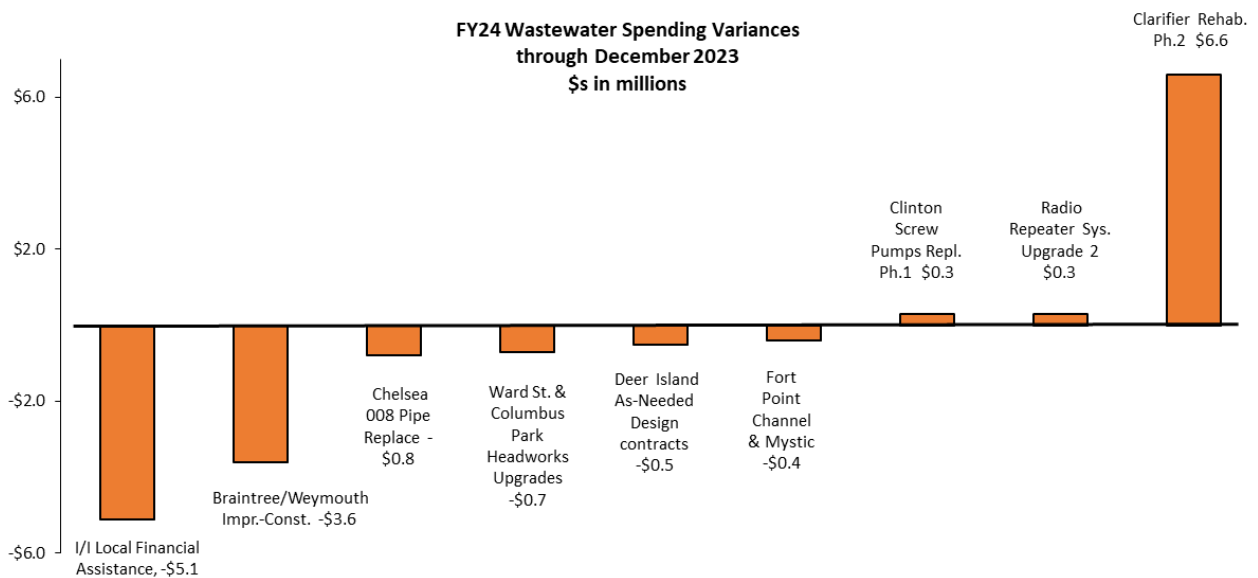
In the first half of FY24, MWRA continued support for the community financial assistance programs includes overall spending of \$40.6 million. Inflow and Infiltration (I/I) spending consisted of \$14.2 million in grants and \$5.7 million in loans offset by \$3.9 million in prior period loan repayments for net spending of \$16.0 million. The Local Water System Assistance Program spending was \$41.5 million in loans, including CVA communities, offset by \$16.9 million in prior period loan repayments for net loans of \$24.7 million that includes net Lead Service Line Replacement loans of \$4.7 million.

Major Variances to FY24 Plan

FY24 Capital Improvement Program Spending Through December 2023 (\$000s)					
Program	Budgeted Spending	Actual Spending	Variance to Budget		% of Total YTD Actual Spending
			\$	%	
Total Wastewater System	\$40,650	\$34,032	(\$6,618)	-16%	34%
Interception & Pumping	\$13,963	\$7,720	(\$6,243)	-45%	8%
Treatment	\$3,688	\$9,800	\$6,111	166%	10%
Residuals	\$0	\$0	\$0	NA	0%
Combined Sewer Overflow	\$1,900	\$520	(\$1,380)	-73%	1%
Other Wastewater Programs	\$21,099	\$15,992	(\$5,106)	-24%	16%
Total Waterworks System	\$63,091	\$62,121	(\$970)	-2%	62%
Drinking Water Quality Improvements	\$1,646	\$1,142	(\$504)	-31%	1%
Transmission	\$24,210	\$19,113	(\$5,098)	-21%	19%
Distribution and Pumping	\$21,214	\$14,349	(\$6,865)	-32%	14%
Other Waterworks Programs	\$16,020	\$27,518	\$11,497	72%	28%
Business & Operations Support	\$8,075	\$3,665	(\$4,410)	-55%	4%
Total MWRA (without Contingency)	\$111,816	\$99,819	(\$11,997)	-11%	100%

Wastewater System Improvements

Wastewater year-to-date spending was \$34.0 million, \$6.6 million or 16.3% below plan. The graph below reflects contract variances of \$0.3 million or greater.



The main reasons for the project spending variances in order of magnitude are:

Other Wastewater: Net under planned spending of \$5.1 million

\$5.1 million for Community I/I due to timing of community distributions of grants and loans.

Interception & Pumping: Net under planned spending of \$6.2 million

- \$3.6 million for Braintree/Weymouth Improvements – Construction due to timing, long lead time for equipment and delay in fabrication of structural steel.
- \$0.7 million for Ward Street & Columbus Park Headworks Upgrades - Design/CA due to delay in performing shaft inspections and issuing NTP for Final Design.

Wastewater Treatment: Net over planned spending of \$6.1 million

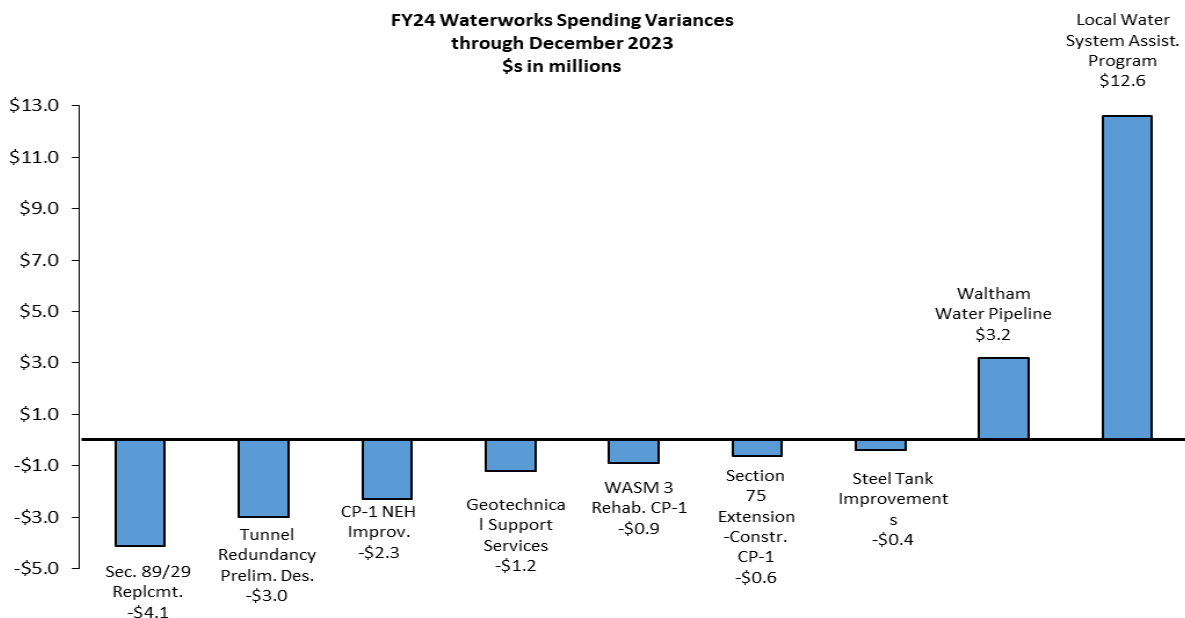
- \$6.6 million for Clarifier Rehabilitation Phase 2 – Construction due to equipment received ahead of schedule.
- \$0.3 million for Clinton Screw Pumps Replacement Phase 1 – Construction due to timing of work.
- \$0.3 million for Radio Repeater System Upgrade 2 due to contractor progress.
- This over planned spending was partially offset by under planned spending of \$0.5 million for Deer Island As-Needed Design contracts due to lower than projected task order work.

Combined Sewer Overflow: Net underspending of \$1.4 million

- \$0.8 million for Chelsea 008 CSO Pipe Replacement due to work scheduled for FY24 performed in FY24, and \$0.4 million for Fort Point Channel & Mystic due to timing of community work.

Waterworks System Improvements

Waterworks actual spending was \$62.1 million, \$1.0 million or 1.5% less than plan. The graph below reflects contract variances of \$0.4 million or greater.



The main reasons for the Waterworks project spending variances in order of magnitude are:

Other Waterworks: Net over planned spending of \$11.5 million

- \$12.6 million for Local Financial Assistance due to timing of community loan distributions.
- This over planned spending was partially offset by less than planned spending of \$0.4 million for Steel Tank Improvements due to updated schedule.

Water Distribution and Pumping: Net under planned spending of \$6.9 million

- \$4.1 million for Section 89/29 Replacement – Construction, \$2.3 million for CP-1 NEH Improvements due to timing of work, and \$0.6 million for Section 75 Extension - Construction CP-1 due to updated schedule.

Waterworks Transmission: Net under planned spending of \$5.1 million

- \$3.0 million for Tunnel Redundancy Preliminary Design & MEPA Review due to timing of consultant work.
- \$1.2 million for Geotechnical Support Services due to timing of support services.
- \$0.9 million for WASM 3 Rehabilitation CP-1 due to work scheduled for FY24 performed in FY24.
- This under planned spending was partially offset by over planned spending of \$3.2 million for Waltham Water Pipeline due to work scheduled in FY24 that was performed in FY24.

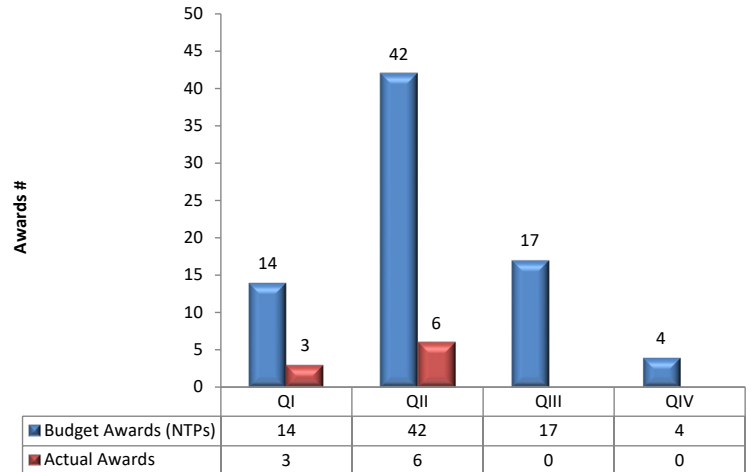
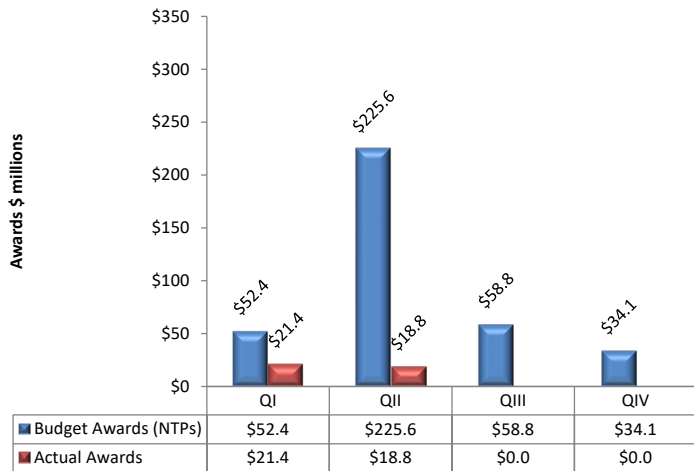
Business & Operations Support: Net under planned spending of \$4.4 million

- \$2.0 million for As-Needed Design Contracts due to lower than projected task order work.
- \$1.0 million for Security Equipment & Installation due to timing of security initiatives.
- \$0.5 million for MAXIMO Interface Enhancements, \$0.4 million for Oracle Database Appliance, and \$0.3 for Core Switches due to timing and scheduling of work.

Please refer to Attachment A for detailed FY24 CIP variance explanations.

Status of Contract Awards Planned for FY24

MWRA's FY24 CIP projected 77 contracts to be awarded for the year with a value of \$371.2 million. Through December, 56 awards with a value of \$278.2 were planned. Through mid-year, MWRA has awarded 9 contracts with a value of \$40.2 million or 14.5% of plan. The three largest contract awards total \$27.7 million and are the Digester & Storage Tank Rehab Design (\$10.0M), Deer Island Treatment Plant Roofing & Replacement (\$8.9M), and the Lawson System Upgrade (\$8.8M).



As part of the FY24 CIP development and monthly CIP coordination meetings, staff have reviewed planned contract awards for FY24 and have updated assumptions based on new information. By the end of FY24, staff expect to award 39 additional planned contracts valued at \$196.5 million for a total of 48 contracts valued at \$236.7 million.

The primary reasons for not expecting to award all contracts in FY24 are:

- Twelve projects have been delayed due to changes in scope that have required additional work;
- Thirteen projects were delayed due to a change in priorities;
- One project had a schedule delay due to permitting issues;
- One projects with Bidder Issue/Outside Design Delay/Contractor issue/Additional specifications review; and
- Two projects have been deleted or are being either combined with another project, are on hold or will be handled through as-needed technical assistance.

The following table summarizes the total number of capital contract awards planned for FY24 and highlights the number planned for award during the second half of FY24.

Recap of Planned FY24 Contract Awards

	# of Awards	\$ Award
Total Planned Awards per FY24 CIP	77	\$371.2
Planned Awards first half of FY24	9	40.2
Unplanned Awards first half of FY24	0	0.0
Subtotal	9	\$40.2
Expected to be Awarded second half of FY24	39	\$196.5
Shifted Beyond FY23 - Scope/Priority Change/Issues/Permit	27	136.9
Deleted/Transferred from CIP/Project on hold	2	2.0
Total Projects Planned to be awarded in FY24	48	\$236.7

Please refer to Attachment B for contract award status for all FY24 planned contracts.

The following nine contracts were awarded in the first half of FY24:

- Deer Island Digester & Storage Tank Rehab Design - \$10.0 million
- Deer Island Roofing & Replacement - \$8.9 million
- Lawson Upgrade - \$8.8 million
- Deer Island Technical Assistance 10-1, 10-2, and 10-3 \$2.4 million each
- Prison Point Construction 2 Discharge Piping Rehab - \$2.5 million
- Quinapoxet Dam Removal – Construction - \$2.5 million
- Sudbury/Foss Dam Removal Construction – 0.3 million

Major Awards Planned for the 2nd Half of FY24

Looking ahead to the second half of FY24, the MWRA anticipates awarding 39 contracts including several major construction contracts for \$196.5 million. The largest projected awards are listed below:

Major Planned Contract Awards in Second Half of FY24		
Program/Project	Subphase	FY24 Budget Contract Amount \$s in Millions
DI Treatment Plant Asset Protection	Motor Control Center & Switchgear Replacement Construction	\$23.5
Northern Extra High Service New Pipeline	CP-2 NEH Improvements	\$20.7
Facility Asset Protection	Hayes Pump Station Rehab Construction	\$19.5
DI Treatment Plant Asset Protection	Combined Heat & Power Des/ESDC/REI	\$14.5
New Connect Mains-Shaft 7 to WASM 3	Section 75 Extension - Construction CP-1	\$14.0
Waterworks Facility Asset Protection	Steel Tank/Improvement Construction	\$11.5
Siphon Structure Rehabilitation	Construction	\$8.3
DI Treatment Plant Asset Protection	Clarifier Rehabilitation Phase 2 - REI	\$7.3
Waterworks Facility Asset Protection	Steel Tank Improvement Construction Phase 2	\$7.1
DI Treatment Plant Asset Protection	Chemical Pipe Replacement - Construction	\$7.0
NIH Redundancy & Storage	NIH Storage - Design	\$6.7
DI Treatment Plant Asset Protection	HVAC Equip Replacement REI	\$6.2
DI Treatment Plant Asset Protection	Gas Protection System Replacement Phase 2	\$5.5
DI Treatment Plant Asset Protection	DI Distor Membrane Replacements	\$5.0
Metropolitan Redundancy Interim Improvements	CP2 Shafts 5	\$4.9
Watershed Division Capital Improvement	Maint Gar/Wash Bay/Stor Bldg Construction	\$4.8
Clinton Wastewater Treatment Plant	Screw Pump Replacement Ph 2 Construction	\$3.5
Facility Asset Protection	Somerville-Marginal CSO Facility Rehab Des/CA	\$3.0
DI Treatment Plant Asset Protection	HVAC Design/ESDC	\$3.0
Clinton Wastewater Treatment Plant	Digester Cover Replacement	\$2.1
Facility Asset Protection	Hingham Pump Station Rehabilitation Des	\$1.9
Facility Asset Protection	Belle Isle Rehabilitation Des/ESDC/REI	\$1.9
Hydraulic Relief Projects	Sommerville Marginal New Pipeline Connection	\$1.7
Northern Extra High Service New Pipeline	REI CP-2	\$1.5
Total		\$185.0

In the second half of the FY24, MWRA also anticipates substantial completion on major contracts including Metropolitan Tunnel Redundancy Preliminary Design and MEPA Review, Weston Aqueduct Supply Mains/Spot Pond Supply Mains Pressure Reducing Valves, Sections

23, 24, and 47 CP-3, NEH Improvements CP-1, Waltham Water Pipeline Construction, and Braintree-Weymouth Improvements Construction.

ATTACHMENTS:

- A. FY24 CIP Variance Explanations through December 2023
- B. FY24 CIP Contract Award Update

**ATTACHMENT A
FY24 CIP Variance Report (\$000s)**

	FY24 Budget December	FY24 Actuals December	Actuals vs. Budget		Explanations
			\$	%	
Wastewater					
Interception & Pumping (I&P)	\$13,963	\$7,720	(\$6,243)	-44.7%	<u>Underspending</u> Braintree/Weymouth Improvements - Construction: \$3.6M (timing of work, long lead time for equipment and delay in fabrication of structural steel) Ward Street & Columbus Park Headworks Upgrades - Design/CA: \$748k (delay in performing shaft inspections and issuing NTP for Final Design) Chelsea Creek Upgrades - Design/CA: \$400k (claim settlement) Fuel Oil Tank Replacement - Construction Phase 2: \$334k (delays due to unforeseen items while excavating including contaminated soil and a concrete vault)
Treatment	\$3,688	\$9,800	\$6,111	165.7%	Clarifier Rehabilitation Phase 2 - Construction: \$6.6M (equipment received ahead of schedule) Radio Repeater System Upgrade 2: \$289k (contractor progress) Clinton Screw Pumps Replacement Phase 1 - Construction: \$272k (timing of work) <u>Offset Underspending</u> DITP As-Needed Design: \$508k (lower than projected task order work) SSPS VFD Replacement - Design/ESDC/REI: \$438k (Preliminary Design Report phase is more complicated than originally believed)
Residuals	\$0	\$0	\$0	0.0%	
CSO	\$1,900	\$520	(\$1,380)	-72.6%	<u>Underspending</u> Chelsea 008 Pipe Replacement: \$764k (work scheduled for FY24 performed in FY23) Fort Point Channel & Mystic: \$417k (timing of community work)
Other Wastewater	\$21,099	\$15,992	(\$5,106)	-24.2%	<u>Underspending</u> I/I Local Financial Assistance: \$5.1M (timing of community distributions of grants and loans)
Total Wastewater	\$40,650	\$34,032	(\$6,618)	-16.3%	
Waterworks					

ATTACHMENT A
FY24 CIP Variance Report (\$000s)

	FY24 Budget December	FY24 Actuals December	Actuals vs. Budget		Explanations
			\$	%	
Drinking Water Quality Improvements	\$1,646	\$1,142	(\$504)	-30.6%	<u>Underspending</u> CWTP Technical Assistance: \$1.1M (lower than projected task order work) <u>Offset Overspending</u> CWTP Chemical Feed System Improvements - Construction: \$557k (work scheduled for FY23 performed in FY24)
Transmission	\$24,210	\$19,113	(\$5,098)	-21.1%	Tunnel Redundancy Preliminary Design & MEPA Review: \$3.0M (timing of consultant work) Geotechnical Support Services: \$1.2M (timing of support services) WASM 3 Rehabilitation CP-1: \$939k (work scheduled for FY24 performed in FY23) WASM 3 - MEPA/Design/CA/RI: \$668k (timing of consultant work) Wachusett Lower Gatehouse Pipe & Boiler Replacement - Construction: \$565k (longer lead time on some larger items and a change in design for the multi-orifice valve) Watershed Land Acquisition: \$445k (timing of land purchases) <u>Offset Overspending</u> Waltham Water Pipeline - Construction: \$3.2M (work scheduled in FY23 performed in FY24)
Distribution & Pumping	\$21,214	\$14,349	(\$6,865)	-32.4%	<u>Underspending</u> Section 89/29 Replacement - Construction: \$4.1M, CP-1 NEH Improvements: \$2.3M, and CP3-Sections 23, 24 & 47 Rehabilitation: \$212k (timing of work) Section 75 Extension - Construction CP-1: \$600k (updated schedule) <u>Offset Overspending</u> CP-2, Sections 25 & 24 - Construction: \$481k (contractor progress)
Other Waterworks	\$16,020	\$27,518	\$11,497	71.8%	<u>Overspending</u> Local Water Pipeline Financial Assistance Program: \$12.6M (timing of community loan distributions) <u>Offset Underspending</u> Steel Tank Improvements - Construction: \$372k and Design/CA: \$360k (updated Construction schedule)
Total Waterworks	\$63,091	\$62,121	(\$970)	-1.5%	

**ATTACHMENT A
FY24 CIP Variance Report (\$000s)**

	FY24 Budget December	FY24 Actuals December	Actuals vs. Budget		Explanations
			\$	%	
Business & Operations Support					
Total Business & Operations Support	\$8,075	\$3,665	(\$4,410)	-54.6%	<u>Underspending</u> As-Needed Design Contracts: \$2.0M (lower than projected task order work) Security Equipment & Installation: \$1.0M (timing of security initiatives) MAXIMO Interface Enhancements: \$500k, Oracle Database Appliance: \$388k, and Core Switches: \$320k (timing of work) FY24-28 Vehicle Purchases: \$340k (timing of purchases) <u>Offset Overspending</u> Office Space Modifications: \$821k (FY23 planned work completed in FY24)
Total MWRA	\$111,816	\$99,819	(\$11,997)	-10.7%	

**ATTACHMENT B
FY24 Contract Awards**

Project	Contract No.	Subphase	Notice to Proceed	Revised Notice to Proceed	FY24 Budget (\$ in millions)	Award Amount (\$ in millions)	Vender	Schedule Change Reason Code *
IT Infrastructure Program	7663	Disaster Recovery	Jul-23	Sep-24	\$1.0			6
IT Infrastructure Program	7664	Instrumentation & Controls IT	Jul-23	Jul-24	\$0.3			5
Facility Asset Protection	7392	Cottage Farm PCB Abatement - Design/CA	Jul-23	Task Order contract	\$1.8			2
Clinton Wastewater Treatment Plant	8071	Influent Sampler Enclosure	Jul-23	Combined with 7735	\$0.2			2
Central Monitoring System	7583	Other Design and Prmg Srvc	Jul-23	Oct-24	\$2.9			6
Facility Asset Protection	7989	Belle Isle Rehab Des/ESDC/REI	Aug-23	Jun-24	\$1.9			3
DI Treatment Plant Asset Protection	7734	DITP Roofing Replacement	Aug-23	Dec-23	\$9.0	\$8.9	Greenwood Industries, Inc.	1
Clinton Wastewater Treatment Plant	7735	Clinton Clariflocculator Valve Repl	Aug-23	Apr-24	\$1.1			3
DI Treatment Plant Asset Protection	6730	CHP Des/ESDC/REI	Sep-23	Mar-24	\$14.5			3
DI Treatment Plant Asset Protection	8018	As-Needed Design 10-1	Sep-23	Nov-23	\$2.4	\$2.4	Hazen and Sawyer	1
DI Treatment Plant Asset Protection	7981	As-Needed Design 10-2	Sep-23	Nov-23	\$2.4	\$2.4	AECOM Technical Services	1
DI Treatment Plant Asset Protection	7982	As-Needed Design 10-3	Sep-23	Nov-23	\$2.4	\$2.4	CDM Smith, P.C.	1
Waterworks Facility Asset Protection	7676	Steel Tanks Impr REI	Sep-23	May-24	\$1.1			3
Waterworks Facility Asset	7493	Steel Tank/Impr Constr	Sep-23	May-24	\$11.5			3
Info Security Program ISP	7440	Information Security Assessments	Oct-23	Jan-24	\$0.4			3
Hydraulic Relief Projects	7985	Somm Marginal New Pipe Connect	Oct-23	Mar-24	\$1.7			3
Hydraulic Relief Projects	8070	Som.-Marg.New Pipe Conn. REI	Oct-23	Feb-24	\$0.5			3
Siphon Structure Rehabilitation	6225	Construction	Oct-23	Apr-24	\$8.3			3
Siphon Structure Rehabilitation	7996	Siphon Structure Phase 1 REI	Oct-23	Apr-24	\$1.0			3
Facility Asset Protection	7689	Somerville-Marginal CSO Facility Rehab Des/CA	Oct-23	Apr-24	\$3.0			3
Facility Asset Protection	8013	Prison Point Const. 2 Discharge Piping Rehab	Oct-23	Sep-13	\$0.8	\$2.5	R. Zoppo Corp.	1
DI Treatment Plant Asset Protection	7110	HVAC Design/ESDC	Oct-23	Mar-24	\$3.0			3
Clinton Wastewatr Treatment Plant	7648	Digester Cover Replacement	Oct-23	Jan-24	\$2.1			3
New Connect Mains-Shaft 7 to WASM 3	7484	Section 75 Extension - Const CP-1	Oct-23	Jun-24	\$14.0			3
New Connect Mains-Shaft 7 to WASM 3	8067	Sect 75 Ext REI CP-1	Oct-23	May-24	\$1.2			3
CWTP Asset Protection	7755	CWTP Parapet Wall Repairs	Oct-23	Jun-24	\$0.8			3
Dam Projects	7615	Sudbury/Foss Dam Construction	Oct-23	May-24	\$3.2	\$0.3	SumCo Eco Contracting, Inc.	1
Metro Redundancy Interim Impr.	7600	Shaft 5 Building Impr. Constr.	Oct-23	Apr-26	\$3.0			5
Metro Redundancy Interim Impr.	7670	CP3 Shafts 7, 7B, 7C, 7D	Oct-23	Apr-26	\$8.6			5
Metro Redundancy Interim Impr.	7673	Shaft 5 Impr REI	Oct-23	Apr-26	\$0.3			5
Metro Redundancy Interim Impr.	7703	CP3 Tops of Shafts REI	Oct-23	Aug-26	\$0.3			5
Facility Asset Protection	7637	Fuel Oil Tank Repl Constr Ph 3	Nov-23	Sep-24	\$3.8			7
DI Treatment Plant Asset Protection	6852	Chemical Pipe Replacement - Construction	Nov-23	Mar-24	\$7.0			3
DI Treatment Plant Asset Protection	7052	Digester & Storage Tank Rehab Design/ESDC	Nov-23	Nov-23	\$6.0	\$10.0	CDM Smith	1
DI Treatment Plant Asset Protection	7135	DI Distor Membrane Replacements	Nov-23	Jun-24	\$5.0			3
Waterworks Facility Asset Protection	8021	Brutsch T.P. Sodium Hypo Upgr.	Nov-23	Sep-24	\$0.7			4
Quabbin Transmission Syst.	8061	Heat Pumps WLGH/N.Nep/Newt PS	Nov-23	Apr-24	\$1.1			3
Dam Projects	7348	Quinapoxet Dam Removal - Construction	Nov-23	Nov-23	\$2.0	\$2.5	Lucianos Excavation, Inc.	1
Dam Projects	7690	Quinapoxet Rem Dam REI	Nov-23	Nov-23	\$0.1			3
Metro Redundancy Interim Impr.	7671	CP2 Shafts 5	Nov-23	Apr-24	\$4.9			3
Metro Redundancy Interim Impr.	7702	CP2 Tops of Shafts REI	Nov-23	Aug-24	\$0.5			3
Applicat Improv Program	7286	Lawson Upgrade	Dec-23	Sep-23	\$7.6	\$8.8	RPI Consultants	1
Facility Asset Protection	7375	Hayes Pump Station Rehab Const	Dec-23	May-24	\$19.5			3
Facility Asset Protection	7668	Hayes Pump St Rehab REI	Dec-23	May-24	\$1.0			3
Facility Asset Protection	7827	Hingham Pump Station Rehab Des	Dec-23	Apr-24	\$1.9			3
DI Treatment Plant Asset Protection	7051	Fire Alarm System Replacement - Construction	Dec-23	Sep-24	\$35.0			6
DI Treatment Plant Asset Protection	7088	Odor Control Rehab - Design/ESDC	Dec-23	Dec-24	\$8.5			5
DI Treatment Plant Asset Protection	7169	Gas Protect System Replac Ph 2	Dec-23	Jun-24	\$5.5			3
DI Treatment Plant Asset Protection	7397	Clarifier Rehab Phase 2 - REI	Dec-23	Mar-24	\$7.3			3
DI Treatment Plant Asset Protection	7420	MCC & Switchgr Replace Const	Dec-23	Jun-24	\$23.5			3
DI Treatment Plant Asset Protection	7426	Fire System Replacement - REI	Dec-23	Jul-24	\$4.8			6
Northern Extra High Serv New Pipeline	7725	CP-2 NEH Improvements	Dec-23	Apr-24	\$20.7			3
Northern Extra High Serv New Pipeline	8004	REI CP-2	Dec-23	Apr-24	\$1.5			3
Central Monitoring System	7585	Other Equipment/Hardware	Dec-23	Dec-24	\$0.8			6
Watershed Div Cap Impr	7569	QAB Concept Des Report	Dec-23	Apr-24	\$0.3			3
Watershed Div Cap Impr	7577	Maint Gar/Wash Bay/Stor Bldg Constr	Dec-23	Jun-24	\$4.8			3
Application Improvement Program	7666	PI (OSI)	Jan-24	Jan-25	\$0.3			6
Info Security Program ISP	7657	ITSM Access Management	Jan-24	Jul-24	\$0.3			6
West Roxbury Tunnel	6898	Tunnel Inspection	Jan-24	Mar-24	\$0.7			3
Facility Asset Protection	7421	Sections 4, 5, 6, 186 - Design CA/RI	Jan-24	Jan-25	\$2.0			6
Cathodic Protection Of Distribution	6439	Cath Protection Shafts E,L,N&W Const	Jan-24	Jun-25	\$5.1			5
Cathodic Protection Of Distribution	7610	Cath Pro Shafts E,L,N&W REI	Jan-24	Jun-25	\$1.0			5
NIH Redundancy & Storage	7311	NIH Storage - Design	Jan-24	May-24	\$6.7			3

**ATTACHMENT B
FY24 Contract Awards**

Project	Contract No.	Subphase	Notice to Proceed	Revised Notice to Proceed	FY24 Budget (\$ in millions)	Award Amount (\$ in millions)	Vender	Schedule Change Reason Code *
Waterworks Facility Asset Protection	7711	Masonry/Structural Repairs Condition	Jan-24	Jun-24	\$1.1			3
Dam Projects	8058	Foss Reservoir Sluice Gates-Repoint Construction	Jan-24	Jul-26	\$1.2			6
Waterworks Facility Asset Protection	7729	Beacon St Line Des/ESDC	Feb-24	Jul-24	\$4.9			5
Application Improvement Program	7650	MAXIMO Upgrade	Mar-24	Oct-26	\$1.6			6
DI Treatment Plant Asset Protection	7139	Cryo Plant Equipment Repl Design-ESDC-REI	Mar-24	Mar-25	\$6.3			6
Clinton Wastewater Treatment Plant	7591	Screw Pump Replac Ph 2 Const	Mar-24	Jun-24	\$3.5			3
South Spine Distribution Mains	7120	Section 22 - Design/ESDC	Mar-24	Jul-24	\$2.7			5
Waterworks Facility Asset Protection	7727	Steel Tank Improv Constr Ph2	Mar-24	Jun-24	\$7.1			3
Waterworks Facility Asset Protection	7728	Steel Tank Improv REI Ph2	Mar-24	May-24	\$0.8			3
Metropolitan Redundancy Interim	6543	WASM 3 Rehab CP-2	Mar-24	Mar-27	\$13.7			5
Facility Asset Protection	7410	CB1 Sect 23, 24, 25, 26 Des/ESDC	Apr-24	Oct-24	\$2.0			6
DI Treatment Plant Asset Protection	6725	Barge Berth Des/ESDC/REI	Apr-24	Apr-26	\$4.0			5
DI Treatment Plant Asset Protection	7094	HVAC Equip Replac REI	Jun-24	Sep-24	\$6.2			3
DI Treatment Plant Asset Protection	7745	HVAC Control System Replacement	Jun-24	Dec-24	\$22.0			6
77 Total Planned Contracts					\$371.2			

*** Reason Codes:**

1. NTP issued in FY24
2. Project/Phase eliminated or being performed in-house, combined with another project, or phase completed but on hold.
3. NTP expected in FY24
4. Schedule change due to permitting.
5. Scope changes.
6. Changes in priorities.
7. Bidder Issue/Outside Design Delay/Contractor issue/Additional specifications review

STAFF SUMMARY



TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: February 21, 2024
SUBJECT: FY2024 Community Assessment Adjustments


COMMITTEE: Administration, Finance & Audit

INFORMATION
 VOTE

Michael Cole, Budget Director
 Ethan Wenger, Director, SCADA, Meter & Monitoring
Leo Norton, Asst. Mgr. Rates, Revenue & Finance
 Preparer/Title



David W. Coppes, P.E.
 Chief Operating Officer



Thomas J. Durkin
 Director of Finance

RECOMMENDATION:

For information only. This staff summary provides information on changes to calendar year 2022 sewer meter data used to calculate fiscal year 2024 community sewer assessments. The assessment adjustments resulting from this change are included in the preliminary fiscal year 2025 assessments being presented at today’s Board of Directors’ meeting.

DISCUSSION:

MWRA annually determines preliminary water and sewer assessments in February and final assessments in June. As part of MWRA’s Rate Basis Review and Comment Process, approved by the Board of Directors in 1996, water and sewer customers can challenge rate basis data and assessments through the current fiscal year. MWRA staff also conduct supplementary quality assurance reviews of meter data during this time period which could result in changes to the rate basis data and assessments.

Following a review of calendar year 2022 sewer meter data, MWRA staff have reduced the City of Somerville’s sewer flow by 318.05 million gallons, resulting in a \$351,687 reduction to Somerville’s fiscal year 2024 sewer assessment.

This assessment adjustment will be applied to Somerville’s fiscal year 2025 sewer assessment. Assessment adjustments due to the revised sewer flow shares discussed here, will also be applied to offset fiscal year 2025 sewer assessments for the other 42 MWRA sewer communities.

Community	Sewer Flow Adjustment	FY2024 Sewer Assessment Adjustment
Somerville	Decrease CY2022 sewer flow by 318.05 million gallons	-\$351,687

The attached table details the sewer flow change as well the corresponding adjustments to the fiscal year 2024 sewer assessment for each community, taking into account revised sewer flow shares for all MWRA communities resulting from Somerville's flow reduction.

Reason for Sewer Flow Adjustment

Sewer flows from Somerville are measured by nine meters. During the Meter Replacement Project, the sensor at meter SO1C (Intersection of Somerville Avenue and Medford Street) was replaced, but due to unique pipe configuration at this site, two meter sensors were used to determine the optimal sensor arrangement. On November 1, 2022, MWRA staff and the contractor removed one sensor and left the remaining sensor in its chosen permanent location.

While no problems were immediately obvious, a routine semi-annual review of the meter data in July 2023 showed that Somerville's sewer flow share was up considerably, and that Meter SO1C was the only significant source of the increase. During field investigations staff determined that due to the complex geometry of the piping at this location, an additional depth measurement needed to be used in the flow measurement formula.

As a result, the corrected flow measurement formula has been applied to Somerville's sewer flow retroactive through November 2022, the date when the final meter configuration was put in place. Somerville's calendar year 2022 sewer flow use has subsequently been adjusted down 318.05 million gallons. MWRA has notified Somerville officials of the meter data adjustment and corresponding impact on its fiscal year 2024 sewer assessment.

Calendar year 2023 flows through June have also been adjusted and will be used to calculate Somerville's sewer assessments in fiscal years 2025, 2026, and 2027.

BUDGET/FISCAL IMPACT:

Based on MWRA's zero-based assessment methodology, fiscal year 2024 sewer assessments for all other sewer communities will change proportionally. These adjustments will be applied to each community's fiscal year 2025 sewer assessment.

ATTACHMENTS:

Sewer Utility: Fiscal Year 2024 Assessment Adjustments

MWRA Sewer Customer	FINAL 2024 Assessments			REVISED 2024 Assessments			2024 Assessment Adjustments			Comments
	Base Sewer Charges (O&M)	Base Sewer Charges (Capital)	Base Sewer Charges (Total)	Base Sewer Charges (O&M)	Base Sewer Charges (Capital)	Base Sewer Charges (Total)	Base Sewer Charges (O&M)	Base Sewer Charges (Capital)	Base Sewer Charges (Total)	
Arlington	\$3,539,493	\$5,835,920	\$9,375,412	\$3,542,933	\$5,838,347	\$9,381,280	\$3,440	\$2,427	\$5,868	
Ashland	962,879	1,961,575	2,924,453	963,812	1,962,164	2,925,975	933	589	1,522	
Bedford	1,744,457	2,039,784	3,784,242	1,746,153	2,041,009	3,787,162	1,696	1,225	2,920	
Belmont	2,171,221	3,481,551	5,652,772	2,173,332	3,483,105	5,656,437	2,110	1,555	3,665	
Boston (BWSC)	63,095,409	85,226,489	148,321,898	63,156,621	85,263,851	148,420,472	61,212	37,362	98,574	
Braintree	5,110,739	5,655,409	10,766,148	5,115,705	5,658,771	10,774,477	4,966	3,362	8,328	
Brookline	5,558,364	8,343,718	13,902,081	5,563,766	8,347,665	13,911,431	5,403	3,947	9,350	
Burlington	2,641,892	3,511,450	6,153,342	2,644,459	3,513,212	6,157,672	2,568	1,762	4,330	
Cambridge	14,097,746	16,115,395	30,213,141	14,111,449	16,123,686	30,235,134	13,702	8,291	21,993	
Canton	2,227,094	2,858,201	5,085,296	2,229,259	2,859,671	5,088,930	2,165	1,470	3,635	
Chelsea	4,366,364	5,274,579	9,640,943	4,370,573	5,277,185	9,647,758	4,209	2,606	6,815	
Dedham	2,880,985	3,528,070	6,409,056	2,883,785	3,530,061	6,413,847	2,800	1,991	4,791	
Everett	3,916,757	6,128,537	10,045,294	3,920,564	6,130,945	10,051,509	3,807	2,408	6,214	
Framingham	5,397,348	8,816,305	14,213,653	5,402,595	8,819,766	14,222,360	5,246	3,461	8,707	
Hingham S.D.	954,437	1,218,066	2,172,503	955,364	1,218,726	2,174,090	928	660	1,588	
Holbrook	715,381	1,313,170	2,028,551	716,076	1,313,610	2,029,686	695	440	1,135	
Lexington	3,960,573	4,901,318	8,861,891	3,964,421	4,904,216	8,868,637	3,848	2,898	6,746	
Malden	6,229,258	8,548,716	14,777,974	6,235,312	8,552,601	14,787,914	6,055	3,885	9,939	
Medford	5,418,802	8,111,495	13,530,297	5,424,069	8,115,108	13,539,177	5,267	3,613	8,880	
Melrose	2,919,977	4,082,315	7,002,292	2,922,815	4,084,514	7,007,329	2,838	2,198	5,036	
Milton	2,537,886	3,776,552	6,314,438	2,540,353	3,778,401	6,318,754	2,467	1,850	4,316	
Natick	2,199,669	4,209,277	6,408,947	2,201,807	4,210,731	6,412,538	2,138	1,454	3,592	
Needham	2,902,730	4,182,111	7,084,841	2,905,551	4,184,086	7,089,638	2,821	1,975	4,796	
Newton	10,758,568	12,782,167	23,540,735	10,769,025	12,789,908	23,558,933	10,457	7,741	18,198	
Norwood	4,487,475	4,765,211	9,252,685	4,491,717	4,768,279	9,259,996	4,243	3,068	7,311	
Quincy	9,776,773	13,275,646	23,052,419	9,786,118	13,281,595	23,067,713	9,345	5,949	15,294	
Randolph	2,732,708	4,411,866	7,144,574	2,735,361	4,413,656	7,149,017	2,653	1,790	4,443	
Reading	1,972,431	3,272,976	5,245,406	1,974,348	3,274,453	5,248,800	1,917	1,477	3,394	
Revere	4,940,796	7,507,246	12,448,042	4,945,599	7,510,293	12,455,892	4,802	3,047	7,850	
Somerville	7,199,378	10,560,392	17,759,770	6,987,668	10,420,415	17,408,083	-211,710	-139,977	-351,687	November & December 2022 flow reduced by 318.05 mg.
Stoneham	2,624,893	3,281,319	5,906,212	2,627,444	3,283,232	5,910,676	2,551	1,913	4,464	
Stoughton	2,313,202	3,401,236	5,714,438	2,315,444	3,402,817	5,718,261	2,242	1,581	3,823	
Wakefield	2,970,010	3,856,963	6,826,973	2,972,897	3,859,153	6,832,050	2,887	2,190	5,077	
Walpole	1,738,300	2,876,013	4,614,313	1,739,897	2,877,065	4,616,962	1,597	1,052	2,649	
Waltham	6,298,164	8,498,766	14,796,930	6,304,286	8,502,814	14,807,099	6,122	4,048	10,169	
Watertown	2,584,154	4,420,398	7,004,552	2,586,666	4,422,119	7,008,784	2,512	1,721	4,233	
Wellesley	2,650,189	3,980,615	6,630,804	2,652,765	3,982,498	6,635,262	2,576	1,882	4,458	
Westwood	1,237,151	2,011,998	3,249,150	1,238,354	2,012,830	3,251,183	1,202	831	2,034	
Weymouth	6,349,902	7,880,639	14,230,541	6,356,074	7,884,766	14,240,840	6,172	4,127	10,299	
Wilmington	1,412,217	1,761,104	3,173,321	1,413,300	1,761,772	3,175,073	1,084	668	1,752	
Winchester	1,884,422	2,990,849	4,875,271	1,886,254	2,992,235	4,878,488	1,832	1,386	3,218	
Winthrop	1,634,126	2,344,281	3,978,407	1,635,714	2,345,211	3,980,925	1,588	929	2,518	
Woburn	4,749,462	5,728,655	10,478,117	4,754,078	5,731,803	10,485,882	4,616	3,149	7,765	
TOTAL	\$225,863,782	\$308,728,346	\$534,592,128	\$225,863,782	\$308,728,346	\$534,592,128	\$0	\$0	\$0	

STAFF SUMMARY




TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: February 21, 2024
SUBJECT: Preliminary FY25 Water and Sewer Assessments

COMMITTEE: Administration, Finance & Audit

INFORMATION
 VOTE

Michael Cole, Budget Director
Leo Norton, Asst. Mgr, Rates, Revenue and Finance
 Preparer/Title



Thomas J. Durkin
 Director of Finance

Consistent with the Proposed FY25 Current Expense Budget (CEB), preliminary FY25 water and sewer assessments are based on a Rate Revenue Requirement of \$859,438,000, a 3.0% increase over the FY24 Rate Revenue Requirement. This includes a 3.9% increase for water assessments, and a 2.5% increase for sewer assessments.

The preliminary FY25 Rate Revenue Requirement will be allocated to MWRA communities based on their respective shares of CY23 MWRA water use, the average of CY21-CY23 wastewater flows, corresponding strength of flows, and population.

RECOMMENDATION:

For information only. This staff summary provides information on preliminary FY25 wholesale water and sewer assessments. Staff plan to transmit preliminary FY25 assessments to MWRA communities on or before Thursday, February 22, 2024.

DISCUSSION:

The Proposed FY25 CEB recommends a Rate Revenue Requirement of \$859,438,000, an increase of 3.0% over the final FY24 requirement.

	Rate Revenue Requirement		Change from FY24	
	FY25 Preliminary	FY24 Approved	\$	Percent
Water	\$311,509,778	\$299,675,872	\$11,833,906	3.9%
Sewer	\$547,928,222	\$534,592,128	\$13,336,094	2.5%
Total	\$859,438,000	\$834,268,000	\$25,170,000	3.0%

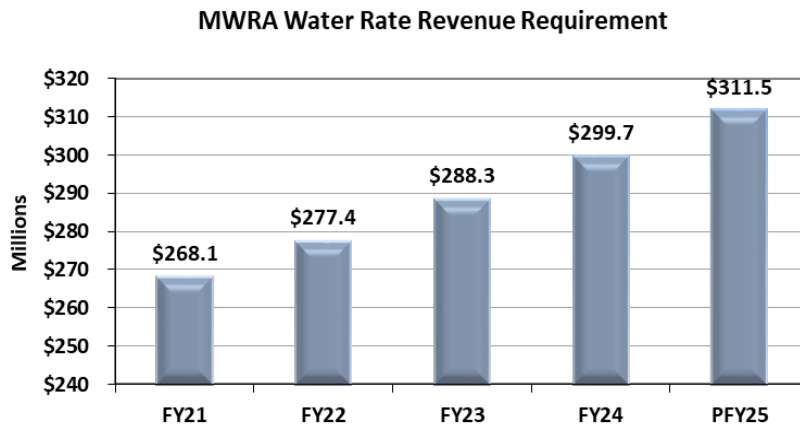
Attachment 1 summarizes preliminary FY25 wholesale water and sewer charges for each MWRA community.

The estimated annual impact of the preliminary FY25 assessment increase on the MWRA portion of the average household bill for water and sewer service in a fully served MWRA community that uses close to the system average of 61,000 gallons of water per year is approximately \$19.

Water Assessments

MWRA calculates water assessments for customer communities by apportioning the water rate revenue requirement according to each community’s share of total water use for the most recent calendar year. Preliminary FY25 assessments are based on each community's share of CY23 water use of 62.282 billion gallons, a 5.7% decrease compared to CY22 water use of 66.065 billion gallons. Changes in FY25 water assessments for customer communities compared to FY24 assessments will vary considerably, depending on each community's use of water and how that use factors into their share of the water system in CY23 compared to CY22. This is particularly true for communities that receive only part of their water from MWRA.

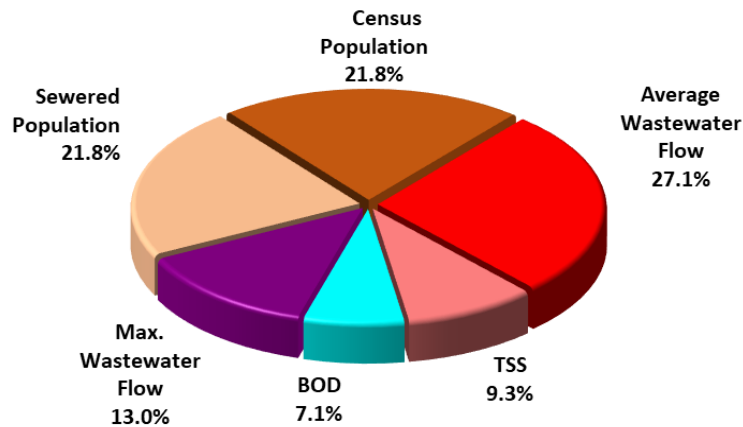
The graph below illustrates the water Rate Revenue Requirement for the past 5 years. The changes from FY24 to PFY25 are primarily the result of increased debt service related to water system rehabilitation and improvements.



Sewer Assessments

MWRA allocates sewer assessments based on each community's share of the following allocation parameters: three-year average of annual wastewater flow, maximum month flow, strength of flow, census population, and sewer population.

On average, approximately 56% of a community's preliminary FY25 sewer assessment is based on each community's share of wastewater flow and strength of flow (total suspended solids or TSS and biochemical oxygen demand or BOD), and approximately 44% is based on population as illustrated in the following graph.



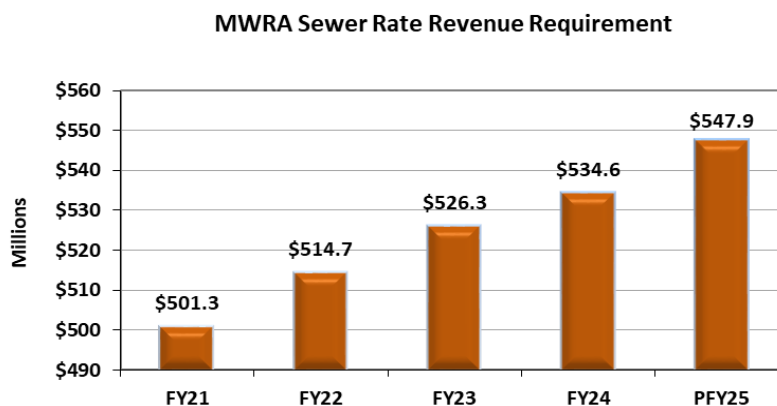
Both the preliminary and final FY25 assessments for population will be calculated using July 2022 community population estimates from the U.S. Census Bureau, as well as the percentage of total population receiving municipal sewer service reported by each MWRA community.

Preliminary FY25 assessments have also been calculated using the average of CY21, CY22 and CY23 wastewater flows. CY21 wastewater flows were estimated during the sewer system meter replacement project, and are based on the average of CY18, CY19, and CY20 flows.

Although preliminary FY25 assessments have been determined using the average of CY21, CY22 and CY23 wastewater flows, ongoing review of meter data may result in revised flows prior to issuing final assessments in June.

In addition, staff have revised CY22 wastewater flows for the City of Somerville, resulting in adjusted FY24 sewer assessments. A separate Staff Summary detailing these adjustments is being presented at this meeting.

The graph below illustrates the sewer Rate Revenue Requirement for the past 5 years. As with the water utility, the annual changes continue to be primarily the result of increased debt service related to sewer system rehabilitation and improvements.



Clinton and Lancaster Sewer Assessments

Proposed FY25 operating and maintenance (O&M) and capital expenses attributable to the Clinton Wastewater Treatment Plant are \$5,423,382, an increase of 2.1% from FY24. This includes a 2.8% decrease in operating costs, and a 13.0% increase in capital expenses.

In accordance with the agreement that allows the City of Worcester to take water from the Wachusett watershed, Worcester is charged approximately 7.9% of the direct operating expenses for the Clinton Wastewater Treatment Plant. Proposed FY25 direct operating expenses for the plant total \$2,946,184, resulting in a preliminary FY25 charge of \$233,072 for the City of Worcester. Worcester has been paying this annual charge to MWRA or its predecessors since 1914.

The Town of Clinton and the Lancaster Sewer District are allocated proportional shares of the remaining expenses based on annual metered wastewater flow to the Clinton Plant. Based on proposed FY25 expenses and CY23 wastewater flows, Lancaster's preliminary FY25 charge is \$494,950, a decrease of 2.8% from FY24.

The preliminary FY25 charge for the Town of Clinton is \$4,671,896. However, pursuant to Chapter 307, Section 8 of the Acts of 1987, Clinton is only liable for the first \$500,000 of its share of O&M and capital costs.

Attachment 2 details the expenses and corresponding charges for the Clinton Sewer Service Area.

CVA Water Assessments

Based on the Proposed FY25 CIP and CEB for the Chicopee Valley Aqueduct (CVA) water system, the preliminary FY25 system assessment is \$5,762,196, an increase of 3.0% from FY24.

MWRA's CVA water assessment methodology allocates CVA assessments to the three communities served by the CVA system based on their share of prior calendar year water use. Based on CY23 water use, preliminary FY25 assessments are as follows:

- City of Chicopee: \$4,132,069 (+5.0%)
- South Hadley Fire District #1: \$ 763,394 (-2.1%)
- Town of Wilbraham: \$ 866,734 (-1.5%)

As with the metropolitan water system, changes in preliminary FY25 water assessments for each CVA community compared to FY24 assessments vary depending on their water use and how that use factors into their share of the CVA water system in CY23 compared to CY22.

Attachment 3 details the expenses and corresponding assessments for the CVA Water Service Area.

Wholesale Water Rate

MWRA's wholesale water rate per million gallons is applied to customers purchasing MWRA water on a pay-as-you-go basis (including customers with emergency agreements). The preliminary wholesale water rate for FY25 is \$5,001.57 per million gallons. The proposed FY25 CEB includes revenue of \$149,005 from these customers.

Retail Sewer Rate

MWRA provides direct retail sewer service to Regis College in Weston and the New England Center for Children in Southborough. In accordance with MWRA Policy #OP.11, "Admission of New Community to MWRA Sewer System and Other Requests for Sewer Service to Locations Outside MWRA Sewer Service Area", both entities are charged a modified per million gallon "retail" rate that captures both sanitary and non-sanitary flows. Based on preliminary FY25 sewer assessments, the FY25 retail sewer rate will be \$8,344.55 per million gallons. The Proposed FY25 CEB includes revenue of \$73,113 from these customers.

ATTACHMENTS:

1. Preliminary FY25 Water and Sewer Assessments
2. Clinton Wastewater Treatment Plant Sewer User Charge Determination
3. Chicopee Valley Aqueduct System Assessment

MWRA Fully Served Water and Sewer Customers	Final FY24 Water Assessment	Preliminary FY25 Water Assessment	Percent Change from FY24	Final FY24 Sewer Assessment	Preliminary FY25 Sewer Assessment	Percent Change from FY24	Final FY24 Combined Assessment	Preliminary FY25 Combined Assessment	Dollar Change from FY24	Percent Change from FY24
ARLINGTON	\$5,723,767	\$5,712,333	-0.2%	\$9,375,412	\$9,565,593	2.0%	\$15,099,179	\$15,277,926	\$178,747	1.2%
BELMONT	3,281,643	3,266,674	-0.5%	5,652,772	5,735,537	1.5%	8,934,415	9,002,211	67,796	0.8%
BOSTON (BWSC)	101,284,742	110,098,866	8.7%	148,321,901	151,064,304	1.8%	249,606,643	261,163,170	11,556,527	4.6%
BROOKLINE	8,536,286	8,391,346	-1.7%	13,902,081	13,557,108	-2.5%	22,438,367	21,948,454	(489,913)	-2.2%
CHELSEA	5,466,192	5,864,232	7.3%	9,640,943	9,955,874	3.3%	15,107,135	15,820,106	712,971	4.7%
EVERETT	6,179,040	6,870,477	11.2%	10,045,294	10,439,476	3.9%	16,224,334	17,309,953	1,085,619	6.7%
FRAMINGHAM	9,526,952	9,713,338	2.0%	14,213,653	14,940,844	5.1%	23,740,605	24,654,182	913,577	3.8%
LEXINGTON	8,832,742	8,449,930	-4.3%	8,861,891	9,211,238	3.9%	17,694,633	17,661,168	(33,465)	-0.2%
MALDEN	8,565,543	8,993,255	5.0%	14,777,974	14,679,092	-0.7%	23,343,517	23,672,347	328,830	1.4%
MEDFORD	7,823,249	8,058,724	3.0%	13,530,297	14,296,516	5.7%	21,353,546	22,355,240	1,001,694	4.7%
MELROSE	3,520,729	3,873,194	10.0%	7,002,292	6,974,701	-0.4%	10,523,021	10,847,895	324,874	3.1%
MILTON	4,176,564	4,054,627	-2.9%	6,314,438	6,833,947	8.2%	10,491,002	10,888,574	397,572	3.8%
NEWTON	14,430,518	15,286,181	5.9%	23,540,735	24,621,518	4.6%	37,971,253	39,907,699	1,936,446	5.1%
NORWOOD	4,646,813	4,745,690	2.1%	9,252,685	9,430,321	1.9%	13,899,498	14,176,011	276,513	2.0%
QUINCY	14,041,679	14,699,576	4.7%	23,052,419	23,431,946	1.6%	37,094,098	38,131,522	1,037,424	2.8%
READING	2,826,508	2,860,929	1.2%	5,245,406	5,238,801	-0.1%	8,071,914	8,099,730	27,816	0.3%
REVERE	6,411,786	6,568,958	2.5%	12,448,042	12,743,041	2.4%	18,859,828	19,311,999	452,171	2.4%
SOMERVILLE	9,500,557	10,716,932	12.8%	17,759,770	17,688,000	-0.4%	27,260,327	28,405,532	1,145,205	4.2%
STONEHAM	3,617,722	3,679,567	1.7%	5,906,212	6,122,766	3.7%	9,523,934	9,802,333	278,399	2.9%
WALTHAM	11,996,268	13,014,691	8.5%	14,796,930	15,111,432	2.1%	26,793,198	28,126,123	1,332,925	5.0%
WATERTOWN	4,202,656	4,592,938	9.3%	7,004,552	7,332,350	4.7%	11,207,208	11,925,288	718,080	6.4%
WINTHROP	1,865,387	2,131,688	14.3%	3,978,407	4,058,044	2.0%	5,843,794	6,189,732	345,938	5.9%
TOTAL	\$246,457,343	\$261,644,146	6.2%	\$384,624,106	\$393,033,049	2.2%	\$631,081,449	\$654,677,195	\$23,595,746	3.7%

MWRA Sewer and Partial Water Customers	Final FY24 Water Assessment	Preliminary FY25 Water Assessment	Percent Change from FY24	Final FY24 Sewer Assessment	Preliminary FY25 Sewer Assessment	Percent Change from FY24	Final FY24 Combined Assessment	Preliminary FY25 Combined Assessment	Dollar Change from FY24	Percent Change from FY24
ASHLAND	\$0	\$0	-	\$2,924,453	\$3,000,770	2.6%	\$2,924,453	\$3,000,770	\$76,317	2.6%
BURLINGTON	1,668,047	2,642,775	58.4%	6,153,342	6,273,062	1.9%	7,821,389	8,915,837	1,094,448	14.0%
CANTON	2,490,180	2,751,185	10.5%	5,085,296	5,191,978	2.1%	7,575,476	7,943,163	367,687	4.9%
NEEDHAM	1,887,130	1,215,535	-35.6%	7,084,841	7,578,175	7.0%	8,971,971	8,793,710	(178,261)	-2.0%
STOUGHTON	103,566	98,191	-5.2%	5,714,438	5,794,175	1.4%	5,818,004	5,892,366	74,362	1.3%
WAKEFIELD	3,337,730	3,311,347	-0.8%	6,826,973	6,837,301	0.2%	10,164,703	10,148,648	(16,055)	-0.2%
WELLESLEY	4,211,496	3,269,073	-22.4%	6,630,804	7,070,548	6.6%	10,842,300	10,339,621	(502,679)	-4.6%
WILMINGTON	1,145,370	485,425	-57.6%	3,173,321	3,363,632	6.0%	4,318,691	3,849,057	(469,634)	-10.9%
WINCHESTER	2,356,818	2,038,530	-13.5%	4,875,271	5,422,587	11.2%	7,232,089	7,461,117	229,028	3.2%
WOBURN	5,851,127	5,727,248	-2.1%	10,478,117	11,227,092	7.1%	16,329,244	16,954,340	625,096	3.8%
TOTAL	\$23,051,464	\$21,539,309	-6.6%	58,946,856	61,759,320	4.8%	\$81,998,320	\$83,298,629	\$1,300,309	1.6%

MWRA Sewer-only Customers	Final FY24 Water Assessment	Preliminary FY25 Water Assessment	Percent Change from FY24	Final FY24 Sewer Assessment	Preliminary FY25 Sewer Assessment	Percent Change from FY24	Final FY24 Combined Assessment	Preliminary FY25 Combined Assessment	Dollar Change from FY24	Percent Change from FY24
BEDFORD				\$3,784,242	\$3,909,747	3.3%	\$3,784,242	\$3,909,747	\$125,505	3.3%
BRAINTREE				10,766,148	10,678,578	-0.8%	10,766,148	10,678,578	(87,570)	-0.8%
CAMBRIDGE				30,213,141	31,600,984	4.6%	30,213,141	31,600,984	1,387,843	4.6%
DEDHAM				6,409,056	6,360,670	-0.8%	6,409,056	6,360,670	(48,386)	-0.8%
HINGHAM SEWER DISTRICT				2,172,503	2,179,366	0.3%	2,172,503	2,179,366	6,863	0.3%
HOLBROOK				2,028,551	2,139,314	5.5%	2,028,551	2,139,314	110,763	5.5%
NATICK				6,408,947	6,702,363	4.6%	6,408,947	6,702,363	293,416	4.6%
RANDOLPH				7,144,574	7,399,079	3.6%	7,144,574	7,399,079	254,505	3.6%
WALPOLE				4,614,313	4,709,115	2.1%	4,614,313	4,709,115	94,802	2.1%
WESTWOOD				3,249,150	3,195,909	-1.6%	3,249,150	3,195,909	(53,241)	-1.6%
WEYMOUTH				14,230,541	14,260,728	0.2%	14,230,541	14,260,728	30,187	0.2%
TOTAL				\$91,021,166	\$93,135,853	2.3%	\$91,021,166	\$93,135,853	\$2,114,687	2.3%

MWRA Water-only Customers	Final FY24 Water Assessment	Preliminary FY25 Water Assessment	Percent Change from FY24	Final FY24 Sewer Assessment	Preliminary FY25 Sewer Assessment	Percent Change from FY24	Final FY24 Combined Assessment	Preliminary FY25 Combined Assessment	Dollar Change from FY24	Percent Change from FY24
LYNNFIELD WATER DISTRICT	\$945,917	\$921,724	-2.6%				\$945,917	\$921,724	(\$24,193)	-2.6%
MARBLEHEAD	3,130,039	3,050,397	-2.5%				3,130,039	3,050,397	(79,642)	-2.5%
NAHANT	592,489	568,219	-4.1%				592,489	568,219	(24,270)	-4.1%
SAUGUS	5,446,924	5,375,198	-1.3%				5,446,924	5,375,198	(71,726)	-1.3%
SOUTHBOROUGH	1,202,081	1,088,624	-9.4%				1,202,081	1,088,624	(113,457)	-9.4%
SWAMPSCOTT	2,610,031	2,501,555	-4.2%				2,610,031	2,501,555	(108,476)	-4.2%
WESTON	2,867,622	2,467,663	-13.9%				2,867,622	2,467,663	(399,959)	-13.9%
TOTAL	\$16,795,103	\$15,973,380	-4.9%				\$16,795,103	\$15,973,380	(\$821,723)	-4.9%

MWRA Partial Water-only Customers	Final FY24 Water Assessment	Preliminary FY25 Water Assessment	Percent Change from FY24	Final FY24 Sewer Assessment	Preliminary FY25 Sewer Assessment	Percent Change from FY24	Final FY24 Combined Assessment	Preliminary FY25 Combined Assessment	Dollar Change from FY24	Percent Change from FY24
DEDHAM-WESTWOOD WATER DISTRICT	\$670,890	\$911,736	35.9%				\$670,890	\$911,736	\$240,846	35.9%
LYNN (LWSC)	133,677	163,829	22.6%				133,677	163,829	30,152	22.6%
MARLBOROUGH	7,138,193	7,395,364	3.6%				7,138,193	7,395,364	257,171	3.6%
NORTHBOROUGH	1,476,411	1,553,376	5.2%				1,476,411	1,553,376	76,965	5.2%
PEABODY	3,952,791	2,328,638	-41.1%				3,952,791	2,328,638	(1,624,153)	-41.1%
TOTAL	\$13,371,962	\$12,352,943	-7.6%				\$13,371,962	\$12,352,943	(\$1,019,019)	-7.6%
SYSTEMS TOTAL	\$299,675,872	\$311,509,778	3.9%	\$534,592,128	\$547,928,222	2.5%	\$834,268,000	\$859,438,000	\$25,170,000	3.0%

Massachusetts Water Resources Authority
Clinton Wastewater Treatment Plant
Sewer User Charge Determination

BUDGETED EXPENSES: Preliminary FY25	
Clinton Direct Operating Expenses:	\$2,946,184
MWRA Support Allocation:	625,577
Subtotal O&M Expenses:	\$3,571,761
Total Debt Service Expenses:	\$1,851,621
Total Clinton Service Area Expenses	\$5,423,382
Less Revenue (City of Worcester Payment)	-233,072
Clinton WWTP Rate Revenue Requirement:	\$5,190,309

WASTEWATER FLOW and FLOW SHARES:	CY2023		
	Town of Clinton Flow	Lancaster Sewer District Flow	Total Wastewater Flow
Average Daily Flow (MGD)	2.861	0.318	3.179
Average Flow (MG/YR)	1,044.406	115.892	1,160.297
Proportional Share of Flow	90.01%	9.99%	100.0%

Sewer User Charge Determination

TOWN OF CLINTON	
O&M Expenses	\$3,571,761
Less Revenue (City of Worcester Payment)	-233,072
O&M Expenses to be Recovered	\$3,338,688
Clinton's Share of Flow	90.01%
Clinton's Share of O&M Costs	\$3,005,217

LANCASTER SEWER DISTRICT	
O&M Expenses	\$3,571,761
Less Revenue (City of Worcester Payment)	-233,072
O&M Expenses to be Recovered	\$3,338,688
Lancaster's Share of Flow	9.99%
Lancaster's Share of O&M Costs	\$333,471

Total Clinton O&M Charge	\$3,005,217
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Total Lancaster Sewer District O&M Charge	\$333,471
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Debt Service Costs to be Recovered	\$1,851,621
Clinton's Share of Wastewater Flow	90.01%

Debt Service Costs to be Recovered	\$1,851,621
Lancaster's Share of Wastewater Flow	9.99%

Total Clinton Debt Service Charge	\$1,666,679
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Total Lancaster Sewer District Debt Service Charge	\$184,942
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Total Clinton O&M and Debt Service Charge	\$4,671,896
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Total Lancaster O&M and Debt Service Charge	\$518,413
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Less MWRA Water Ratepayer Subsidy -4,171,896

Billable Charge to the Town of Clinton as per CH. 307, Section 8 The Acts of 1987	\$500,000
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Billable Charge to Lancaster Sewer District	\$518,413
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Clinton WWTP Charges and Payment Schedule

Sewer Customer	Billable Charges	Change from Prior Year	
Town of Clinton (billable)	\$500,000	\$0	3.6%
Lancaster Sewer District (before adj.)	\$518,413		
Lancaster Sewer District (prior yr. adj.)	-\$23,463		
Lancaster Sewer District (billable)	\$494,950	-\$14,180	-2.8%

Total Billable Sewer Use Charges	\$994,950
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City of Worcester	\$233,072	-\$8,735	-3.6%
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Payment 1 on or before Sept 15, 2024	Payment 2 on or before Nov 15, 2024	Payment 3 on or before Feb 15, 2025	Payment 4 on or before May 15, 2025
\$125,000	\$125,000	\$125,000	\$125,000
\$123,738	\$123,738	\$123,738	\$123,738

\$248,738	\$248,738	\$248,738	\$248,738
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\$0	\$0	\$233,072	\$0
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Massachusetts Water Resources Authority

Chicopee Valley Aqueduct Water System Assessment

FY2025 Budget and Assessments

CVA Operating Budget	FY24	PFY25	Change from Prior Year	
			Dollars	Percent
CVA Cost Center Expenses	\$1,210,632	\$1,110,174	-\$100,458	-8.3%
Allocated Waterworks Expenses	143,193	145,897	2,704	1.9%
Allocated Watershed/PILOT	502,979	496,124	-6,855	-1.4%
Allocated Watershed Land Acquisition	28,853	28,040	-813	-2.8%
Allocated MWRA Indirect Expenses	702,601	702,117	-484	-0.1%
SUBTOTAL OPERATING BUDGET	\$2,588,257	\$2,482,352	-\$105,905	-4.1%

CVA Capital Budget	FY24	PFY25	Change from Prior Year	
			Dollars	Percent
Capital Expenses	\$3,153,967	\$3,456,614	\$302,647	9.6%
TOTAL CVA BUDGET	\$5,742,224	\$5,938,966	\$196,742	3.4%

BASE COMMUNITY ASSESSMENT	FY24 ¹	PFY25 ²	Change from Prior Year	
			Dollars	Percent
Chicopee	\$4,037,457	\$4,254,969	\$217,513	5.4%
South Hadley Fire District #1	801,557	789,662	-11,895	-1.5%
Wilbraham	903,210	894,335	-8,876	-1.0%
CVA BASE SYSTEM ASSESSMENT	\$5,742,224	\$5,938,966	\$196,742	3.4%

PRIOR PERIOD ADJUSTMENTS ³	FY24	PFY25	Change from Prior Year	
			Dollars	Percent
Chicopee	-\$102,827	-\$122,901	-\$20,073	19.5%
South Hadley Fire District #1	-22,020	-26,268	-4,249	19.3%
Wilbraham	-23,141	-27,601	-4,460	19.3%
TOTAL ADJUSTMENTS	-\$147,988	-\$176,770	-\$28,782	19.4%

ADJUSTED ASSESSMENT	FY24	PFY25	Change from Prior Year	
			Dollars	Percent
Chicopee	\$3,934,629	\$4,132,069	\$197,440	5.0%
South Hadley Fire District #1	779,537	763,394	-16,144	-2.1%
Wilbraham	880,070	866,734	-13,336	-1.5%
ADJUSTED ASSESSMENT	\$5,594,236	\$5,762,196	\$167,960	3.00%

¹ Based on CY2022 water use and before prior period adjustments.

² Based on CY2023 water use and before prior period adjustments.

³ Prior period adjustment to account for budget to actual expenses.

STAFF SUMMARY




TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: February 21, 2024
SUBJECT: Transmittal of the FY25 Proposed Current Expense Budget

COMMITTEE Administration, Finance & Audit

 INFORMATION
 X VOTE

Michael J. Cole, Budget Director
James J. Coyne, Budget Manager
Preparer/Title


Thomas J. Durkin
Director, Finance

MWRA’s long-term goal has been to provide sustainable and predictable assessments to its member communities. Over the past few years, the Advisory Board challenged MWRA to limit the assessment increases at a level less than 4%. MWRA has continuously been successful in achieving this goal by utilizing a multi-year rates management strategy, which includes controlled spending, the use of historical variable rate assumptions, and the practice of targeted debt defeasance.

To ensure that the MWRA’s long-term goals will continue to be met in future years, staff recommend continuing conservative, fiscally responsible budgeting practices while addressing all outstanding long-term liabilities.

The FY25 Proposed Budget puts forth a 3.0% combined assessment increase.

The FY25 Proposed Budget reflects the benefits of a planned \$15.0 million defeasance to be executed in FY24 with targeted savings during FY25-28. Besides the planned defeasances, the Authority is continuing to address the Pension and the Other Post Employment Benefits (OPEB) obligations, which are the largest long-term liabilities after the debt payments.

RECOMMENDATION:

To approve transmittal of the FY25 Proposed Current Expense Budget to the MWRA Advisory Board for its 60 day review and comment period.

DISCUSSION:

This staff summary presents an overview of the FY25 Proposed Current Expense Budget (CEB) and projects the Rate Revenue Requirement for the next five years.

Summary

The FY25 Proposed Budget recommends a combined increase in rates and charges of 3.0%. Capital Financing costs remain the largest component of the CEB and account for 56.1% of total expenses. Total expenses are \$899.9 million, an increase of \$25.7 million or 2.9% over the FY24 Budget. There are no offsets from Debt Service Assistance (DSA) assumed for FY25 or in any future years.

Total expenses include \$505.1 million for Capital Financing costs and \$394.8 million for operating expenses, of which \$320.7 million is for Direct Expenses and \$74.1 million is for Indirect Expenses. The total expense increase over FY24 was driven by the following:

- Higher Capital Financing costs of \$17.4 million due to the structure of the existing debt and the FY25 projected borrowings, offset by the benefit of the projected defeasance.
- Higher Direct Expenses of \$4.7 million mainly due to increased costs for Wages & Salaries and Maintenance due to updated costs and needs, partially offset by lower costs for Chemicals based on updated pricing.
- Higher Indirect Expenses of \$3.7 million mainly due to increased Retirement Fund contributions and Watershed Reimbursement, partially offset by lower Additions to Reserves.

The FY25 Proposed Budget revenues, excluding rate revenue, total \$40.5 million, an increase of \$0.6 million or 1.5% over the FY24 Budget. The FY25 Proposed Budget non-rate revenue budget includes \$16.7 million in Other User Charges and Other Revenue, and \$23.8 million for Investment Income.

The FY25 Proposed Rate Revenue Requirement is \$859.4 million, an increase of \$25.2 million or 3.0% over the FY24 Budget.

Table 1 on the following page provides a comparison of the FY25 Proposed CEB and FY24 Budget

Table 1
MWRA Current Expense Budget
FY25 Proposed Budget versus FY24 Approved Budget

(\$ in Millions)	FY24 Approved Budget	FY25 Proposed Budget	\$ Change	% Change
Directs	\$ 316.0	\$ 320.7	\$ 4.7	1.5%
Indirects	70.4	74.1	3.7	5.3%
Sub-Total Operating Expenses	\$ 386.4	\$ 394.8	\$ 8.4	2.2%
Capital Financing (before Offsets)	488.9	505.1	16.2	3.3%
<i>Offsets:</i> Bond Redemption ¹	-	-	-	-
Variable Debt Savings	-	-	-	-
Debt Service Assistance	(1.2)	-	1.2	-100.0%
Sub-Total Capital Financing	\$ 487.8	\$ 505.1	\$ 17.4	3.6%
Total Expenses	\$ 874.1	\$ 899.9	\$ 25.7	2.9%
Investment Income	\$ 23.3	\$ 23.8	\$ 0.4	1.8%
Non-Rate Revenue	16.2	16.7	0.5	2.9%
Rate Stabilization ¹	0.3	-	(0.3)	-100.0%
Sub-Total Non-Rate Revenue	\$ 39.9	\$ 40.5	\$ 0.6	1.5%
Rate Revenue	834.3	859.4	25.2	3.0%
Total Revenue & Income	\$ 874.1	\$ 899.9	\$ 25.7	2.9%
FY25 Rate Revenue Increase			3.0%	
Combined Use of Reserves		\$ -		

¹ MWRA has two reserve funds (Bond Redemption and Rate Stabilization) which can be used at the discretion of the Authority to manage the rate revenue requirement. Use of the Bond Redemption reduces total expenses and Rate Stabilization increases total revenue. Under the terms of the General Bond Resolution the annual use of Rate Stabilization funds cannot exceed 10% of the year's senior debt service. Bond Redemption funds can be used only to retire or prepay outstanding debt. There is no annual limit on the amount of Bond Redemption funds used in a year, however the use is tied to the bonds' maturity dates and it is utility specific.

EXPENSES:

Direct Expenses

FY25 Direct Expenses total \$320.7 million, an increase of \$4.7 million, or 1.5%, over the FY24 Budget.

FY25 PROPOSED CURRENT EXPENSE BUDGET				
MWRA DIRECT EXPENSES BY LINE ITEM				
Line Item	FY24 Approved Budget	FY25 Proposed Budget	Change FY25 vs FY24	
WAGES AND SALARIES	\$127,828,242	\$135,679,805	\$7,851,563	6.1%
OVERTIME	\$5,727,593	\$6,133,078	\$405,485	7.1%
FRINGE BENEFITS	\$25,823,383	\$27,265,765	\$1,442,382	5.6%
WORKERS' COMPENSATION	\$2,144,395	\$2,073,434	(\$70,961)	-3.3%
CHEMICALS	\$28,269,124	\$20,054,280	(\$8,214,844)	-29.1%
ENERGY AND UTILITIES	\$31,064,893	\$29,660,076	(\$1,404,818)	-4.5%
MAINTENANCE	\$38,574,255	\$43,578,318	\$5,004,063	13.0%
TRAINING AND MEETINGS	\$498,597	\$547,346	\$48,749	9.8%
PROFESSIONAL SERVICES	\$10,410,484	\$11,000,628	\$590,144	5.7%
OTHER MATERIALS	\$7,167,398	\$7,255,219	\$87,821	1.2%
OTHER SERVICES	\$38,494,660	\$37,409,229	(\$1,085,432)	-2.8%
TOTAL	\$316,003,024	\$320,657,176	\$4,654,152	1.5%

- *Wages and Salaries* – The budget includes \$135.7 million for Wages and Salaries as compared to \$127.8 million in the FY24 Budget, an increase of \$7.9 million or 6.1%. Regular Pay makes up \$133.2 million or 98.1% of the total Wages and Salaries. The FY25 Budget includes 1,167.0 FTE’s which is one less than the FY24 Budget. As always, new hires and backfilling of vacant positions will be managed at the agency level and addressed on a case-by-case basis by senior management. A vacancy adjustment (reduction) of \$4.0 million is factored in to the FY25 proposed Budget.
- *Overtime* – The budget includes \$6.1 million for Overtime, an increase of \$405,000 or 7.1% over the FY24 Budget. Overtime was increased to reflect wage increases and recent trends in planned overtime for off-hours maintenance, emergency, coverage, and planned projects that include construction.
- *Fringe Benefits* – The budget includes \$27.3 million for Fringe Benefits, an increase of \$1.4 million or 5.6% over the FY24 Budget. Health Insurance premiums total \$23.6 million, an increase of \$1.4 million or 6.3% over the FY24 Budget largely due to anticipated increases in the health plans rates.

- *Workers' Compensation* – The budget includes \$2.1 million for Workers' Compensation. This is \$71,000 or 3.3% less than the prior year's level and is based on a three-year historical average spending for Worker's Compensation.
- *Chemicals* – The budget includes \$20.1 million for Chemicals, a decrease of \$8.2 or 29.0% less than the FY24 Budget. Lower prices drove the budget decrease. Several chemicals decreased including Sodium Hypochlorite by \$5.1 million or 42.1%, Ferric Chloride by \$1.8 million or 30.6%, Aqua Ammonia by \$390,000 or 55.4%, Carbon Dioxide by \$359,000 or 30.8%, and Polymer by \$331,000 or 36.6% primarily due to lower pricing. The FY25 Budget includes \$624,000 for the anticipated Deer Island National Pollutant Discharge Elimination System (NPDES) permit, which is projected to have more stringent requirements for enterococcus treatment compliance.
- *Utilities* – The budget includes \$29.7 million for Utilities, which is a decrease of \$1.4 million or 4.5% below the FY24 Budget. The budget funds \$22.4 million for Electricity, a decrease of \$969,000 or 4.1% less than the FY24 budget primarily due to lower pricing. The Diesel Fuel budget of \$3.4 million is \$414,000 or 10.8% lower than the FY24 Budget primarily due to decreases in price at DITP and FOD facilities and volume at DITP. The Natural Gas budget of \$844,000 is \$271,000 or \$24.3% less than the FY24 Budget primarily due to lower pricing in Wastewater Operations and at Western Facilities.
- *Maintenance* – The budget includes \$43.6 million for Maintenance projects, an increase of \$5.0 million or 13.0% over the FY24 budget. The increase is driven by Plant and Machinery Services of \$2.7 million for CTG Control System Upgrade, Duct Cleaning for pump stations, installation of diesel exhaust silencers at Cottage Farm Facility, Nut Island Treatment Plant fire pump and controller replacement, updated cost to boiler, STG, Hydroplant and Wind service contract, partially offset by changes to ongoing spare motor for Alewife Brook Pump Station which is an FY24 purchase; Special Equipment Services of \$1.5 million for PICS Human Machine Interface (HMI) System Upgrade, Waterfall Data Diodes (for EDS & PI), Emerson Enterprise Data Solutions (EDS) Upgrades; HVAC Materials of \$627,000 for replacement of Roof Top Units (RTU's); Plant and Machinery Materials of \$450,000 for transfer switch at Prison Point Facility, Residual Odor Control (ROC) fan replacement, and primary and secondary flights, partially offset by purchases completed or expected to be completed in FY24 including reactor gearbox, polymer pumps, and lathe; Computer/Software Licenses/Upgrades of \$230,000 for updated costs including Financial Management System, Oracle Database Management System (DBMS) maintenance, Okta, and MAXIMO maintenance amongst others; Electrical Materials of \$194,000 for North Main Pump Station inverter, inspect and rebuild Norwalk valves, and VFD's at Caruso Pump Station, partially offset by emergency lights at DITP purchased and expected to be completed in FY24. These increases are partially offset by lower Special Equipment Materials of \$611,000 for materials that were purchased or expected to be completed in FY24 including hatch covers at the Fells and flow meter at Nut Island Headworks, partially offset by updated cost for Route 12 Sampling System modifications; and Building and Grounds Services of \$195,000 for work completed or expected to be

completed in FY24 including the Eastern Ave Traffic Signal, work shifted into FY25 for door replacements on Deer Island, and updated cost for invasives control at Sudbury and Weston Reservoirs, partially offset by the Shaft 8 Wall Repair cost.

- *Training and Meetings* – The budget includes \$547,000 for Training and Meetings, an increase of \$49,000 or 9.8% over the FY24 Budget.
- *Professional Services* – The budget includes \$11.0 million for Professional Services, an increase of \$590,000 or 5.7% over the FY24 Budget. The increase is driven by Engineering Services of \$294,000 for expected costs associated with Local Limits analysis for Boston Harbor NPDES Permit and Security Services of \$244,000 for updated contract rates.
- *Other Materials* – The budget includes \$7.3 million for Other Materials, an increase of \$88,000 or 1.2% over the FY24 Budget. The increase reflects \$87,000 in Other Materials largely due to updated cost for gravel for the Clinton landfill.
- *Other Services* – The budget includes \$37.4 million for Other Services, a decrease of \$1.1 million or 2.8% from the FY24 Budget. Sludge Pelletization decreased by \$841,000 or 3.2%. This decrease reflects a reduction of \$5.0 million for potential landfill disposal costs due to PFAS issues, partially offset by an increase of \$4.2 million for the pellet plant contract primarily due to inflation. Also, Grit & Screenings Removal decreased by \$287,000 due to lower anticipated quantities.

Indirect Expenses

Indirect Expenses for FY25 total \$74.1 million, an increase of \$3.7 million or 5.3% over the FY24 Budget. Below are the highlights of major changes:

- The budget includes \$4.5 million for Insurance, an increase of \$406,000 or 10.0% over the FY24 Budget. Insurance Premiums include a 10% increase due to market conditions and inflation. Claim payments decreased based on a 5-year average.
- The budget includes \$32.1 million for the Watershed Management budget, an increase of \$1.8 million or 5.8% above the FY24 Budget. The budget includes \$23.2 million for reimbursement of operating expenses net of revenues, and \$8.9 million for Payment in Lieu of Taxes (PILOT). The budget increase is driven by contractual wage increases and health care costs.
- The budget includes \$7.1 million for the Harbor Energy Electric Company (HEEC), a decrease of \$397,000 or 5.3% from the FY24 Budget. The budget reflects the latest cost estimates due for the prior calendar year.
- The budget includes \$1.8 million for Mitigation payments to the City of Quincy and Town of Winthrop in accordance with mitigation agreements, which expire in FY25.

- Funding for the Additions to the Operating Reserve for FY25 is \$2.1 million. The Operating Reserve balance is in compliance with MWRA General Bond Resolution which requires a balance of one-sixth of annual operating expenses. Based on the FY25 Proposed Budget, the required balance is \$59.6 million versus the \$57.6 million required in FY24.
- The budget includes \$23.7 million for the Retirement Fund, an increase of \$7.7 million or 48.5% over the FY24 budget. The increase to the required contribution of \$2.0 million is based on the January 2023 actuarial valuation. Similar to FY24, Staff recommend allocating the \$1.9 million CEB reduction to the required OPEB contribution to the Retirement Fund. Staff are also recommending an additional \$5.8 million be allocated for the Retirement Fund to assist in reaching the full funding by 2030. MWRA's pension fund is at the 88.4% funding level and projected to be fully funded by June 30, 2030.
- The Authority has complied with the GASB 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other than Pensions (OPEB)*, by disclosing this liability in the year-end Financial Statements. As part of the multi-year strategy to address its unfunded liabilities for OPEB and pension holistically, the Board approved a plan to pay down the pension liability and upon reaching full funding, move to address the OPEB obligation. To maximize the benefits in terms of returns and accounting treatment, an irrevocable OPEB Trust was established with Board approval and funding started on April 23, 2015. The OPEB Trust balance was \$75.0 million (59.6% funded) as of December 31, 2023. Starting in FY18, GASB 75 is the governing regulation for employee OPEB contributions. The proposed \$2.8 million budget is based on 50% of the Annual Determined Contribution (ADC) determined in the December 31, 2021 actuarial report. This is a \$25,000 reduction from FY24.

Capital Financing

Capital financing as a percent of total expenses is 56% which is the same as the FY24 Current Expense Budget. Much of this debt service is for completed projects, primarily the Boston Harbor Project, the Integrated Water Supply Improvement Program, and the Combined Sewer Overflow (CSO) projects. MWRA's capital spending, from its inception, had been dominated by projects mandated by court ordered or regulatory requirements, which in total have accounted for ~72% of capital spending to date. Going forward, the majority of spending will be focused on asset protection and water redundancy initiatives.

The Authority has actively managed its debt structure to take advantage of favorable interest rates. Tools used by MWRA to lower borrowing costs and manage rates include current and advanced refunding of outstanding debt, maximizing the use of the subsidized State Revolving Fund (SRF) debt, issuance of variable rate debt, swap agreements (all swaps terminated in FY24), and the use of positive year-end budget variances to defease debt. MWRA also uses tax exempt commercial paper to minimize the financing cost of construction in process.

The FY25 Proposed Budget capital financing costs total \$505.1 million and remains the largest portion of the MWRA's budget.

The FY25 Proposed Budget includes a planned defeasance of \$15.0 million in FY24 which will reduce debt service by approximately \$0.7 million in FY25, \$0.7 million in FY26, \$7.7million in FY27, and \$7.6 million in FY28.

The FY25 Proposed Budget assumes a 4.75% interest rate for variable rate debt which is the same as the FY24 assumed rate. The Authority's variable rate debt assumption is comprised of three separate elements: the interest rate for the daily and weekly series; liquidity fees for the Standby Bond Purchase Agreement, Letter of Credit, and Direct Purchase providers; and remarketing fees. The Federal Reserve Open Market Committee has maintained the Federal Funds Rate at between 5.25% and 5.50% which is related to higher and more volatile tax-exempt short-term interest rates. MWRA has experienced weekly rates exceeding budget projections, and an average rate over 4.0% to date.

The FY25 Proposed Budget capital financing costs increased by \$17.4 million or 3.6% compared to the FY24 Budget. This increase in the MWRA's debt service is the result of projected FY25 borrowings, the structure of the existing debt, and by the impact of the projected defeasance.

The FY25 capital financing budget includes:

- \$312.4 million in principal and interest payments on MWRA's senior fixed rate bonds. This amount includes \$31.5 million to support a new money issuance of \$200.0 million in May 2024 and \$290 million in January 2025;
- \$64.8 million in principal and interest payments on subordinate bonds;
- \$87.7million in principal and interest payments on SRF loans. This amount includes \$7.6 million to support an issuances of \$85.0 million during fiscal 2025;
- \$20.2 million to fund ongoing capital projects with current revenue and to meet coverage requirements;
- \$7.0 million in debt prepayment;
- \$9.8 million to fund the interest expense related to the Local Water Pipeline Assistance Program; and,
- \$3.2 million for the Chelsea Lease, and

Revenue

FY24 non-rate revenue totals \$40.5 million, which is an increase of \$0.6 million or 1.5% versus the FY24 Budget. The FY25 non-rate revenue budget includes:

- \$10.7 million in Other User Charges, including \$5.8 million for the Chicopee Valley Aqueduct (CVA) communities, \$2.4 million for Deer Island water usage, \$500,000 for the Commonwealth's partial reimbursement for Clinton Wastewater Treatment Plant expenses, and \$426,000 for entrance fees payments from existing member communities. Other User Charges are \$329,000 or 3.2% higher than the FY24 Budget.
- \$6.0 million in Other Revenue, an increase of \$147,000 or 2.5% over the FY24 Budget. Other Revenue includes \$1.5 million from the sale of the Authority's Renewable Portfolio Credits, revenue from participating in load response programs, and the sale of generated power to the grid. The balance of Other Revenue includes \$2.9 million in permit fees and penalties, an increase of \$200,000 over the FY24 Budget.
- \$23.8 million in Investment Income, an increase of \$0.4 million or 1.8% from the FY24 Budget. The budget assumes an average interest short-term interest rate of 4.25% in FY25 and a long-term rate of 1.31% based on existing and projected investments.

The Rate Revenue Requirement for FY24 is \$859.4 million, an increase \$25.2 million or 3.0% over the FY24 Budget. The Rate Revenue Requirement is the difference between total expenses of \$899.9 million and non-rate revenue of \$40.5 million.

Planning Estimates and Future Rate Projections

MWRA's planning estimates are projections based on a series of assumptions about future spending (operating and capital), interest rates, inflation, and other factors. MWRA uses the planning estimates to model and project what future rate increases might be based upon these assumptions, as well as to test the impact of changes to assumptions on future rate increases. The planning estimates are not predictions of what rate increases will be but rather they provide the context and framework for guiding MWRA financial policy and management decision making that ultimately determine the level of actual rate increases on an annual basis. Historically, the planning estimates were based on conservative financial assumptions. Conservative projections of future rate increases benefit the MWRA by providing assurance to all stakeholders, including the rating agencies that MWRA anticipates raising revenues sufficient to pay for its operations and outstanding debt obligations now and over the long-term. Additionally, conservative forecasts of rate revenue requirements enable member communities to adequately plan and budget for future payments to MWRA.

Table 3 below presents the combined estimated future rate increases and household charges based on the Proposed FY25 Budget. The planning estimates shown below assume no Debt Service Assistance from the Commonwealth or use of Bond Redemption reserves through FY29.

Table 3

Rates & Budget Projections						
Proposed FY25 CEB	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029
Total Rate Revenue (\$000)	\$ 834,268	\$ 859,438	\$ 888,056	\$ 917,792	\$ 947,495	\$ 978,179
Rate Revenue Change from Prior Year (\$000)	\$ 19,620	\$ 25,170	\$ 28,618	\$ 29,737	\$ 29,703	\$ 30,684
Rate Revenue Increase	2.4%	3.0%	3.3%	3.3%	3.2%	3.2%
Use of Reserves (\$000)	\$ 305	\$ -	\$ 809	\$ 780	\$ 782	\$ 740

Estimated Household Bill

Based on annual water usage of 61,000 gallons	\$1,385	\$1,443	\$1,506	\$1,572	\$1,640	\$1,712
Based on annual water usage of 90,000 gallons	\$2,043	\$2,130	\$2,222	\$2,320	\$2,420	\$2,526

CEB Review and Adoption Process

The Advisory Board has a minimum of 60 days from the transmittal of the FY25 Proposed Budget to review the budget and prepare comments and recommendations. During the review period, Advisory Board and MWRA staff will continue to meet and evaluate the impact of changing circumstances as they arise. Following the receipt of the Advisory Board’s comments and recommendations, MWRA staff presents their official responses to the Board of Directors at budget hearings. Staff will present the final budget and the final assessments and for Fiscal Year 2025 to the Board for approval in June 2024.

ATTACHMENTS:

- Attachment A FY25 Proposed vs. FY24 Budget
- Attachment B FY25 proposed compared to FY24 Projection

ATTACHMENT A

FY25 Proposed Budget vs. FY24 Approved Budget

TOTAL MWRA	FY24 Approved Budget	FY25 Proposed Budget	Change FY25 Proposed Budget vs FY24 Approved Budget	
			\$	%
EXPENSES				
WAGES AND SALARIES	\$ 127,828,242	\$ 135,679,805	\$ 7,851,563	6.1%
OVERTIME	5,727,593	6,133,078	405,485	7.1%
FRINGE BENEFITS	25,823,383	27,265,765	1,442,382	5.6%
WORKERS' COMPENSATION	2,144,395	2,073,434	(70,961)	-3.3%
CHEMICALS	28,269,124	20,054,280	(8,214,844)	-29.1%
ENERGY AND UTILITIES	31,064,893	29,660,076	(1,404,818)	-4.5%
MAINTENANCE	38,574,255	43,578,318	5,004,063	13.0%
TRAINING AND MEETINGS	498,597	547,346	48,749	9.8%
PROFESSIONAL SERVICES	10,410,484	11,000,628	590,144	5.7%
OTHER MATERIALS	7,167,398	7,255,219	87,821	1.2%
OTHER SERVICES	38,494,660	37,409,229	(1,085,432)	-2.8%
TOTAL DIRECT EXPENSES	\$ 316,003,024	\$ 320,657,176	\$ 4,654,152	1.5%
INSURANCE	\$ 4,065,380	\$ 4,471,045	\$ 405,665	10.0%
WATERSHED/PILOT/DEBT	30,358,187	32,109,392	1,751,205	5.8%
HEEC PAYMENT	7,500,650	7,103,385	(397,265)	-5.3%
MITIGATION	1,779,086	1,823,563	44,477	2.5%
ADDITIONS TO RESERVES	7,861,035	2,075,783	(5,785,251)	-73.6%
RETIREMENT FUND	15,972,805	23,720,476	7,747,672	48.5%
POSTEMPLOYMENT BENEFITS	2,849,365	2,824,849	(24,516)	-0.9%
TOTAL INDIRECT EXPENSES	\$ 70,386,507	\$ 74,128,494	\$ 3,741,986	5.3%
STATE REVOLVING FUND	\$ 90,798,263	\$ 87,726,088	\$ (3,072,176)	-3.4%
SENIOR DEBT	294,055,644	312,373,644	18,318,000	6.2%
SUBORDINATE DEBT	69,931,072	64,768,074	(5,162,998)	-7.4%
LOCAL WATER PIPELINE CP	7,744,625	9,827,661	2,083,036	26.9%
CURRENT REVENUE/CAPITAL	19,200,000	20,200,000	1,000,000	5.2%
CAPITAL LEASE	3,217,060	3,217,060	-	0.0%
DEBT PREPAYMENT	4,000,000	7,000,000	3,000,000	75.0%
DEBT SERVICE ASSISTANCE	(1,187,297)	-	1,187,297	-100.0%
TOTAL DEBT SERVICE	\$ 487,759,367	\$ 505,112,526	\$ 17,353,159	3.6%
TOTAL EXPENSES	\$ 874,148,898	\$ 899,898,196	\$ 25,749,297	2.9%
REVENUE & INCOME				
RATE REVENUE	\$ 834,268,000	\$ 859,438,000	\$ 25,170,000	3.0%
OTHER USER CHARGES	10,390,434	10,719,376	328,942	3.2%
OTHER REVENUE	5,838,903	5,985,461	146,558	2.5%
RATE STABILIZATION	305,482	-	(305,482)	-100.0%
INVESTMENT INCOME	23,346,079	23,755,359	409,280	1.8%
TOTAL REVENUE & INCOME	\$ 874,148,898	\$ 899,898,196	\$ 25,749,298	2.9%
Rate Revenue Increase over FY24	3.0%			

Attachment B
FY25 Proposed vs. FY24 Projection

TOTAL MWRA	FY24 Budget	FY24 Projection	FY25 Proposed	Change FY25 Proposed Budget vs FY24 Projection	
				\$	%
EXPENSES					
WAGES AND SALARIES	\$ 127,828,242	\$ 114,808,802	\$ 135,679,805	\$ 20,871,003	18.2%
OVERTIME	\$ 5,727,593	\$ 6,350,450	\$ 6,133,078	(217,372)	-3.4%
FRINGE BENEFITS	\$ 25,823,383	\$ 24,532,214	\$ 27,265,765	2,733,551	11.1%
WORKERS' COMPENSATION	\$ 2,144,395	\$ 2,466,054	\$ 2,073,434	(392,620)	-15.9%
CHEMICALS	\$ 28,269,124	\$ 21,543,101	\$ 20,054,280	(1,488,821)	-6.9%
ENERGY AND UTILITIES	\$ 31,064,893	\$ 31,928,750	\$ 29,660,076	(2,268,675)	-7.1%
MAINTENANCE	\$ 38,574,255	\$ 37,574,255	\$ 43,578,318	6,004,063	16.0%
TRAINING AND MEETINGS	\$ 498,597	\$ 436,272	\$ 547,346	111,074	25.5%
PROFESSIONAL SERVICES	\$ 10,410,484	\$ 9,410,484	\$ 11,000,628	1,590,144	16.9%
OTHER MATERIALS	\$ 7,167,398	\$ 6,877,398	\$ 7,255,219	377,821	5.5%
OTHER SERVICES	\$ 38,494,660	\$ 33,736,660	\$ 37,409,229	3,672,569	10.9%
TOTAL DIRECT EXPENSES	\$ 316,003,024	\$ 289,664,441	\$ 320,657,176	\$ 30,992,735	10.7%
INSURANCE	\$ 4,065,380	\$ 4,295,270	\$ 4,471,045	\$ 175,775	4.1%
WATERSHED/PILOT	\$ 30,358,187	\$ 28,644,392	\$ 32,109,392	3,465,000	12.1%
HEEC PAYMENT	\$ 7,500,650	\$ 7,643,162	\$ 7,103,385	(539,777)	-7.1%
MITIGATION	\$ 1,779,086	\$ 1,779,086	\$ 1,823,563	44,477	2.5%
ADDITIONS TO RESERVES	\$ 7,861,035	\$ 7,861,035	\$ 2,075,783	(5,785,251)	-73.6%
RETIREMENT FUND	\$ 15,972,805	\$ 15,972,805	\$ 23,720,476	7,747,672	48.5%
POSTEMPLOYMENT BENEFITS	\$ 2,849,365	\$ 2,849,365	\$ 2,824,849	(24,516)	-0.9%
TOTAL INDIRECT EXPENSES	\$ 70,386,507	\$ 69,045,115	\$ 74,128,494	\$ 5,083,379	7.4%
STATE REVOLVING FUND	\$ 90,798,263	\$ 83,358,104	\$ 87,726,088	\$ 4,367,983	5.2%
SENIOR DEBT	\$ 294,055,644	\$ 291,943,144	\$ 312,373,644	20,430,500	7.0%
SUBORDINATE DEBT	\$ 69,931,072	\$ 66,443,800	\$ 64,768,074	(1,675,726)	-2.5%
LOCAL WATER PIPELINE CP	\$ 7,744,625	\$ 7,744,625	\$ 9,827,661	2,083,036	26.9%
CURRENT REVENUE/CAPITAL	\$ 19,200,000	\$ 19,200,000	\$ 20,200,000	1,000,000	5.2%
CAPITAL LEASE	\$ 3,217,060	\$ 3,217,060	\$ 3,217,060	-	0.0%
DEBT PREPAYMENT	\$ 4,000,000	\$ 4,000,000	\$ 7,000,000	3,000,000	75.0%
DEBT SERVICE ASSISTANCE	\$ (1,187,297)	(1,187,297)	\$ -	1,187,297	-100.0%
TOTAL DEBT SERVICE	\$ 487,759,367	\$ 474,719,436	\$ 505,112,526	\$ 30,393,090	6.4%
TOTAL EXPENSES	\$ 874,148,898	\$ 833,428,991	\$ 899,898,196	\$ 66,469,204	8.0%
REVENUE & INCOME					
RATE REVENUE	\$ 834,268,000	\$ 834,268,000	\$ 859,438,000	\$ 25,170,000	3.0%
OTHER USER CHARGES	\$ 10,390,434	\$ 10,349,723	\$ 10,719,376	369,653	3.6%
OTHER REVENUE	\$ 5,838,903	\$ 5,645,942	\$ 5,985,461	339,519	6.0%
RATE STABILIZATION	\$ 305,482	\$ 305,482	\$ -	(305,482)	-100.0%
INVESTMENT INCOME	\$ 23,346,079	\$ 31,520,079	\$ 23,755,359	(7,764,720)	-24.6%
TOTAL REVENUE & INCOME	\$ 874,148,898	\$ 882,089,226	\$ 899,898,196	\$ 17,808,970	2.0%
VARIANCE:		\$ (48,660,235)		\$ (48,660,234)	

STAFF SUMMARY




TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: February 21, 2024
SUBJECT: Approval of the Eighty-Seventh Supplemental Bond Resolution

COMMITTEE: Administration, Finance & Audit

X VOTE
 INFORMATION

Matthew R. Horan, Deputy Director, Finance/Treasurer
Sean R. Cordy, Sr. Financial Analyst
Preparer/Title


Thomas J. Durkin
Director, Finance

RECOMMENDATION:

To adopt the Eighty-Seventh Supplemental Resolution authorizing the issuance of up to \$85,000,000 of Massachusetts Water Resources Authority Subordinated General Revenue Bonds and the supporting issuance resolution.

DISCUSSION:

The Massachusetts Clean Water Trust (“Trust”) provides subsidized financing for water and wastewater capital projects to Massachusetts governmental entities. MWRA annually submits new projects to the Massachusetts Department of Environmental Protection to be considered for inclusion on the Clean and Drinking Water Intended Use Plans (IUP). New and previously approved carry-over projects that are included on an IUP are eligible to receive financing through the Trust. Historically, MWRA has drawn down its funding at the same time the Trust was closing its long-term bond transaction. Starting in 2020, MWRA began utilizing the Trust’s interim loans to complete several draws during the course of the year. Under this structure, MWRA will enter into interest free interim loans with Trust, which will be replaced with standard loans when the Trust completes its next public market borrowing. This transaction may include additional principal forgiveness loans from the Trust provided through American Rescue Plan fund. At this time staff do not know what amount, if any, of principal forgiveness loans will be provided to MWRA.

Currently MWRA has approximately \$80.6 million of approved costs on the approved 2022 and 2023 IUPs, of which \$52.8 million is currently eligible to be drawn down. The following table outlines the immediate and projected drawdowns by project.

Project	Projected Draws			
	March 2024	July 2024	October 2024	Total
Nut Island Odor Control	\$ 3,147,894	\$ -	\$ 3,742,678	\$ 6,890,572
DITP Clarifier	\$ 18,117,447	\$ 11,817,561	\$ 11,817,561	\$ 41,752,569
CHE008 (CSO)	\$ 1,500,139	\$ 494,803	\$ -	\$ 1,994,942
Total Clean Water	\$ 22,765,480	\$ 12,312,364	\$ 15,560,239	\$ 50,638,083
Section 23, 24, 47 Water Mains	\$ 23,031,652	\$ -	\$ -	\$ 23,031,652
NIH Section 89	\$ 813,698	\$ -	\$ -	\$ 813,698
Weston Aqueduct Supply Mains	\$ 6,154,650	\$ -	\$ -	\$ 6,154,650
Total Drinking Water	\$ 30,000,000	\$ -	\$ -	\$ 30,000,000
Total SRF	\$ 52,765,480	\$ 12,312,364	\$ 15,560,239	\$ 80,638,083

Staff is seeking a total of \$85.0 million in authorization in the event that additional invoices beyond the \$80.6 million identified here are available for reimbursement prior to the Trust completing their long-term transaction this fall. This will allow MWRA to maximize its ability to borrow funds from the Trust at the low interest rates. The Trust will complete its long-term borrowing once sufficient funds have been drawn by MWRA and other communities.

From the 2022 and 2023 IUPs, MWRA anticipates receiving up to \$80.6 million in new, low-interest loans from the Trust to fund several water and wastewater projects. The loans will have a 20-year maturity at a fixed interest rate of 2.15%, including the Trust administrative fee of 0.15%. The Trust also charges a loan origination fee of \$5.50 per \$1,000 to cover its costs of issuance.

In order to move ahead with the interim and permanent borrowing, the Trust requires that all borrowers sign loan commitment documents which indicate that they have the authorization to borrow these funds. Once the documents are completed, MWRA will begin drawing funds. While this new structure will allow MWRA to access the interest free funds sooner, it may make budgeting for the debt service costs associated with the permanent financing less certain. MWRA is required by its General Bond Resolution to make monthly principal and interest deposits to the debt service accounts for these bonds. Since MWRA is required to budget the funds for anticipated principal and interest payments, shifts in timing of the permanent financing will change when deposits are required and may reduce budgeted debt service expenses.

BUDGET/FISCAL IMPACT:

There are sufficient funds available in the FY24 CEB to pay the debt service costs associated with these borrowings.

STAFF SUMMARY



TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: February 21, 2024
SUBJECT: Delegation of Authority to Execute a Contract for the Purchase and Supply of Electricity for the Deer Island Treatment Plant

COMMITTEE: Administration, Finance, & Audit

 INFORMATION

 X VOTE



Michele S. Gillen

Director of Administration

Rebecca Weidman, Deputy Chief Operating Officer
Kristen Patneau, Manager, Energy
Preparer/Title



David W. Coppes, P.E.

Chief Operating Officer

MWRA has competitively procured electricity supply since 2001. MWRA's largest contract, Deer Island, expires at the end of October 2024. In a commodity market where prices can change within short time periods, MWRA must be prepared to award a contract almost immediately after bids are received to lock in pricing. To ensure that MWRA is prepared to execute a replacement electricity supply contract during favorable market conditions, staff recommend that the Board authorize the Executive Director to award a contract to the successful bidder. Staff will report to the Board the bid results and any electricity supply contract execution for the Deer Island account.

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to execute a contract for the supply of electricity to the Deer Island Treatment Plant with the lowest responsive and responsible bidder for the period and pricing structure determined by staff to be in MWRA's best interest, and for a contract supply term not to exceed 36 months. This delegation of authority is necessary because MWRA will be required to execute a contract within several hours of the price submission in a constantly changing market.

DISCUSSION:

Based on MWRA account load profiles and prior consults with energy advisors, MWRA has established three distinct electricity supply contracts. The largest contract is the Deer Island account, which represents approximately 68% of MWRA's total purchased electricity load. The Interval Accounts, which include larger facilities (e.g., Carroll Water Treatment Plant, Clinton Treatment Plant, wastewater headworks, and water and wastewater pump stations), represent approximately 28% of MWRA's total purchased load. The Profile Accounts are the smaller facilities (e.g., CSO treatment facilities and small pump stations), representing the remaining 3% of MWRA's total purchased load. The remaining <1% of MWRA's total purchased electric load consists of accounts that include small electrical devices such as meters, motorized valves, and cathodic protection. These accounts remain on basic service with the utilities since there is no

economic advantage to including them on competitive supply due to the administration required relative to the load size. There are also several accounts in municipal light plant districts, which prohibits customers from third-party supply of electricity.

Staff recommend that MWRA continue to procure electricity for the Deer Island account separately. There are no apparent economies of scale savings that result from the combination of the Deer Island electricity load with MWRA's Interval and Profile Accounts. Since Deer Island's electricity is metered as a single account with a large total load, it is easier to manage than an aggregation of multiple accounts. Therefore, combining all MWRA accounts into a single contract would result in an incremental supplier administrative fee related to the additional account management. Staff also developed these different contract structures to optimize the overall procurement strategy, based on factors such as the account load sizes and operational characteristics of the facilities, as discussed below.

The existing three-year supply contract for Deer Island expires in October 2024. The Interval Accounts current two-year contract expires in June 2025, and the Profile Accounts one-year contract expires in November 2024. An additional benefit to keeping these separate contract structures and staggered end dates is to mitigate the risk of procuring the majority of MWRA's electricity load bid at the same time in a historically volatile and sometimes unpredictable market.

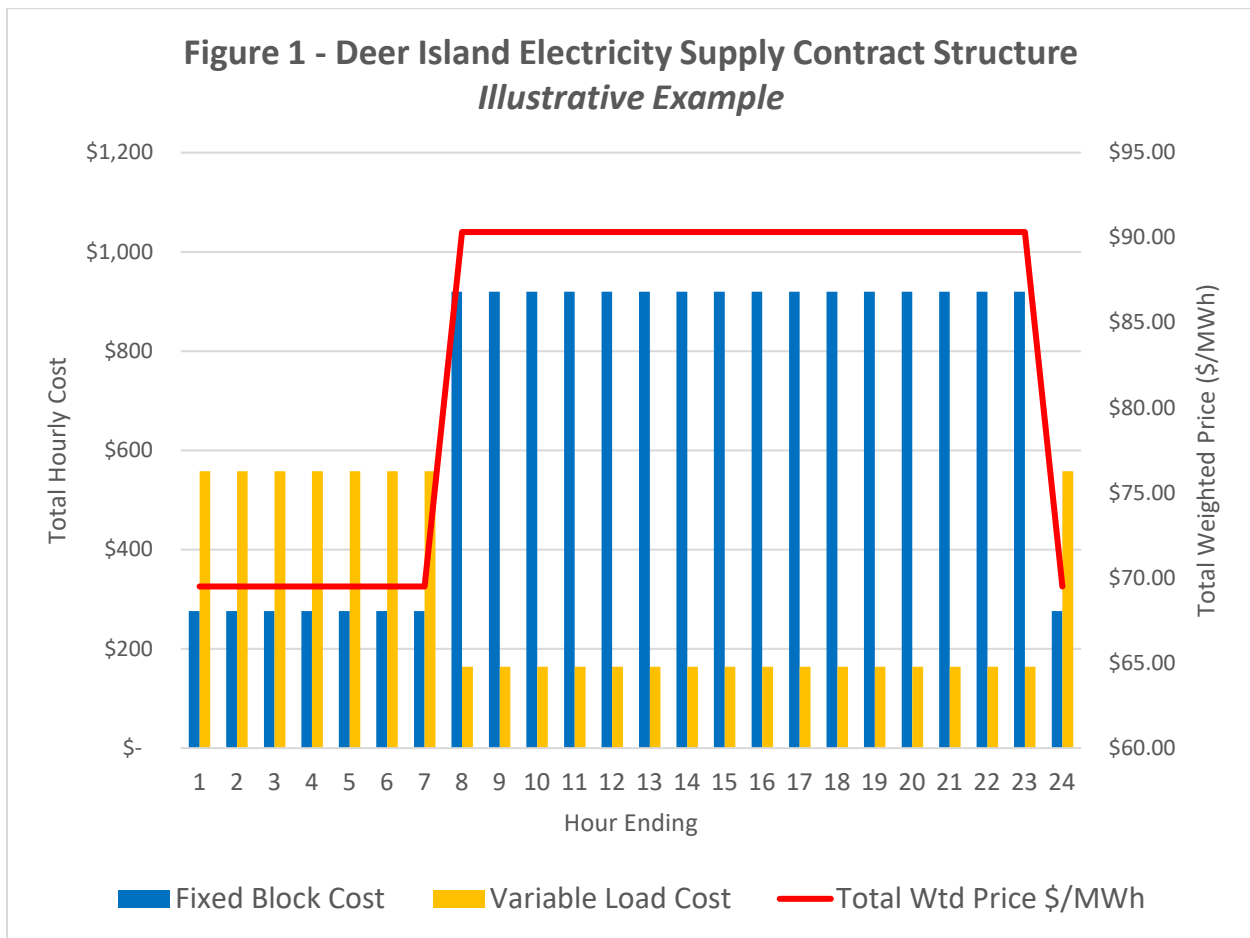
Deer Island's average total electricity usage is approximately 142,000 megawatt hours (MWh)/year, and the average *purchased* electricity volume is 103,000 MWh/year, the equivalent of nearly 9,000 homes' electricity use for one year. In FY23, Deer Island self-generated approximately 25% of its total plant electrical demand from a combination of onsite resources, including approximately 19% from methane digester gas, 1% from diesel combustion turbine generators, and 5% from other renewables (hydro, wind and solar).

Contract Structure

Traditionally, Deer Island electricity supply bids have included a variety of hedging strategies: fully fixed rate, fully indexed rate, and a blended block plus index.

- **Fixed rates** offer a set price for a specified contract period. This fixed price structure prioritizes budget control since it is predictable and guaranteed. Under a fixed rate contract, there is protection from market increases, there is no ability to take advantage of market lows. This can be advantageous during market dips and for loads that have limited load control, but also may include a premium for the price certainty.
- **Index rates** allow purchasers to choose their energy timing or volume in real time (or a day in advance). If market prices are high, one can remain with index rates until the pricing is stable enough to lock in a fixed rate. This also benefits organizations who can adjust energy usage to align with dips in pricing, but it also comes with higher risk exposure and less budget certainty.
- **Blended rates** are a hybrid of fixed block and index rates based on a combination of historical usage and future energy predictions. The block and index energy strategy allows one to hedge a certain percentage of energy usage despite volumes that fluctuate over time. The "block" price(s) is fixed for the contract term and any energy used above the block is billed at the index market rate. This contract structure provides a balance of budget certainty and ongoing opportunity to capture lower real-time market pricing.

Deer Island’s existing supply contract is structured as a blended structure with a ten megawatt (MW) fixed price block during on-peak¹ hours and a three MW block during off-peak hours, and the balance of the load purchased from the variable-rate spot market.² See illustrative example in Figure 1. This contract structure covers approximately 50% of Deer Island's load with fixed block pricing and 50% via variable pricing in the ISO-NE real-time market. Although locking in fixed pricing does carry a premium, it balances the risk taken when purchasing a commodity from a volatile market. The on-peak fixed-price block protects MWRA from potential price spikes in the winter (due to natural gas supply constraints) and summer (due to increased cooling demand). The off-peak block price is less expensive than the on-peak block price, resulting in more savings in the off-peak hours when the real-time spot market prices are typically lower and less volatile. The contract also includes capacity charges as an “at cost” pass-through, so staff can continue to reduce load during congested grid periods and decrease or avoid these costs that are included in fixed-price supply pricing.



Staff will evaluate Deer Island's historical and projected energy load profiles and review the previous bid contract prices to identify if any changes to the existing contract structure (*i.e.*, size of the fixed block in the blended rate model described above) could decrease projected energy

¹ On-peak hours are 7 a.m. to 11 p.m. on non-holiday weekdays.

² For example, if Deer Island draws on average 12MW during an on-peak hour, 10MWh is billed at the 10MW block fixed-price and 2MWh is billed at the variable-rate spot market price. If Deer Island draws on average 12MW during an off-peak hour, 3MWh is billed at the 3MW block fixed-price and 9MWh is billed at the variable-rate spot market price.

supply costs. This evaluation will be performed prior to receipt of final pricing and contract execution. It is important to note that historical pricing does *not* indicate future conditions, but it can be a useful reference to evaluate price impacts of the various contract structures in certain market conditions, and a tool to help select the preferred structure for the next contract.

Renewable Energy Certificates

As required by the [Massachusetts Renewable Portfolio Standard](#) (RPS), a minimum percentage of electricity supply must be from renewable resources. This renewable electricity is broken into two products, the electricity and the environmental attributes (renewable energy certificates or “RECs”). Historically, MWRA has been procuring voluntary RECs above the state requirements, as a component of our sustainability efforts. In light of the changing REC landscape³ and the Commonwealth’s focus on greenhouse gas reductions and decarbonization, the state’s guidance is to use resources to focus on reduction of onsite fossil fuel use instead of the procurement of voluntary RECs. Therefore, MWRA will not be seeking bids for additional RECs under this electricity supply contract, but will continue to monitor the REC market and consult with DOER to determine whether REC purchases in the future are warranted.

Procurement Process

MWRA has traditionally procured electricity supply through a two-stage process. In Stage 1, suppliers submit information in response to the minimum threshold requirements set forth in the Request for Bids, such as necessary regulatory approvals, investment grade ratings, and agreement to execute MWRA’s contract. Responsive Stage One bidders who meet the requirements are then eligible to participate in Stage Two and can submit bids on a predetermined future date.

Although energy rates tend to fluctuate on a seasonal basis, other factors also influence the market and it is difficult to select a fixed date to capture potential market dips. For the greatest flexibility to react to market events, staff propose a slight modification to the Stage 2 procurement process. Since energy market pricing fluctuates based on changing market fundamentals rather than try to time the market for any form of a fixed price contract, it is beneficial to monitor market pricing over time when looking to lock in fixed prices. This allows for the leveraging of market dips while limiting budget risk. Therefore, staff will monitor indicative pricing over time, rather than setting a predetermined bid date, to identify potential buying opportunities, with the intent of locking in during a period of lower pricing.

Staff have also looked at other electricity purchasing options available to state agencies and authorities, such as purchasing electricity through “collaboratives” or a state contract. While a collaborative may generate more interest from the market by offering energy providers a larger block of electricity to bid on, the Deer Island account is large enough to warrant competitive rates when bid alone. There also continues to be supplier interest in bidding on the Interval Accounts. Prior to the expiration of the existing Interval Account contract (June 2025), staff will evaluate all procurement options and make a recommendation to the Board on that future procurement. MWRA’s Profile Accounts are currently under contract through the PowerOptions consortium program, since the number of competitive suppliers bidding on these smaller accounts has

³ There is an undersupply of RECs which leads to higher prices, the purchase of voluntary RECs generally comes from existing projects, and the grid is getting cleaner despite procurement of voluntary RECs.

decreased over the past few years, with fewer suppliers in the market (many suppliers have merged) and the load for this contract relatively small overall.

The Deer Island electricity supply start date will be the first meter read date for enrollment on or after November 1, 2024 and bids will be sought for 12, 24, and 36 month terms.

To ensure that MWRA is prepared to execute the electricity supply contract during favorable market conditions, staff recommend that the Board authorize the Executive Director to award a contract to the successful bidder.

BUDGET/FISCAL IMPACTS:

Deer Island's proposed total electricity budget for FY25 CEB Request is \$11.6 million. This amount includes approximately \$7.7 million for electricity supply and \$3.9 million for delivery. The authorization staff are seeking today is for purchasing the Deer Island Wastewater Treatment Plant electricity *supply*, which represents approximately 66% of MWRA's total electricity costs.

Staff will assess the impact of the bids taken in comparison with the budgeted amounts and update the Board accordingly.

MBE/WBE PARTICIPATION:

There will be no MBE or WBE participation requirements established for this procurement due to limited opportunities for subcontracting.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: February 21, 2024
SUBJECT: Remarketing Agent for the 2008 Series A-1 and A-3
TD Securities (USA) LLC
Raymond James & Associates Inc.
Contract F275




COMMITTEE: Administration, Finance & Audit

VOTE
 INFORMATION



Michele S. Gillen
Director, Administration

Matthew R. Horan, Deputy Director, Finance/Treasurer
Preparer/Title



Thomas J. Durkin
Director, Finance

RECOMMENDATION:

To authorize the Executive Director, pursuant to the Fifty-fourth Supplemental Resolution, to approve the recommendation of the Selection Committee for Raymond James & Associates, Inc. and TD Securities (USA) LLC to provide remarketing services for 2008 Series A-1 and 2008 Series A-3 Multi-Modal Subordinated General Revenue Refunding Bonds, respectively, and to award successor contracts.

DISCUSSION:

Unlike fixed rate debt where the interest rate is set at the time the bonds are issued, variable rate debt has interest rates reset on a periodic basis taking advantage of the typically lower short-term rates. MWRA all-in average variable interest rate over the last 10 years is 1.39%, as compared to SRF bonds at 2.15% and fixed rate debt that is averaging 3.12%. In MWRA's case, the interest rate on the bonds is reset every week by the Remarketing Agent. On a weekly basis the Remarketing Agent is responsible for determining the correct interest rate at which bondholders will want to purchase MWRA's bonds. This interest rate takes into account market conditions, MWRA's credit quality and the security provided by the liquidity bank. If the Remarketing Agent were to fail to find purchasers for the bonds they could either hold them in their inventory or place them with the liquidity banks at a higher interest rate prescribed in the liquidity agreements.

At the end of December 2023, Citigroup announced that they would be closing down their public finance division and would no longer be providing tax-exempt bond underwriting and remarketing of variable rate bonds. As a result MWRA was required to conduct a procurement to hire new entities to serve as Remarketing Agent for the 2008 Series A-1 (\$35.2 million) and 2008 Series A-3 bonds (\$62.0 million). MWRA currently has \$382.4 million in variable rate debt outstanding in

the market, with Citigroup remarketing approximately \$97.2 million. Citigroup is also a senior underwriter to MWRA and will no longer serve in that role. MWRA also has a variable rate bond held by Citi Bank N.A. and that agreement will continue at least through the end of its current expiration period in November 2025.

PROCUREMENT PROCESS:

The procurement process to select Remarketing Agents utilized a one-step Request for Qualification Statements and Proposals (RFQ/P), which was issued on January 15, 2024. The procurement was publically advertised in the Goods and Services Bulletin, Boston Herald, Banner Publications, El Mundo and via the MWRA Supplier Portal. Twelve firms, Barclays Capital (Barclays), Bank of America Securities (B of A), Goldman Sachs & Co. LLC (Goldman), J.P. Morgan Securities (J.P. Morgan), Jefferies LLC (Jefferies), Loop Capital Markets LLC (Loop), Morgan Stanley & Co, LLC (Morgan Stanley), Raymond James & Associates Inc. (Raymond James), RBC Capital Markets (RBC), TD Securities (USA) LLC (TD Securities), U.S. Bancorp (U.S. Bancorp), and Wells Fargo Securities (Wells Fargo) submitted proposals on January 29, 2024. As part of the procurement process, MWRA required that all proposers have at least seven years for experience, be members of the National Association of Securities Dealers, Inc. and have a minimum capitalization of at least \$15 million and provide a minimum capacity to remarket at least one series of bonds.

The Selection Committee evaluated and ranked the proposals from the twelve firms based on the criteria contained in the RFQ/P: Fees, Other Related Costs and Market Trading Performance (35 pts), Financial Strength and Credit Profile (25 pts), Remarketing Capacity, Past Experience and Key Personnel (25 pts), and Proposed Contract Modifications to Sample Agreement (15 pts). The proposals for Remarketing Agent were ranked as follows:

Rank	Firm	Fee per \$ million of bonds
1	TD Securities	0.05%
2	Raymond James	0.04%
3	B of A	0.04%
4	Jefferies	0.04%
5	RBC	0.07%
6	Loop	0.05%
7	Wells Fargo	0.05%
8	Goldman	0.06%
9	J.P. Morgan	0.07%
10	Barclays	0.07%
11	Morgan Stanley	0.08%
12	U.S. Bancorp	0.06%

All 12 proposals reviewed by the Selection Committee were from firms with significant experience in remarketing of variable rate debt. In order to limit exposure to any one Remarketing Agent, staff are proposing contracting with two different firms for these bonds. Based on the rankings of the Selection Committee, staff are recommending awarding the larger 2008 Series A-3 bonds to

TD Securities and the 2008 Series A-1 bonds to Raymond James. Neither of these firms currently serves as remarketing agent for MWRA. Both firms offered competitive fees for the services and did not propose any changes to MWRA's sample remarketing agreement. TD Securities currently provides remarketing services for 194 series of variable rate bonds including Mass General Brigham, and the Massachusetts Housing Finance Agency. Raymond James currently remarkets 43 series including two series of bonds for the Massachusetts Housing Finance Authority. TD Securities proposed a remarketing fee of 0.05% and Raymond James provided a fee of 0.04%. MWRA's financial advisor indicated that both of these firm are well known in the market place and have the ability to remarket the bonds effectively.

While B of A offered a strong proposal with an attractive fee, they currently serve as a remarketing agent and awarding these new series of bonds would have increased their concentration from 13% to either 29% or 42% of the portfolio. Jefferies also provided an excellent proposal and a low remarketing fee, however there proposal contains upfront fees of \$20,899 that were not included in the other proposals. RBC is highly rated institution that provided a strong proposal, however they provided a split fee proposal in which if they received both series of bonds the fee would be 0.05% and if they only received one the fee was 0.07%. Since staff believe it is in MWRA's best interest to remain diversified and split these series of bonds, RBC was ranked based on the higher fee. Loop offered a competitive remarketing fee at 0.05%, however their proposal was less detailed on the financial condition of the firm and its overall abilities. The remaining firms while qualified, offered to provide remarketing services at a higher cost.

Based on the cost, experience and qualifications of the firms, the Selection Committee recommends award of successor Remarketing Agreements to TD Securities and Raymond James for the 2008 Series A-1 and 2008 Series A-3 Multi-Modal Subordinated General Revenue Refunding Bonds.

BUDGET/FISCAL IMPACT:

There are sufficient funds in the FY24 and proposed FY25 Capital Finance Budget to pay for the costs associated with remarketing the 2008 Series A-1 and 2008 Series A-3 bonds.

MBE/WBE PARTICIPATION:

There were no MBE/WBE participation requirements established for this contract due to the limited opportunities for subcontracting.

STAFF SUMMARY




TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: February 21, 2024
SUBJECT: Amendments to the MWRA Regulations for Sewer Use

COMMITTEE: Wastewater Policy & Oversight

 INFORMATION

 X VOTE


Carolyn Francisco Murphy
General Counsel

Rebecca Weidman, Deputy Chief Operating Officer
Matthew Dam, Director, TRAC
Preparer/Title


David W. Coppes, P.E.
Chief Operating Officer

RECOMMENDATION:

To authorize the Director, on behalf of the Authority, to publish notice of proposed amendments to MWRA’s Regulations for Sewer Use (360 CMR 10.000) (summary chart attached) in the Massachusetts Register and newspapers for public comment. Staff will return to the Board for approval to adopt the amendments after public comments have been received.

DISCUSSION:

MWRA has the authority to adopt regulations, published in the Code of Massachusetts Regulations, which have the force of law. Before adopting or amending a regulation, MWRA must provide public notice in the Massachusetts Register and newspapers, send notice to various specified entities, and allow for a period of time for public comment.

MWRA’s Sewer Use Regulations are required by EPA for its Industrial Pretreatment Program, which is administered by MWRA’s Toxic Reduction and Control (TRAC) department. The Sewer Use Regulations are derived from EPA’s federal pretreatment regulations found at 40 CFR Part 403, *et seq.*, and set conditions for use of MWRA and municipal sewers, including charges for obtaining and holding a permit. They also provide for enforcement for noncompliance with MWRA regulations and permits.

MWRA last revised the Sewer Use Regulations in 2018. This current set of proposed regulation revisions focuses on updates to MWRA’s Implementation Charges and Incentive Program Charges and other revisions to ensure that these regulations reflect current program policies and practices as derived from the federal regulations.

Proposed Amendments

In order to reflect increases in the TRAC department's operating expenditures to implement its Industrial Pretreatment Program, MWRA's Advisory Board requested and MWRA is proposing to update the Incentive Program Charges increasing fees in fiscal year (FY) 2025 through FY2029 by 3% annually.

In addition to the changes outlined above, other proposed revisions to the regulations are intended to clarify the intent of the existing regulations and/or align them with MWRA practices derived from EPA regulations. The adoption of these changes will not result in any substantial changes to the implementation of the MWRA's Industrial Pretreatment Program, since they are intended to reflect current practices and procedures.

Attachment 1 presents a summary table of the proposed amendments. The table identifies the section of the regulations to be amended, the source of the proposed change, a description of the amendment, and an explanation for the amendment. Attachment 2 presents the specific charges for the various permit types as they stand now in FY2024 and 3.0% increases in each of the following five fiscal years. A complete redline version of the amended regulations will be available in the Board lounge.

Upon Board approval, staff will transmit the proposed changes to the Massachusetts Secretary of State for publication in the Massachusetts Register and send notices to various specified entities, including permit holders. Upon completion of the public comment period, staff will return to the Board for approval to adopt the amendments with modifications, if any are deemed necessary after review of public comments.

BUDGET/FISCAL IMPACTS:

The 3% increase across-the-board increase to TRAC's charges in FY2025 through FY2029 will generate an additional \$81,000 in revenue in FY2025, \$164,430 in FY2026, \$250,362 in FY2027, \$338,873 in FY2028, and \$430,040 in FY2029, as compared to the FY2024 estimated revenue. The actual amount invoiced each year will vary based on the number of facilities in each permit category. The increases in charges are intended to cover annual increases in TRACs budget as well as to recoup a portion of annual operating cost increases consistent with the typical inflation factor.

ATTACHMENTS:

1. Summary of Proposed Amendments to Regulations
2. Chart of Charges by Permit Type

ATTACHMENT 1

The following table outlines the substantive changes made to the three regulations. In addition to these changes, spelling mistakes and grammatical errors were corrected, as well as the capitalization of defined terms were made in all three sets. These are not listed in this table.

REGULATION	REASON	AMENDMENT	EXPLANATION OF AMENDMENT
360 CMR 10.00			
360 CMR 10.007(7)	MWRA and EPA	Clarifies language to ensure that permits cannot be extended beyond five years, in order to align with 40 CFR § 403.8(f)(1)(iii)(B)(1).	EPA's 2021 audit of the MWRA's Industrial Pretreatment Program required language be added to the Sewer Use Discharge Permits (SUDP) to clarify that permits cannot be extended beyond 5 years. This amendment aligns the SUDPs and the regulations. This does not represent a change to existing practice.
360 CMR 10.015(1)(a)	MWRA	Strikes existing per hourly rate to respond to a request for a one-time only discharge and inserts a new hourly rate.	Increase in hourly rate consistent with the hourly rate of staff performing the tasks.
360 CMR 10.015(1)(b)	MWRA	Strikes existing per hourly rate to respond to a spill or other release of materials and inserts a new hourly rate.	Increase in hourly rate consistent with the hourly rate of staff performing the tasks.
360 CMR 10.024(2)(a)	MWRA and EPA	Strikes the material Vinylidene Chloride from the list of Materials with a Daily Maximum Limit and replaces it with the synonym 1,1 Dichloroethylene.	EPA's 2021 audit also recommended changing the material name to match the material name used in the SUDP. With this amendment, the permit terminology and the regulations will be the same.
360 CMR 10.091	MWRA	Adds missing language that was omitted during the posting of the previous regulation amendment.	Missing language added to correct the paragraph.
360 CMR 10.101(1)(a)-(f)	MWRA	Strikes existing list of Permit charges and inserts new charges.	Increase in rates for permit charges.
360 CMR 10.101(5)(a)-(f)	MWRA	Strikes existing list of Temporary Construction Dewatering Permit charges and inserts new charges.	Increase in rates for Temporary Construction Dewatering Permit charges
360 CMR 10.102(1)(a)-(f)	MWRA	Strikes existing list of monitoring charges and inserts new charges.	Increase in rates for monitoring charges.
360 CMR 10.102(7)(a)-(f)	MWRA	Strikes existing list of monitoring charges and inserts new charges.	Increase in rates for late and non-submittal of reports.

ATTACHMENT 2

CHARGE AMOUNTS FOR FISCAL YEARS 2024 - 2029

PERMIT CATEGORIES	CHARGE COMPONENTS	CURRENT CHARGE AMOUNTS FY 2024	PROPOSED CHARGE AMOUNTS FY 2025	PROPOSED CHARGE AMOUNTS FY 2026	PROPOSED CHARGE AMOUNTS FY 2027	PROPOSED CHARGE AMOUNTS FY 2028	PROPOSED CHARGE AMOUNTS FY 2029
1 SIU	Permitting Monitoring	\$2,998	\$3,088	\$3,181	\$3,276	\$3,374	\$3,476
	Low Score	\$3,474	\$3,578	\$3,686	\$3,796	\$3,910	\$4,027
	Medium Score	\$6,944	\$7,152	\$7,367	\$7,588	\$7,816	\$8,050
	High Score	\$10,410	\$10,722	\$11,044	\$11,375	\$11,717	\$12,068
	More than 3 Sample Locations	\$3,474	\$3,578	\$3,686	\$3,796	\$3,910	\$4,027
1 non-SIU	Permitting Monitoring	\$1,978	\$2,037	\$2,098	\$2,161	\$2,226	\$2,293
	More than 3 Sample Locations	\$1,138	\$1,172	\$1,207	\$1,244	\$1,244	\$1,319
		\$1,138	\$1,172	\$1,207	\$1,244	\$1,281	\$1,319
2 SIU	Permitting Monitoring	\$1,930	\$1,988	\$2,048	\$2,109	\$2,172	\$2,238
	Low Score	\$3,474	\$3,578	\$3,686	\$3,796	\$3,910	\$4,027
	Medium Score	\$6,944	\$7,152	\$7,367	\$7,588	\$7,816	\$8,050
	High Score	\$10,410	\$10,722	\$11,044	\$11,375	\$11,717	\$12,068
	More than 3 Sample Locations	\$3,474	\$3,578	\$3,686	\$3,796	\$3,910	\$4,027
2 non-SIU	Permitting Monitoring	\$1,642	\$1,691	\$1,742	\$1,794	\$1,848	\$1,903
	More than 3 Sample Locations	\$1,138	\$1,172	\$1,207	\$1,244	\$1,244	\$1,319
		\$1,138	\$1,172	\$1,207	\$1,244	\$1,244	\$1,319
3 SIU	Permitting Monitoring	\$1,642	\$1,691	\$1,742	\$1,794	\$1,848	\$1,903
	Low Score	\$3,474	\$3,578	\$3,686	\$3,796	\$3,910	\$4,027
	Medium Score	\$6,944	\$7,152	\$7,367	\$7,588	\$7,816	\$8,050
	High Score	\$10,410	\$10,722	\$11,044	\$11,375	\$11,717	\$12,068
	More than 3 Sample Locations	\$3,474	\$3,578	\$3,686	\$3,796	\$3,910	\$4,027
3 non-SIU	Permitting Monitoring	\$1,240	\$1,277	\$1,315	\$1,355	\$1,395	\$1,437
	More than 3 Sample Locations	\$858	\$884	\$910	\$938	\$966	\$995
		\$858	\$884	\$910	\$938	\$966	\$995
4 SIU	Permitting	\$1,120	\$1,154	\$1,189	\$1,224	\$1,261	\$1,299
6 (Septage Hauler)	Permitting	\$1,120	\$1,154	\$1,189	\$1,224	\$1,261	\$1,299
10 (General Permit for Low Flow/Low Pollutant)	Permitting	\$112	\$115	\$118	\$122	\$126	\$129
12 (Construction Dewatering)	Permitting Monitoring	\$4,342	\$4,472	\$4,606	\$4,744	\$4,887	\$5,033
	More than 3 Sample Locations	\$3,474	\$3,578	\$3,686	\$3,796	\$3,910	\$4,027
		\$3,474	\$3,578	\$3,686	\$3,796	\$3,910	\$4,027

ATTACHMENT 2

PERMIT CATEGORIES	CHARGE COMPONENTS	CURRENT CHARGE AMOUNTS FY 2024	PROPOSED CHARGE AMOUNTS FY 2025	PROPOSED CHARGE AMOUNTS FY 2026	PROPOSED CHARGE AMOUNTS FY 2027	PROPOSED CHARGE AMOUNTS FY 2028	PROPOSED CHARGE AMOUNTS FY 2029
G1 (Group Permit for Photo Processing and Printing)	Permitting NOI	\$260 \$102	\$268 \$106	\$276 \$109	\$284 \$112	\$293 \$116	\$302 \$119
G2 (Group Permit for Food Processing)	Permitting NOI	\$220 \$102	\$228 \$106	\$235 \$109	\$242 \$112	\$249 \$116	\$257 \$119
C1 (Combined Permit)	Permitting	\$318	\$328	\$338	\$348	\$358	\$369
D1 (Group Permit for Dental Discharges)	Permitting NOI	\$220 \$102	\$228 \$106	\$235 \$109	\$242 \$112	\$249 \$116	\$257 \$119
ALL	Late/No Discharge Report	\$192	\$198	\$204	\$210	\$216	\$223

Notes:

1. All charge amounts are assessed annually.
2. SIUs receive a low, medium, or high monitoring score charge each year, based on their pollutant loadings and violations status.
3. There is an extra charge for facilities with more than three sampling locations. For each three additional sampling locations (e.g., 4-6, 7-9 locations), the monitoring charge is increased by the amount indicated on the applicable line on the chart.
4. Each Group Permit holder submits a Notice of Intent (NOI) to apply for the permit and pays a one-time charge for the NOI.

STAFF SUMMARY




TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: February 21, 2024
SUBJECT: Oxygen Generation Facility Services - Deer Island Treatment Plant
Solutionwerks, Inc.
Contract S587, Amendment 2

COMMITTEE: Wastewater Policy & Oversight

 INFORMATION
 X VOTE

David Duest, Director, Deer Island Treatment Plant
Chad Whiting, Deputy Director, Deer Island Treatment Plant
Preparer/Title



David W. Coppes, P.E.
Chief Operating Officer

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to approve Amendment 2 to Contract S587, Oxygen Generation Facility Services in the amount of \$250,000, increasing the contract amount from \$2,720,450 to 2,970,450 and extending the contract by 183 calendar days, from April 18, 2024 to October 18, 2024.

DISCUSSION:

The Cryogenic Oxygen Generation Facility (the “Facility”) located on Deer Island consists of specialized equipment, instrumentation, and control systems. The oxygen generated by the Facility is critical in the operation of the Deer Island secondary treatment process, specifically to supply oxygen to the microorganisms in secondary treatment’s activated sludge process. Oxygen is used by the microorganisms to remove dissolved organics and other contaminants from primary effluent.

The Facility purifies and concentrates oxygen from air. The Facility includes two pure oxygen trains, each capable of producing 90 to 150 tons per day of pure oxygen used to support secondary treatment. Oxygen is produced at 95% strength as compared to 21% in the atmospheric air. This allows for a smaller footprint for the secondary reactors where the oxygen is fed to the microorganisms. Secondary treatment is essential to MWRA’s core mission of permit compliance and environmental stewardship.

Servicing the pure oxygen generation equipment requires specialized knowledge of the cryogenic oxygen purification and generation process, instrumentation, operational hazards associated with the process, including working with pure oxygen (an accelerant), and exposure to extremely high and low temperatures and pressures. The Facility has historically required a service contract for access to skilled technicians with the specialized expertise to keep it in full-time operation. Staff are currently finalizing a separate Request for Qualifications/Proposals to hire a consulting firm to perform an equipment and technology assessment and design and engineering services during construction to rehabilitate the existing Cryogenic facility. The scope of services includes the

replacement of the existing cryogenic equipment including, but not limited to, the compressors, cooling towers, liquid oxygen storage (LOX) tank, cold boxes, piping, valves, etc.

Prior services contracts have been competitively bid as multi-year contracts. Solutionwerks Inc. was the only bidder the last time these services were procured, and historically there has been limited competition. On November 10, 2022, Solutionwerks informed MWRA that it would be unable to bid on any upcoming multi-year maintenance contracts and key staff, including the owner, will be transitioning into retirement or semi-retirement. This notification, along with the need to perform additional maintenance/corrective work not typically included in the maintenance contract, caused staff to rethink the procurement approach to support the maintenance needs of this facility. Staff evaluated operations and maintenance requirements at the facility and concluded that the next contract should be procured under M.G.L. Chapter 149, to allow necessary multi-trade work to be performed, as well as obtaining specialized maintenance expertise. Further, staff anticipate that use of the competitive bidding process will garner a wider pool of contractors to bid on the project and collaborate with instrumentation and control experts for the specialized services similar to those provided previously by Solutionwerks.

The first amendment was approved under delegated authority by the Executive Director on March 2, 2023. That amendment extended the current contract with Solutionwerks to provide support for the Facility for 12 additional months. That amendment was intended to provide staff sufficient time to research specialty equipment and draft specifications to support interim maintenance service needs for certain components of the Facility until the longer term, more intensive Cryogenic Oxygen Plant upgrade, as mentioned above, is undertaken. The time gained with Amendment No. 1 was essential to support the reliable generation of oxygen at the Plant.

This Amendment:

Extend the Contract Time by 183 Calendar Days \$250,000

The current contract is due to expire on April 18, 2024. Development of the contract documents is complete and the contract will be advertised in February with bids due in March. However, this procurement schedule will not produce a completed contract prior to April 18, 2024. During scope development, staff needed extra time to meet with and obtain information from the original equipment manufacturers on some of the specialized equipment. This was necessary to capture all aspects of work for a complete scope of services for the Cryogenic compressors, LOX tanks and Mole sieves. In addition, staff determined it necessary to include a design to replace two of the Programmable Logic Controllers, which perform critical operations and provide protection of the oxygen generation systems.

This amendment will extend the current contract for six additional months and provide sufficient funding to support the maintenance and continued operation of the Facility while the procurement of the new contract is completed. The current contractor, Solutionwerks, confirmed its ability to support the extension of the contract. The estimated cost for the additional six months of services, including annual turnaround services, on call emergency and non-emergency services, spare parts allowance, factory representative services, travel expenses, and tools is expected to be \$641,278.00. The remaining \$608,977.08 in the current contract, combined with the requested amount of \$250,000 in this amendment, will be used to fund the remainder of the current contract work and the additional six months of service through October 18, 2024.

CONTRACT SUMMARY:

	<u>Amount</u>	<u>Time</u>	<u>Dated</u>
Original Contract	\$2,220,450	1,095 Days	4/17/2020
Amendment 1*	\$500,000	366 Days	3/2/2023
Amendment 2	<u>\$250,000</u>	<u>183 Days</u>	Pending
Adjusted Contract	\$2,970,450	1,644 Days	

*Approved under delegated authority

BUDGET/FISCAL IMPACTS:

The additional cost for Amendment 2 to Contract S587 will be absorbed in the Operations Division’s FY24 Current Expense Budget (CEB). The remaining funding for this amendment will be included in the FY25 Current Expense Budget.

MBE/WBE PARTICIPATION:

There were no MBE/WBE participation requirements established for this contract due to the limited opportunities for subcontracting.

STAFF SUMMARY




TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: February 21, 2024
SUBJECT: Harbor and Outfall Monitoring, Benthic, Fish, and Shellfish Monitoring
Contract OP-401B, Amendment 2
Normandeau Associates, Inc.

COMMITTEE: Wastewater Policy & Oversight

 INFORMATION
 X VOTE

Rebecca Weidman, Deputy Chief Operating Officer
Betsy Reilley, Ph.D., Director, Environmental Quality
David Wu, Sr. Program Manager, Environmental Monitoring
Preparer/Title


David W. Coppes, P.E.
Chief Operating Officer

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to approve Amendment 2 to Contract OP-401B, Harbor and Outfall Monitoring, Benthic, Fish and Shellfish Monitoring, with Normandeau Associates, Inc. to increase the contract amount by \$557,230.94 from \$1,940,812.40 to \$2,498,043.34 and to increase the contract term by one year, from November 1, 2024 to October 31, 2025.

DISCUSSION:

The Deer Island Treatment Plant’s outfall discharges into Massachusetts Bay. Environmental monitoring of the Bay is a required condition of Deer Island’s National Pollutant Discharge Elimination System (NPDES) permit issued in 2000. Monitoring is conducted under two contracts – one for water column monitoring, currently held by Battelle Memorial Institute, and one for benthic, fish and shellfish monitoring with Normandeau Associates. The benthic, fish and shellfish monitoring includes monitoring seafloor communities in Massachusetts Bay and Boston Harbor, a video survey of the seafloor near the outfall, and collection and testing of flounder, mussels, and lobster from several locations in Boston Harbor and Massachusetts Bay. MWRA’s monitoring has answered a number of the original questions and has shown that the outfall has had minimal impact on the environmental health of the Bay.

In May 2023, the U.S. Environmental Protection Agency (EPA) issued a draft NPDES permit and the Massachusetts Department of Environmental Protection (MassDEP) issued draft Surface Water Discharge Permit for Deer Island (Draft Permits). If the Draft Permits are finalized as proposed, the conditions for benthic, fish, and shellfish monitoring will be removed. (The water column monitoring elements were retained in the Draft Permits, and the Board approved a new 48-month contract for water column monitoring at the November 2023 Board Meeting.)

The timing of the Draft Permits becoming final permits is uncertain. MWRA, along with other parties, submitted comments on the Draft Permits in November 2023. EPA and MassDEP must

consider these comments including whether to make further changes, as well as respond to all comments in writing. After those steps, EPA and MassDEP will issue the final permits, which even at that point remain subject to further administrative and judicial review. However, until such time as new permits become final, the existing permit requirements remain in force. Accordingly, this second amendment is to cover the upcoming season of required benthic, fish, and shellfish monitoring and reporting pursuant to the current NPDES permit.

The original contract included three years of field data collection (2020, 2021, and 2022), and one “wrap-up” year to conclude data analysis work and report writing (2023). Amendment 1 added an additional field work year (2023) and moved the “wrap-up” year to 2024. Amendment 2 will add another field work year (2024) and move the “wrap-up” year to 2025, therefore meeting the monitoring requirements in the existing NPDES permit for another year.

The original contract was awarded in November 2019, and Amendment 1 was approved in November 2022. The cost of the additional year of monitoring in Amendment 2 is 2.9% more than Amendment 1, which the Board approved in November 2022. Staff believe this cost escalation is reasonable. Details of Amendment 2 follow.

Additional Project Management \$54,226.00

Amendment 2 requires additional project management that includes setup for the additional work done under the amendment, as well as additional monthly progress meetings and quarterly quality assurance/quality control reports in 2024 and 2025.

Benthic, Fish and Shellfish Surveys and Survey Data Management \$331,042.04

The core of Contract OP-401B is the benthic, flounder, lobster, and mussel surveys in Boston Harbor and Massachusetts Bay. The existing NPDES permit requires a triennial analysis of flounder, lobster, and mussel tissue chemistry. Those surveys will need to be completed in 2024, along with the annual benthic surveys. Amendment 2 will add those surveys for calendar year 2024, with the requisite time for testing, data review, and data management. Normandeau Associates, Inc.’s subcontractors are responsible for most of the data analysis. Management of the collected data is also included in this cost.

Task Order Allocation \$75,000.00

Contract OP-401B has traditionally included a yearly allocation of funds for task order work. The original contract included \$75,000 per year for the field work years, and Amendment 2 continues that funding with \$75,000 for 2024.

Analysis and Reporting \$96,962.90

Contract OP-401B also includes several subtasks for writing technical reports for submission to EPA and MassDEP, and posting on MWRA.com. As Amendment 2 extends sample collection into 2024, Normandeau will write reports on 2024 data in 2025. This sum includes funding for the 2025 annual technical workshop as well.

Contract OP-401B Summary

	<u>Amount</u>	<u>Time</u>	<u>Dated</u>
Contract Amount:	\$1,399,332.30	46 months	2/10/20

Amendment 1:	\$541,480.10	12 months	4/7/23
Proposed Amendment 2:	\$557,230.94	12 months	Pending
Adjusted Contract:	\$2,498,043.34		

BUDGET/FISCAL IMPACTS:

Adequate funding is included in the FY24 and FY25 Proposed Current Expense Budgets under 22500-10602. Appropriate funding will be included in subsequent CEB requests.

MBE/WBE PARTICIPATION:

AACU established a zero percent MBE or WBE participation requirement for this contract, and this remains unchanged for this amendment.

STAFF SUMMARY


TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: February 21, 2024
SUBJECT: Reorganization of the Department of Environmental Quality



COMMITTEE: Personnel & Compensation

X INFORMATION
VOTE

Rebecca Weidman, Deputy Chief Operating Officer
Preparer/Title


David W. Coppes, P.E.
Chief Operating Officer

RECOMMENDATION:

For information only. Staff are recommending a reorganization of the Department of Environmental Quality to address succession planning and a rapidly evolving regulatory climate. A corresponding PCR amendment will be presented to the Board for approval in a separate staff summary presented at this meeting.

DISCUSSION:

Dr. Elizabeth Reilley, Director of Environmental Quality, has announced her upcoming retirement in July 2024. In light of Dr. Reilley’s retirement, several other upcoming retirements, and an evaluation of priority issues that MWRA will be addressing in the upcoming years, a review of the current Department of Environmental Quality organizational structure was made. The resulting recommendation is to split the existing Department of Environmental Quality, resulting in a Department of Environmental Quality and a Department of Water Quality. (See attached organizational charts.)

Dr. Reilley was appointed to her current position in April 2013. As part of her appointment two groups were combined, the Department of Environmental Quality and the Water Quality Assurance Unit to form a single Department with oversight responsibilities in both drinking water and wastewater. Prior to that time, the Department of Environmental Quality’s activities consisted of monitoring sewage influent and effluent quality, monitoring the quality of Boston Harbor (and its rivers, tributaries and Mass Bay), managing quality and operations data, and complying with the reporting requirements of MWRA’s National Pollutant Discharge Elimination System (NPDES) permits. The Water Quality Assurance Unit was responsible for developing and directing the extensive annual raw and finished water sampling program, making recommendations relative to water quality needs to reservoir operations and treatment staff, analyzing and reporting on all data, operating the water contamination monitoring system, and providing technical assistance to service area communities. In 2013, the decision to consolidate the two groups was in part due to Dr. Reilley’s exceptional qualifications and experience working on both water and wastewater compliance issues.

Staff are now recommending that the Department be divided into two separate Departments, one focusing solely on wastewater reporting and compliance issues (Department of Environmental Quality) and the other concentrating solely on drinking water reporting and compliance issues (Department of Water Quality). Both Departments will report directly to the Deputy Chief Operating Officer. This new organizational structure will allow for succession planning and knowledge transfer. In addition to Dr. Reilley's retirement, staff anticipate additional retirements within the Department and throughout the Operations Division in the next year. This new organizational structure will also provide MWRA with the resources necessary to address rapidly evolving regulatory requirements impacting both wastewater and water operations. Some of these regulatory requirements include implementing a new NPDES permit for the Deer Island Treatment Plant in the next year. (This is only the second NPDES permit issued for Deer Island during the last several decades.) In addition, it will be necessary to implement several significant National Primary Drinking Water Regulations, including new Lead and Copper Rule requirements and new maximum contaminant levels for several per- and polyfluoroalkyl substances compounds.

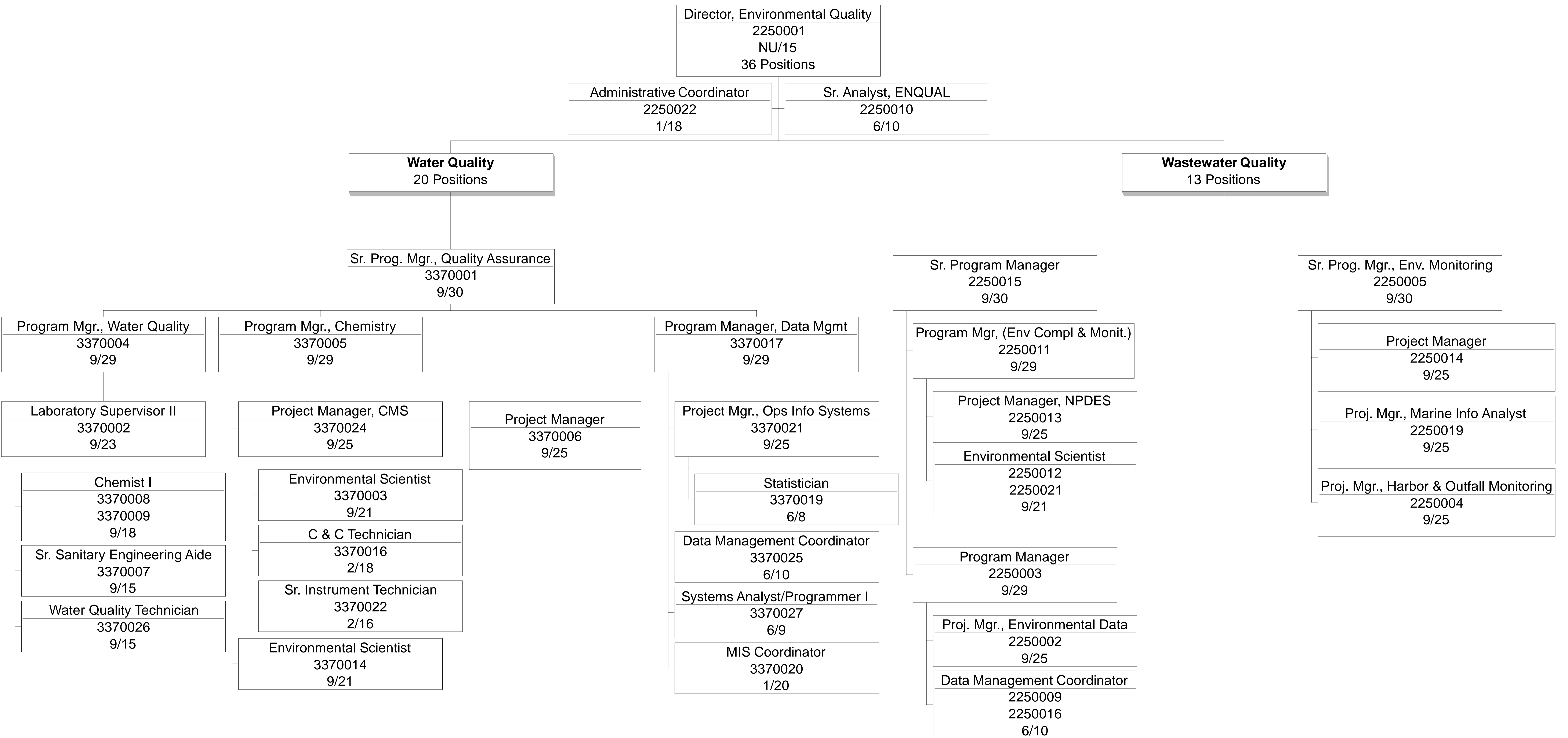
BUDGET/FISCAL IMPACTS:

There are sufficient funds for this new position in the FY24 Current Expense Budget.

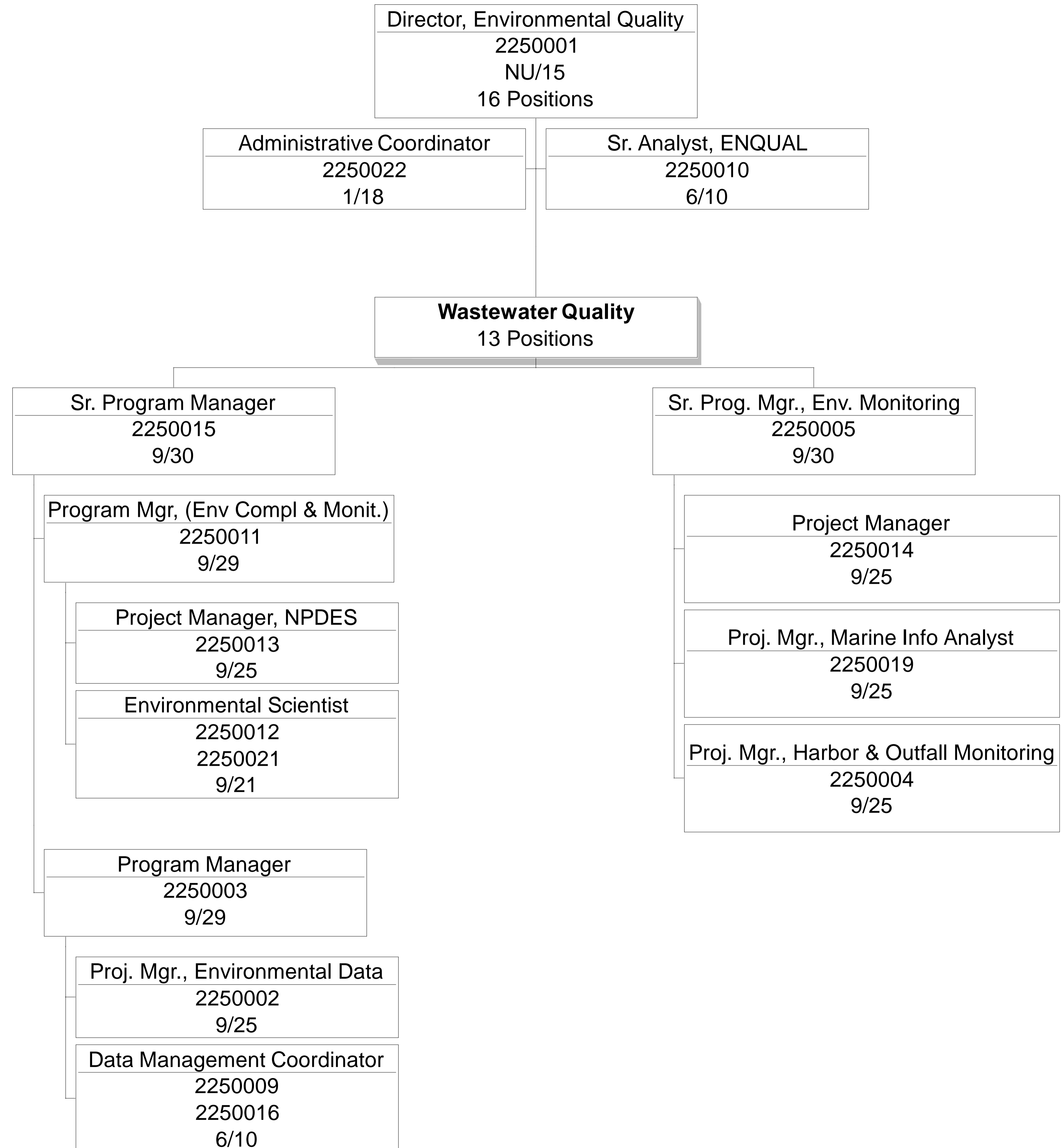
ATTACHMENTS:

- Organizational Chart: Current Department of Environmental Quality
- Organizational Chart: New Department of Environmental Quality
- Organizational Chart: New Department of Water Quality

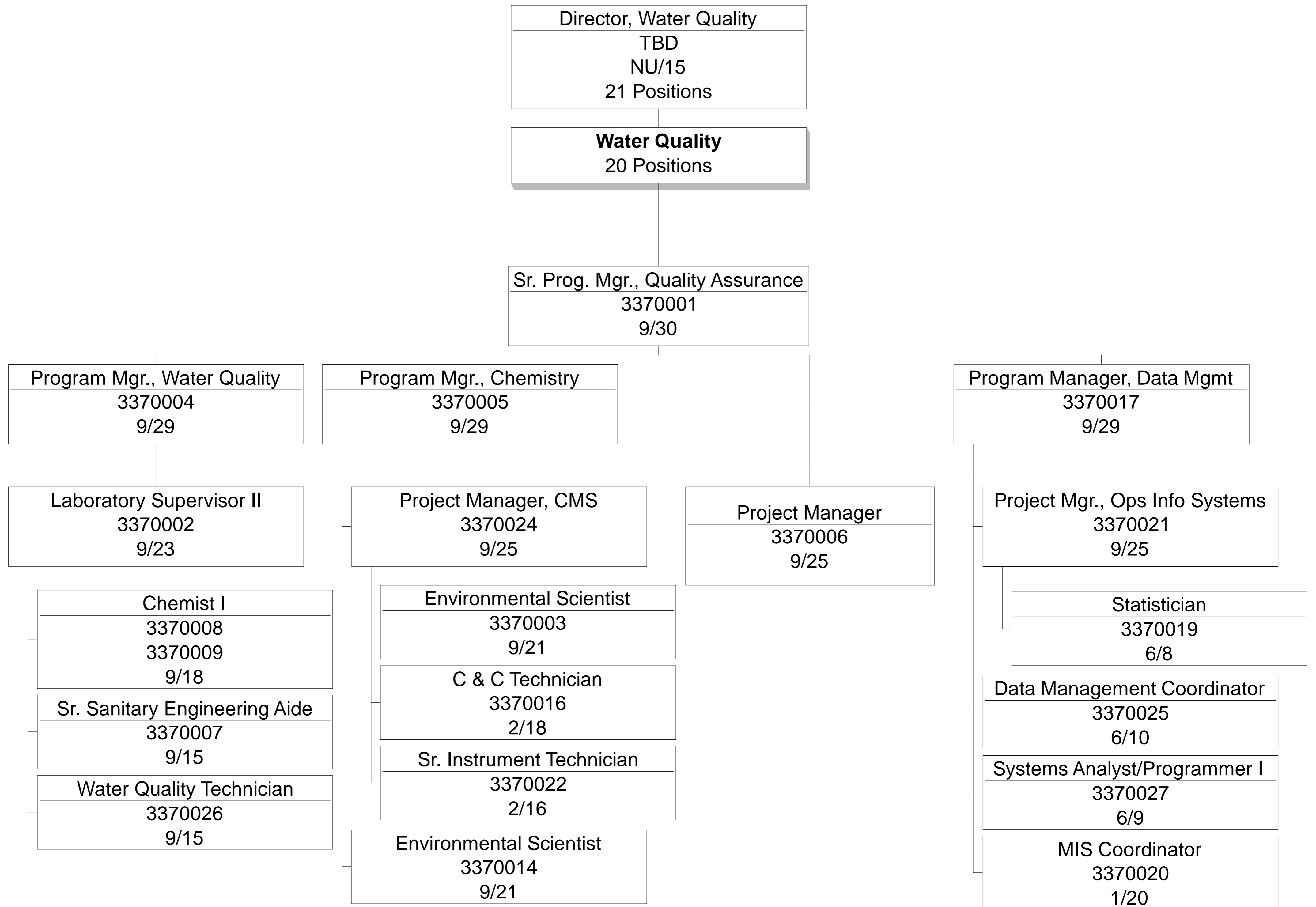
Existing Department of Environmental Quality



New Department of Environmental Quality



New Department of Water Quality



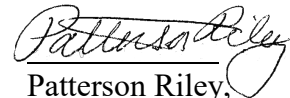
STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: February 21, 2024
SUBJECT: Diversity, Equity and Inclusion Update



COMMITTEE: Personnel and Compensation

 X INFORMATION
 VOTE



Patterson Riley,
Special Assistant, AACU



Michele Gillen
Director of Administration

Tomeka Cribb, Associate Special Assistant, AACU
Preparer/Title

RECOMMENDATION:

For information only. Staff have provided the Board with periodic updates on MWRA’s Diversity, Equity and Inclusion (DEI) efforts. Staff thought it timely to provide another update at this meeting as staff are also seeking approval of the MWRA’s Affirmative Action Plan presented in a separate staff summary.

DISCUSSION:

In 2020, MWRA’s Executive Director established an internal DEI working group chaired by Patterson Riley, Special Assistant and Affirmative Action and Compliance Unit and Michele Gillen, Director of Administration to advance MWRA’s goals of attracting and maintaining a diverse, high qualified and engaged workforce as well as fostering an inclusive, equitable and safe work environment and culture for all of MWRA’s employees.¹ The committee includes representatives from every MWRA Division and also includes both union and non-union staff.

This Staff Summary seeks to provide an update to the Board on ongoing and planned DEI initiatives and programs since the last update in February 2022.

The working group established sub-committees to focus solely on the advancement of certain initiatives. Those sub-committees are: Speaker Series, Heritage and History Months, Employee Resource Groups (ERGs), Volunteer Opportunities, Employer Partnerships, Professional Development and Metrics. The sub-committees routinely report to and seek guidance from the DEI working group. There can be overlap among the sub-committees as they collectively seek to advance MWRA’s goals. MWRA’s DEI recruitment and retention efforts are closely aligned as well.

¹ These goals are reflected in the MWRA DEI mission statement as well as the Five-Year Strategic Business Plan FY 2021-25

Affirmative Action workforce goals are updated annually as part of the FY21-FY25 Five-Year Business Plan. Ongoing recruitment and hiring initiatives, including outreach and engagement to veterans, individuals with disabilities, and persons of all protected classes, have been successful. According to a four-year analysis, Affirmative Action achieved or exceeded minority and female workforce goals between 2020 and 2023. The FY24 minority workforce goal is to achieve a workforce comprised of 23.2% minority employees. The goal for females is to achieve a workforce comprised of 20.4% female employees.

Workforce Goals FY20-23

12/2019-11/2020	Employees	Workforce Goals	
	1151	Actual	Goal
Female	270	23.5%	21.7%
Minority	267	23.2%	21.1%

12/2020-11/2021	Employees	Workforce Goals	
	1108	Actual	Goal
Female	256	23.1%	21.7%
Minority	264	23.8%	21.1%

12/2021-11/2022	Employees	Workforce Goals	
	1061	Actual	Goal
Female	238	22.4%	19.3%
Minority	254	23.9%	21.3%

12/2022-11/2023	Employees	Workforce Goals	
	1079	Actual	Goal
Female	246	22.8%	21.4%
Minority	268	24.8%	24.0%

Additionally, as a result of the internal DEI working group, staff have been able to continue to engage employees internally, and have achieved several key accomplishments.

MWRA Employee Surveys

MWRA conducts employee surveys that afford staff the chance to provide meaningful feedback on certain initiatives and programs and to make thoughtful suggestions. In 2021, the MWRA sought employees' opinions through a DEI and MWRA Culture and Workplace Survey, and recently provided employees a Professional Development and Employee Engagement and Inclusion Survey (the results are currently under review).

MWRA Speaker Series

In 2023, MWRA kicked-off a speaker series to highlight and provide thoughtful discussion and information on heritage months, MWRA-related matters and timely subjects. Topics have included environmental justice (speakers: Commonwealth of Massachusetts Climate Chief; and GreenRoots Director of Waterfront and Climate Justice Initiatives), MWRA and Biobot (Biobot

CEO), and heritage and historic (National Park Ranger at Boston African American National Historic Site and walking tour of the indigenous spaces at Deer Island with members of the Massachusetts Tribe at Ponkapoag).

The 2024 speaker series is underway. January included a viewing of “The Old Quabbin Valley,” a documentary short film followed by a discussion with the filmmaker (an Emmy-nominated, Academy Award winning screenwriter, director and producer).

As part of MWRA’s celebration of Black History month, the featured speaker is Linda Dorcena Forry, a trailblazing former Massachusetts State Representative and Senator.

The speaker series have been widely attended and praised by staff.

Professional Development and Training

Professional development is a critical part of MWRA’s long-term succession plan and is a very good example of where DEI and recruitment and retention efforts are complimentary, if not aligned. MWRA recently kicked-off year two of the MWRA Mentoring program, which this year includes 20 mentor/mentee pairings that represent a cross-section of MWRA departments and staff. Five staff members will participate in the NACWA/Core Emerging Leader Program (MWRA has participated in this program since 2020).

These programs provide staff personal and professional growth opportunities and several former participants have advanced to positions of greater responsibility.

The MWRA’s on-line Learning Management System (LMS) provides staff with a wide range of training opportunities to develop and improve their skills.

MWRA also requires Bi-Annual Harassment Prevention Training and, in the alternate years, provides mandatory additional training (Unconscious Bias training was offered in 2021 and Respect in the Workplace training was recently concluded).

Employee Resource Groups (ERGs)

ERGs are voluntary, employee-initiated groups to provide staff opportunities to share common interests, issues, backgrounds, characteristics and/or pursuits that are employer-supported. Some examples of ERGs are Run/Walk, Women’s Network or Veterans.

A quick review of the most recent MWRA employee survey found that the respondents were widely in favor of ERGs. Those respondents overwhelmingly expressed interest in a Run/Walk ERG. Staff are finalizing guidance and rules for the implementation and operation of ERGs and expect to pilot a run/walk ERG in the coming months.

Heritage Celebration Months

MWRA celebrates and recognizes the contributions of certain ethnic and historically marginalized groups in a variety of ways including Pride Walk/Caribbean American Heritage Month Lunch, cultural displays for Asian-American Pacific Islanders, Latino and Black Heritage Months. MWRA staff emails and internal intranet postings also provide a variety of valuable resources. When feasible, staff tie the speaker series to heritage celebration months.

Employee Partnerships

Staff in Human Resources and Affirmative Action and Compliance Unit continue to engage with high school and college partners to introduce MWRA to future workers through on-site STEM events, targeted job fairs, internships and co-op opportunities.

MWRA Employee Tours of MWRA Facilities

MWRA provides tours of its various facilities to its employees, further providing opportunities to introduce them to other MWRA staff and the critical, high quality work they perform, and connecting staff to the important services MWRA provides. Participation in tours provides all staff the opportunity to observe how employees' work collectively plays an important role in the provision of MWRA services.

with all aspects and requirements of its federally approved affirmative action program and in following those strict guidelines with its Affirmative Action Plan, a promotion only occurs when the individual employee moves from a position within one job group to a new position within a different job group. For Affirmative Action Plan reporting purposes, 71 of these promotions reflect employee promotions where there has been a change in Job Group as described under “Availability Analysis.” Of this total, 14 (20%) females and 16 (23%) minorities were promoted. However, as an employer, the MWRA considers an employee to be promoted at such time that the individual moves into a new position within the same job group, with an increase in pay, grade, different and new job duties. In addition, to enhance upward mobility and avail all employees of a career track where one exists, there were 9 transfers and a voluntary demotion during the 2023 Affirmative Action Plan year with 2 (20%) minorities and 1 (10%) were female.

A total of 78 terminations occurred during CY 2023. Of the total number of terminations, 25 (32%) were females and 11 (14%) were minorities. Of the total number of terminations, 91% left voluntarily, and of those 54% were employees who retired, and 37% were employees who resigned.

In comparison, during the 2022 Affirmative Action Program year, a total of 95 terminations occurred, including 24 (25%) females and 18 (19%) minorities. Of the total number of terminations, 42% were employees who resigned and 52% were employees who retired. A review of the total number of termination statistics for calendar years 2021, 2022 and 2023 is included in Table A below.

Table A

Termination Statistics	Employee Count	Minority		Female	
Total Terminations CY2021	88	21	24%	15	17%
Total Terminations CY2022	95	18	19%	24	25%
Total Terminations CY2023	78	11	14%	25	32%

The race/sex composition of the workforce did not change significantly during the 2023 Affirmative Action Plan year, particularly as compared to Plan years 2021 and 2022.

The current race/sex composition of the workforce for minorities of 25.0% greater than the overall 2023 MWRA workforce staffing goal of 24.0%; and the current sex composition of the workforce for females of 22.5% is greater than the overall 2023 workforce staffing goal of 21.4%.

A review of MWRA workforce staffing statistics for calendar years 2021, 2022, and 2023 is included in Table B below:

Table B

Calendar Year	Minority	Female
12/31/21	23.9%	23.1%
12/31/22	24.2%	22.5%
12/31/23	25.0%	22.6%

The 2024 Affirmative Action Plan documents include detailed workforce data for the reporting period December 1, 2022 through November 30, 2023. The data indicates that the number of

underutilized job groups for females has increased. In calendar year 2023, there were 6 job groups underutilized by women and this number has increased to 7 job groups for 2024. In calendar year 2023, the data indicate that the number of underutilized job groups for minorities has decreased. In calendar year 2023, there were 7 job groups underutilized by minorities and this number has decreased to 5 job groups for 2024.

MWRA will continue its good faith efforts to maintain minority and female workforce staffing representation and to further reduce the number of job groups underutilized by women and minorities. There may be opportunities to fill critical positions through promotions of qualified internal candidates, including women and minority employees. The Affirmative Action and Compliance Unit will continue to focus its efforts to assist senior management to fill vacancies through the promotion of qualified women and minorities in the Management, Skilled Crafts, Operator, and Professional job groups. In addition, where external recruitment efforts are necessitated by the absence of qualified internal candidates, and senior management deem that the need exists to fill critical position vacancies, AACU will work with MWRA hiring managers and Human Resources to recruit qualified minority and female candidates.

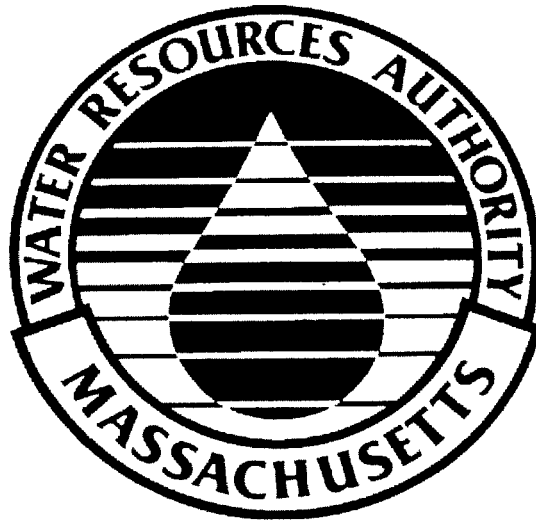
It is the policy of the MWRA to ensure the equitable participation of Minority Business Enterprises (MBEs) and Women Business Enterprises (WBEs) in the award of all contracts including contracts for construction, goods/non-professional services and professional services. As required by the Massachusetts Department of Environmental Protection via the Environmental Protection Agency, the program will also include Disadvantaged Business Enterprises (DBEs) which means an ongoing, independent small business concern which is at least 51% owned and controlled by one or more individual(s) who are both socially and economically disadvantaged and meets the U.S. Department of Transportation eligibility criteria specified under 49 CFR Part 23 and 26 and has certification issued by the federal government or the Massachusetts Supplier Diversity Office. As of January 1, 2018, the goals for all categories – Construction, Professional Services, Goods and Equipment are 4.2% for D/MBE and 4.5% for D/WBE. Staff expect to procure a disparity study to examine these goals and determine whether there should be any changes to them.

The Plan also includes information on the MBE/WBE/DBE Procurement Program. The MWRA spent \$5.6 million and \$6.3 million, respectively, with minority-and women-owned businesses in the last fiscal year. These amounts were 49.6% and 82.3% of the respective MBE and WBE targets, which reflect the achievements of the last fiscal year.

ATTACHMENT:

- Attachment A - Affirmative Action Plan and Appendices
- Attachment B - MWRA Job Group Representation

MASSACHUSETTS WATER RESOURCES AUTHORITY



AFFIRMATIVE ACTION PROGRAM

JANUARY 1, 2024 - DECEMBER 31, 2024

Frederick A. Laskey
Executive Director

Patterson A. Riley
Special Assistant
Affirmative Action & Compliance Unit

Affirmative Action Program

Massachusetts Water Resources Authority
Charlestown Navy Yard
100 First Avenue
Boston, Massachusetts 02129

AAP Completed by: Patterson A. Riley 1/30/2024
Patterson A. Riley Date
(Special Assistant for Affirmative Action)

Telephone Number: (617) 788-4070

Approved by: Frederick A. Laskey 1/30/2024
Frederick A. Laskey Date
(Executive Director)

Inclusive Dates of the AAP: January 1, 2024 - December 31, 2024

**Massachusetts Water Resources Authority
Affirmative Action Plan**

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INTRODUCTION

The Affirmative Action Plan for the Massachusetts Water Resources Authority (the “MWRA” or “Authority”), is prepared and adopted under Section 7(g) of the Enabling Act, which states:

“The Authority shall develop policies and programs for Affirmative Action in employment, procurement and contracting in accordance with law and consistent with general policies and programs of the Commonwealth.”

The AA Plan was developed to be consistent with federal and state laws and regulations:

Federal Executive Order 11246, as amended.

41 CFR Parts 60-1, 60-2, 60-20, 60-50, 60-250, 60-300, 60-741; Office of Federal Contract Compliance Programs (OFCCP): Affirmative Action Requirements.

The Rehabilitation Act of 1973, as amended.

The Vietnam-era Veterans’ Readjustment Assistance Act of 1974, as amended.

In addition, MWRA’s policies and personnel practices adhere to the nondiscrimination provisions of all applicable federal and state laws, as amended, including the following:

- Title VII of the Civil Rights Act of 1964.
- Civil Rights Act of 1991.
- Age Discrimination in Employment Act of 1967.
- Equal Pay Act of 1963.
- Americans with Disabilities Act of 1990, as amended.
- Massachusetts General Laws, Chapter 151B.
- Massachusetts Equal Pay Act.

The AA Plan has been developed by the Affirmative Action and Compliance Unit (AACU) to cover the time period January 1, 2024 through December 31, 2024. The Plan includes a results-oriented set of procedures designed to achieve the full utilization of minorities and women in all levels of the MWRA’s workforce and to promote job opportunities for individuals with disabilities and covered veterans. The Plan has been reviewed by the MWRA Board of Directors, voted on and approved for full implementation.

The Massachusetts Legislature created the MWRA in December 1984 to manage water and sewer services for 3.0 million people and 5,500 businesses in 61 communities. While the Boston Harbor Clean-up is the best known of its projects, MWRA has also completed a modernization of the drinking water system. MWRA also maintains 400 miles of water pipes, aqueducts, and tunnels and 228 miles of sewers. Also, nearly completed are projects to control combined sewer overflows, provide adequate water delivery and meet all federal, state and local water and wastewater standards.

II. POLICY STATEMENT

Executive Director's Statement

Our agency serves citizens in every neighborhood, economic class and cultural group in our service area. MWRA will be in harmony with its social role only when our work environment reflects our broader social aspirations for equal opportunity, justice, personal dignity and cross-cultural respect. To that end, we must take personal responsibility for diversity in our organization and in our community.

All of us at the MWRA recognize that we must take affirmative action to prevent and to remedy any discriminatory effects of business or employment practices based on race, color, religion, sex, sexual orientation, gender identity and expression, genetic information, national origin, age, ancestry, citizenship, disability, veteran and marital status.

On behalf of the MWRA, its managers and employees, I am committed to taking those steps which ensure equitable participation in our employment opportunities by the members of any protected class group without regard to race, color, religion, sex, sexual orientation, gender identity and expression, genetic information, national origin, age, ancestry, citizenship, disability, veteran status and marital status. We are committed to achieving equal opportunity for all through fair and effective implementation of our affirmative action plan.

Frederick A. Laskey
Executive Director

Board of Directors' Statement

We, the Board of Directors of the MWRA, take great pride in our diverse and talented workforce. We recognize that our continued success depends largely on the collective strengths of our employees. Developing the right mix of skills, ideas and individuals requires an unwavering commitment to Equal Employment Opportunity and Affirmative Action. Accordingly, it is our policy to recruit, hire, and advance individuals without regard to their race, color, religion, sex, sexual orientation, gender identity and expression, genetic information, national origin, age, ancestry, citizenship, disability, veteran and marital status.

Our commitment to the principles of Affirmative Action and Equal Employment Opportunity is reflected in all of our policies and procedures from recruitment and hiring to training, compensation, benefits, transfers and promotions. This commitment is based on sound management and business practices, as well as legal requirements.

In keeping with fair employment practices, we will maintain a positive and productive work environment which calls for the highest standard of personal conduct. In accordance with this standard, any type of harassment or discrimination directed toward any employee or applicant for employment on the basis of race, color, religion, sex, sexual orientation, gender identity and expression, genetic information, national origin, age, ancestry, citizenship, disability, veteran and marital status will not be tolerated.

MWRA is committed to Equal Employment Opportunity and Affirmative Action. We expect each employee to be an active partner in this effort by supporting, in word and deed, the spirit and principles of Equal Employment Opportunity and Affirmative Action. Further, we expect that these values will govern the relationships we establish with communities we serve and others with whom we do business. Working together, we can build upon this commitment and create an environment that reflects diversity in its fullest and truest sense.

The Special Assistant, Affirmative Action and Compliance Unit, has responsibility for implementing and monitoring the Authority's Affirmative Action and Compliance Plan. Employees are encouraged to contact the Affirmative Action & Compliance Unit directly in order to obtain a copy of the Authority's Policy on Equal Employment Opportunity and Affirmative Action.

III. RESPONSIBILITY FOR IMPLEMENTATION

Senior Management Responsibilities

The responsibility for achieving affirmative action goals and objectives rests with the Executive Director, the Special Assistant of Affirmative Action and Compliance Unit, the Director of Human Resources, Division/Department Directors and other managers and supervisors.

Affirmative Action and Compliance Staff

The Special Assistant, AACU is provided with sufficient authority, senior management support, and staff to execute these responsibilities, and is identified in all internal and external communications regarding the AAP. The Special Assistant may propose additional programs and activities to strengthen the MWRA's commitment to equal employment opportunity and affirmative action and to effectively address AAP/EEO matters.

The Special Assistant, AACU in conjunction with the appropriate staff, is responsible for:

- Implementing affirmative action programs.
- Developing policy statements.
- Designing and conducting audit and reporting systems to monitor protected class status for the following:
 - Recruiting
 - Hiring
 - Promotions
 - Transfers
 - Terminations
 - Demotions
- Periodically reviewing, with the Chairman of the Board of Directors and the Executive Director, the progress of senior managers in furthering the achievement of the Authority's goals.
- Serving as a liaison between MWRA and enforcement agencies.
- Acting as a liaison between MWRA and minority organizations, women's organizations and community action groups concerned with employment opportunities of minorities and women.
- Reviewing the MWRA's AAP with managers and supervisors to ensure the policy is understood and followed.

The MBE/WBE Program Manager in conjunction with the appropriate staff is responsible for:

- Administration and monitoring of the MWRA's MBE/WBE/DBE Plan.

- Assisting divisions in the implementation of the MWRA's MBE/WBE/DBE Program.
- Ensuring that the program is consistent with the MWRA's Supplementary Provision for Equal Employment Opportunity, Anti-Discrimination, and Affirmative Action.

Line Management Responsibilities

Managers and supervisors will implement the program in the following ways:

- Assist in identifying problem areas, establishing goals, and developing time lines.
- Maintain open door policy for employees to discuss issues of equal opportunity and affirmative action.
- Meet with other managers, supervisors, and employees to adhere to MWRA EEO/AA policies.
- Assist in the performance of internal audits to determine compliance.
- Evaluate the performance of subordinate managers and supervisors in achieving affirmative action plan objectives.

Other Key Staff

The Director, Human Resources, has developed and implemented appropriate mechanisms to ensure equal employment opportunity for all applicants and employees.

The General Counsel and the Associate General Counsel for Labor & Employment provide legal advice regarding equal employment opportunity and affirmative action as they affect the Authority.

IV. EQUAL EMPLOYMENT OPPORTUNITY

Dissemination of the Plan

MWRA will communicate its equal employment opportunity policies and affirmative action programs to all relevant audiences in the following manner:

Internally

Communicate to employees the existence of the Affirmative Action Plan and make it available for inspection. Prominently display EEO/AA posters throughout all business locations identifying appropriate staff to contact.

Conduct special meetings with managers, supervisors and employees to explain the intent of the equal employment opportunity policies, discuss individual responsibility for implementation and make clear the Executive Director's support of the policies.

Discuss the policies in employee orientation sessions and reference it in management training sessions.

Include the policies in the Policies and Procedures Manual.

Publicize the policy on the MWRA's internal and external websites, reports and other media.

Publish articles covering EEO programs, updates, and promotions in newsletters and other publications.

Include non-discrimination clauses in union agreements, and work to eliminate contract provisions that may have discriminating effects.

Externally

Communicate to applicants for employment the existence of the Affirmative Action Plan, and make it available for review if requested.

Incorporate the EEO clause in all purchase orders, leases and contracts.

Ensure that both minority and non-minority men and women, Veterans, and persons with disabilities are represented in recruitment advertisements.

Communicate to all recruitment sources the existence of the Affirmative Action Plan.

Development and Execution of the Plan

Development

Workforce Analysis

As of November 30, 2023, MWRA employed 1,079 people. The MWRA divides its workforce into 32 organizational units in Executive, Administration, Finance, Law, and Operations as follows:

Board of Directors	Operations - Administration
Executive - Office of the Executive Director	Operations - ENQUAL
Executive - Affirmative Action	Operations - Facilities Management
Executive - Office of Emergency Preparedness Services	Operations - Environmental and Regulatory Affairs
Executive - Internal Audit	Operations - Laboratory Services
Executive - Public Affairs	Operations - Planning
Executive - Tunnel Redundancy Department	Operations - Toxic Reduction & Control
Administration - MIS	Operations - Engineering & Construction
Administration - Facilities	Operations - Wastewater Operations
Administration - Fleet Services	Operations - Water Distribution & Pumping
Administration - Human Resources	Operations - Water & Wastewater O&M
Administration - Procurement	Operations - Water Treatment & Transmission
Administration - Real Property	Operations - Operation Support
Finance - Director's Office	
Finance - Rates & Budget	
Finance - Treasury	
Finance- Controller	
Finance - Risk Management	
Law	

The Office of Federal Contract Compliance Programs requires that non-construction contracts maintain an organizational profile or a workforce analysis to depict staffing patterns. It is a method to determine whether barriers to equal opportunity exist within an organization.

Pursuant to 41 C.F.R. § 60-2.11(a), the Workforce Analysis Report (Appendix A) lists each job title as it appears in the applicable collective bargaining agreements or payroll records, ranked from the highest paid to the lowest paid within each of the 32 organizational units.

The reports display within each organizational unit for each job title, the total number of incumbents, the total number of male and female incumbents, and the total number of male and female incumbents who are White, Black, Hispanic, Asian, American Indian, Native Hawaiian and Other, and Two or More Races. Finally, the reports also supply a wage rate code for each job title.

Employment Activities December, 2022 - November, 2023

From December 30, 2022 through November 30, 2023, there were a total of 106 new hires at the MWRA, including 20 (28%) females and 28 (26%) minorities. The current race/sex composition of the workforce for minorities of 25.0% is greater than the overall 2023 MWRA workforce staffing goal of 24.0%; and the current race/sex composition of the workforce for females of 22.5% is greater than the overall 2023 workforce staffing goal of 21.4%.

A total of 115 promotions, voluntary demotions and transfers occurred during this reporting period, including 27 (23%) females and 27 (23%) minorities. For Affirmative Action Plan reporting purposes 71 of these promotions reflect employee promotions where there has been a change in Job Group as described under "Availability Analysis." Of this total, 14 (20%) females and 16 (23%) minorities were promoted. In addition, to enhance upward mobility and avail all employees of a career track where one exists, there were 9 transfers and a voluntary demotion during the 2023 Affirmative Action Plan Year with 2 (20%) minorities and 1 (10%) female.

A total of 78 terminations occurred within the period, and of these, 25 (32%) were females and 11 (14%) were minorities. Of the total number of terminations, 91% left voluntarily, and of those, 54% were employees who retired and 37% were employees who resigned.

Availability Analysis

Pursuant to 41 C.F. R. 60-2.11(b), an analysis of all major Job Groups is included in the Plan (see Appendix B Job Group Analysis Report). Those jobs having similar content, wage rates and opportunities had been grouped together into 18 Job Groups:

Administrator A	Management A
Administrator B	Management B
Clerical A	Operator A
Clerical B	Operator B
Engineers A	Para Professional
Engineers B	Professional A
Craft A	Professional B
Craft B	Technical A
Laborers	Technical B

Moreover, the 18 Job Groups have been kept sufficiently large enough to make for meaningful statistical analyses. The grouping avoids placing job titles from different EEO-4 categories within the same Job Group, wherever possible. Alternative job groupings were reflected because they do not make substantial differences and do not mask any potential underutilization of minorities or women. This analysis of the major Job Groups on the Availability Analysis forms is shown in Appendix C.

Action-Oriented Program for Affirmative Employment Opportunities

MWRA is committed to a strong policy of equal employment opportunity and affirmative action and this commitment is clearly expressed in its Affirmative Action Plan, which

covers all aspects of the employment process from recruiting and hiring to training and promotion.

MWRA takes affirmative action to ensure that applicants for employment and employees are treated fairly during employment, without regard to their race, color, religion, sex, national origin and other protected groups. MWRA also takes affirmative action steps and make good faith efforts to develop and implement action-oriented programs designed to remove any employment barriers, expand employment opportunities and strive to achieve established workforce staffing goals and objectives.

During the 2024 Affirmative Action Plan year and continuing, MWRA will make good faith efforts to continue to develop and implement an action-oriented program designed to increase employment opportunities, while tailoring the size of its workforce to meet its future mission and maintain organizational efficiency.

The Special Assistant of the Affirmative Action and Compliance Unit, working in conjunction with MWRA Division Directors, will take affirmative steps to establish the following joint accountability good faith efforts to direct their attention toward employee development programs and career counseling initiatives to prepare all interested employees including individuals in targeted EEO groups for consideration of future promotional opportunities, as follows:

- Assist Divisions in efforts to promote qualified employees including minorities and females to fill current or unanticipated vacancies, particularly those positions in underutilized job groups.
- Review the appropriate education, experience and skill requirements for successful job performance.
- Participate in programs, which may impact protected group members, especially in the areas of the development of training and recruitment.
- Schedule meetings with employees who request information on MWRA affirmative action policies, including promotion and training.
- Encourage current employees to take advantage of the above listed training and developmental opportunities, as well as opportunities for promotion.
- Monitor and review, where appropriate, the qualifications of all employees to assure that protected group members are given full opportunities for training and promotion.
- Implement strategic recruitment strategies for underutilized positions likely to require external recruitment.
- Ensure that all promotional opportunities are posted.

Identification of Areas for Special Attention/Goals

Underutilization exists in the following job groups: Administrator B, Clerical B, Engineer A, Craft A, Craft B, Management A, Management B, and Operator A. Special attention is required to increase the representation of minority and/or females in these job groups by the following:

- Identify any applicable barriers to equal employment opportunity.
- Conduct training/awareness sessions with managers and continue to make them aware of the Affirmative Action Plan elements designed to ensure that the Authority policy and affirmative action program objectives are being followed.

During this affirmative action plan period, there may be 125 opportunities to fill vacant positions. These positions may be filled by new hires, promotions or transfers. For unanticipated position vacancies that occur in other job groups, good faith efforts will be made to attain the established goals for women and minorities. Based on the two-factor availability analysis, the following goals have been set. The chart listed below identifies the goals for those projected vacancies.

Goals for Projected Vacancies							
JOB GROUP ADMINISTRATIVE B	# Opportunities	% Availability		% Workforce		Goal	
		Minority	Female	Minority	Female	Minority	Female
Total	2	18.28	23.28	26.07	19.55	1	1
JOB GROUP CLERICAL B	# Opportunities	% Availability		% Workforce		Goal	
		Minority	Female	Minority	Female	Minority	Female
Total	1	24.12	51.48	12.06	25.74		1
JOB GROUP ENGINEER A	# Opportunities	% Availability		% Workforce		Goal	
		Minority	Female	Minority	Female	Minority	Female
Total	2	26.86	36.74	13.43	18.37	1	1
JOB GROUP CRAFT A	# Opportunities	% Availability		% Workforce		Goal	
		Minority	Female	Minority	Female	Minority	Female
Total	4	22.28	2.65	16.71	1.99		2
JOB GROUP CRAFT B	# Opportunities	% Availability		% Workforce		Goal	
		Minority	Female	Minority	Female	Minority	Female
Total	5	18.41	3.53	13.81	2.65		1
JOB GROUP MANAGEMENT A	# Opportunities	% Availability		% Workforce		Goal	
		Minority	Female	Minority	Female	Minority	Female
Total	2	16.03	22.98	6.53	6.12		2
JOB GROUP MANAGEMENT B	# Opportunities	% Availability		% Workforce		Goal	
		Minority	Female	Minority	Female	Minority	Female
Total	1	20.79	29.14	11.76	14.45	1	
JOB GROUP OPERATOR A	# Opportunities	% Availability		% Workforce		Goal	
		Minority	Female	Minority	Female	Minority	Female
Total	2	20.89	16.75	10.44	8.37	3	2

Execution

Advertising and Recruitment

- The Special Assistant, AACU, annually submits an ad specifically targeted at a publication that has a high minority and female readership.
- The Director, Human Resources ensures that reasonable recruiting and advertising dollars are being targeted to reach minority and female candidates and conducts an analysis to determine the effectiveness of the employment advertisements.
- Recruiters send vacancy announcements to over 30 public and private recruitment sources. The sources included state employment offices, community organizations, interest groups, and other sources.
- Recruiters distribute literature, attend career fairs, and maintain contact with referral sources to assure a steady flow of qualified protected class applicants.

Selection

- Human Resources and Affirmative Action staff review existing promotion, transfer, training and selection procedures to ensure equal opportunity.
- Human Resources, Affirmative Action, and Division staff develop selection criteria that do not discriminate or tend to screen out women, minorities, covered veterans and/or individuals with disabilities.
- Human Resources and Affirmative Action staff monitor the selection process to ensure equal opportunity and the absence of adverse impact on protected class applicants.
- Human Resources and Affirmative Action staff review application forms to ensure non-discrimination.
- Managers and Supervisors ensure that employees in protected classes receive equal consideration in all selections.

Promotion, Transfer, Layoff and Recall

Promotions and transfer policies are designed to provide equal opportunity to all employees regardless of race, color, religion, sex, sexual orientation, gender identity and expression, national origin, age, ancestry, citizenship, disability, veteran and marital status. All employees who demonstrate management potential are encouraged to seek advancement into supervisory or other managerial positions. All employees are encouraged to take advantage of the benefits and financial support provided to them for professional development and continuing education, which may enhance their promotional opportunities.

Compensation

The principle of equal pay for equal work for all employees is a reality. All employees, including females and minorities, receive compensation in accordance with the same standards. Opportunities for overtime work or otherwise earning increased compensation, when available, is afforded to qualified employees without discrimination based on race, color, religion, sex, sexual orientation, gender identity and expression, genetic information, national origin, age, ancestry, citizenship, disability, veteran and marital status. MWRA does not reduce the amount of compensation offered because of any disability income, pension or other benefit the applicant or employee receives from another source.

Facilities

MWRA maintains all of its facilities on a non-segregated basis. MWRA maintains appropriate facilities for both sexes and handicapped individuals unless the construction of such facilities would create an undue burden on the Authority, its facilities or its operations.

Training/Career Development

MWRA assures that training programs and seminars are offered to all employees, including members of protected classes on the basis of appropriate and realistic need. All eligible employees are encouraged to participate in the Authority's tuition reimbursement and tuition remission benefit for continued education, career development and job advancement. Training programs are monitored to assure equal opportunity for protected class employees in all training opportunities.

Training needs are re-evaluated annually to determine the areas of highest priority. Emphasis is on programs to increase productivity and meet job requirements.

Human Resources and Division staff have conducted cross-functional training, to facilitate promotional opportunities and reassignments. This training often requires new skills, licenses and/or certifications.

During calendar year 2024 the Authority will continue to offer, as needed, a series of 6 classes which make up the training component of the Unit 2 and Unit 3 Productivity Improvement Program (PIP) and a series of 12 classes which make up the Unit 1 Administrative Certificate Program (ACP). In calendar year 2024, MWRA will continue to provide wastewater and water license preparatory courses to enhance new skills and development, as well as appropriate licenses and certifications to staff. While PIP and ACP classes are required for employees in designated job titles, classes are available for general enrollment by individuals developing their qualifications for future job openings.

Consideration of Minorities and Females not Currently in the Workforce

MWRA recruits minorities and women, not currently in our workforce, who have the qualifications and requisite skill for employment. All employees engaged in recruiting are committed to the development of sources of minorities and females from organizations, institutions, community agencies, training schools and colleges.

Support for Community Action Programs

School Education Program

The MWRA offers School Education Program presentations for grades K-12. The MWRA School Education Program has provided meaningful educational experiences to a number of students of the MWRA service community, including those in the urban communities of the metropolitan area.

Subjects range from the Quabbin Reservoir and the water distribution system to Deer Island and the transformation of wastewater into effluent. One of the School Education Program's goals and objectives is to increase outreach to the schools in the communities that reflect the diverse population of the MWRA service area. The School Education Program has been instrumental in informing students, and by extension, the general public of these communities, of the operation and work of the MWRA.

Sex Discrimination Guidelines

MWRA does not discriminate against any applicant or employee on the basis of sex or gender identity in hiring, recruiting, promoting, transferring, layoff, termination, compensation or in selecting employees for training or other related programs.

Recruiting and Advertising

Job advertisements placed by the MWRA in newspapers and other online media for employment do not express a sex or gender identity preference.

Job Policies and Practices

- Written personnel policies for affirmative action expressly indicate that there shall be no discrimination against employees on account of sex or gender identity.
- Employees of all sexes and gender identities have equal opportunity to any available position which the individuals are qualified to perform.
- MWRA does not make any distinction based upon sex or gender identity in employment contributions, wages, hours or other conditions of employment. MWRA contribution for insurance, pension, welfare programs and other fringe benefits is the same for all employees, resulting in equal benefits.
- MWRA does not support distinctions between married and unmarried persons of the same sex that are not made between married and unmarried persons of the other sex.
- MWRA provides appropriate and comparable physical facilities to all employees, regardless of sex or gender identity.
- MWRA does not deny a female employee the right to any job which she is qualified to perform.
- MWRA does not penalize employees in their conditions of employment because they require time away from work on account of child bearing.
- MWRA does not specify differences for employees on the basis of sex or gender identity in either involuntary or optional retirement age.

Wages

- MWRA's wage schedules do not relate to and are not based on the sex or gender identity of its employees.
- MWRA does not discriminatorily restrict any particular sex or gender identity to certain job classifications.

Sexual Harassment

Acts of harassment by employees are prohibited employment practices under Title VII of the Civil Rights Act of 1964, Massachusetts General Laws, Chapter 151(B) and MWRA policy and are subject to sanctions and disciplinary measures.

It is the goal of the MWRA to promote a workplace that is free from sexual harassment. Sexual harassment means sexual advances, requests for sexual favors, and verbal or physical conduct of a sexual nature when:

- Submission to or rejection of such advances, requests or conduct is made explicitly or implicitly a term or condition of employment or as a basis for employment decisions; or
- Such advances, requests or conduct have the purpose or effect of unreasonably interfering with an individual's work performance by creating an intimidating, hostile, humiliating or sexually offensive work environment.

MWRA's Harassment Prevention Policy, policy [HR.21](#), updated January 3, 2019, sets forth procedures for employees to follow and notify management of any sexual harassment violations. All MWRA employees received Diversity, Equity and Inclusion training sessions in 2021, and Recognizing and Preventing Workplace Harassment training sessions in 2022. In 2024, Human Resources will continue the rollout of Respect in the Workplace training sessions for managers, supervisors, and employees.

MWRA personnel investigate complaints of sexual harassment in a prompt, thorough and confidential manner, and recommend appropriate discipline up to and including termination for offenders. Employees should feel confident that retaliation against an individual who has complained about sexual harassment and retaliation against individuals for cooperating with an investigation of a sexual harassment complaint is unlawful and will not be tolerated by this organization.

Religion and National Origin Discrimination Guidelines

MWRA's affirmative action policy prohibits discrimination against employees or applicants for employment on the basis of religion or national origin.

MWRA makes every effort to accommodate the religious observances and practices of employees and prospective employees who regularly observe Friday evening or some other day of the week as their day of religious observance, and/or who observe certain religious holidays during the year and who are conscientiously opposed to performing work or engaging in similar activity on such days when such accommodations can be made without undue hardship on the operation of the Authority's business.

In determining the extent of its obligations under this section, MWRA considers the following factors:

- Business necessity;
- Financial cost and expenses; and
- Resultant personnel problems.

To assure non-discrimination based on religion or national origin, MWRA is engaged in the following activities:

- Internal communications;
- Development of internal procedures described previously;
- Regular notification to employees of EEO policy regarding religion or national origin;
- Utilization of external recruitment sources, including those educational institutions with substantial enrollments of students from various religious and ethnic groups;
- Utilization of religious and ethnic media for institutional and employment advertising.

Affirmative Action Program for Individuals with Disabilities

Policy Statement

The MWRA is committed to take affirmative action to assure equal employment opportunity for qualified individuals with disabilities.

Definition of Qualified Individual with Disability

A “qualified individual with a disability” is a person who:

- Has a physical or mental impairment that substantially limits a “major life activity”,
- Has a record of such an impairment, or
- Is regarded as having such an impairment and
- Is capable of performing the essential functions of the job with or without reasonable accommodation to the disability.

Pregnancy and Childbirth

The MWRA will provide reasonable accommodations for pregnancy, childbirth or related medical conditions pursuant to the state and federal Pregnant Workers’ Fairness Acts.

Definition of Reasonable Accommodation

A “reasonable accommodation” for a qualified individual with a disability may include, but is not limited to,

- Making existing facilities readily accessible;
- Job restructuring; part-time or modified work schedules; reassignment to a vacant position; modification of equipment or devices; or other similar accommodations.

Note: An accommodation must be reasonable and is not required if it would impose an “undue hardship” on the MWRA.

Request for Reasonable Accommodations

MWRA commits to making reasonable accommodations to the limitations of qualified individuals with disabilities and qualified disabled veterans, unless such an accommodation would impose on undue hardship on the MWRA’s business.

An employee with a disability may make a request for reasonable accommodations at any time to their supervisor or directly to the Affirmative Action and Compliance Unit or the Director of Human Resources. The Special Assistant of Affirmative Action & Compliance or his or her designee shall be notified of all reasonable accommodation requests by supervisors or managers and shall ensure that reasonable accommodation records are kept separate from individual employee files.

Communication of Policy

- The Executive Director or his designee will communicate to Division and Department Directors and other managers the MWRA's policy statement concerning employment of qualified individuals with disabilities.
- Where the MWRA conducts employment activities, posters will be prominently displayed setting forth such information regarding the employment of individuals with disabilities as may be required by government agencies.
- The MWRA will ensure that a list of schools, private and state placement agencies and community and social service organizations receive job listings which are externally posted and advertised by the Authority and that the list is reviewed annually.
- The MWRA will continue to notify relevant organizations as well as appropriate public employment agencies and unions, of MWRA's commitment to equal employment opportunity and affirmative action for individuals with disabilities, including veterans.
- A clause concerning the commitment to equal employment opportunity and affirmative action for individuals with disabilities will continue to be included in contracts and purchase orders of \$2,500 or more.
- The MWRA will continue to notify labor unions and (sub) contractors of the commitment to equal employment opportunity and affirmative action for individuals with disabilities and will seek their cooperation and assistance.

Voluntary Disclosure

An individual may voluntarily self-identify himself/herself as an individual with disabilities by completing the Affirmative Action Data Form, at any time.

Information submitted will be kept confidential, except that (i) supervisors and managers may be informed regarding restrictions on the work or duties of individuals with disabilities, and regarding necessary accommodations; (ii) first aid and safety personnel may be informed, when and to the extent appropriate, if the individual has a condition that might require emergency treatment; and (iii) Government officials engaged in enforcing laws administered by OFCCP, or enforcing the Americans with Disabilities Act, as amended, may be informed.

Review of Selection Process

All human resources processes shall be reviewed to determine whether present procedures assure careful, thorough and systematic consideration of the job qualifications of disabled applicants and employees for job vacancies filled either by hiring or promotion, and for all training opportunities offered or available.

Consideration of Qualifications

Records are kept by the Human Resources Department identifying those vacancies, including promotions, for which known disabled persons have been considered. Should any known disabled person be rejected for employment, promotion, or training, a record is made and kept of the reason. If such reason is medically related, the record is treated as a confidential medical record.

Where applicants or employees are selected for hire, promotion, or training, MWRA will undertake any reasonable accommodation which makes it possible to place a disabled person on the job. Records are maintained to describe the accommodation; such records are treated as confidential medical records.

Miscellaneous

- All MWRA job descriptions reflect the essential qualifications and requirements of each job.
- When an opportunity for hiring or promotion occurs, the MWRA will review the applicable job descriptions to ensure that the qualifications are job related and consistent with business necessity and the safe performance of the job.

Affirmative Action Program for Protected Veterans

Policy Statement

The Authority is committed to take affirmative action to assure equal employment opportunity in every respect for disabled veterans, Armed Forces service medal veterans, recently separated veterans, or other veterans who served during a war, or in a campaign or expedition for which a badge has been authorized (“protected veterans”).

Communication of Policy

- The Executive Director or his designee will communicate to Division and Department Directors and other managers the Authority’s policy statement concerning employment of qualified protected veterans.
- The MWRA will ensure that a list of established veteran’s organizations and public and private recruitment services, included in Appendix D of this Plan, including the appropriate local employment service offices, will receive copies of all positions, which are externally posted and advertised by the MWRA, and that this list will be reviewed annually and MWRA will continue to notify veteran’s service organizations as well as appropriate public employment agencies of the commitment to equal employment opportunity and affirmative action for protected veterans.
- A clause concerning the commitment to equal employment opportunity and affirmative action for protected veterans will continue to be included in contracts and purchase orders of \$10,000 or more.
- The MWRA will continue to notify labor unions and contractors of the commitment to equal employment opportunity and affirmative action for protected veterans and will seek their cooperation and assistance.
- The MWRA will use the outreach measures it uses for others covered by MWRA’s Affirmative Action Program to recruit and employ veterans also covered by this program.
- The MWRA will submit to the Office of the Assistant Secretary of Veterans Employment and Training no later than March 31st of each year, a form titled Federal Contract Veterans Employment Report, which shall contain a list of new employees, and those individuals who have self-identified as protected veterans hired during the period covered by the Report.

Voluntary Disclosure

- Subsequent to making a job offer, but prior to commencing duties, a prospective employee will be offered the opportunity to self-identify as a special disabled veteran, disabled veteran, a veteran of the Vietnam Era or other protected veteran. The MWRA will consider only that portion of the veteran's military record that is relevant to the job for which the veteran is being considered. After beginning employment, an employee may voluntarily self-identify him/herself at any time as a protected veteran.
- Information submitted will be kept confidential, except that (i) supervisors and managers may be informed regarding restrictions on the work or duties of disabled veterans, and regarding necessary accommodations; (ii) first aid and safety personnel may be informed, when and to the extent appropriate, if a veteran has a condition that might require emergency treatment; and (iii) Government officials engaged in enforcing laws administered by OFCCP, or enforcing the Americans with Disabilities Act, as amended, may be informed.

Review of Selection Process

All human resources processes shall be reviewed to determine whether present procedures assure careful, thorough and systematic consideration of the job qualifications of protected veteran applicants and employees for job vacancies filled either by hiring or promotion, and for all training opportunities offered or available.

Consideration of Qualifications

In determining the qualifications of a covered veteran, MWRA will consider only that portion of the military record, including discharge papers, relevant to the specific job qualifications for which the veteran is being considered.

Records are kept by the Human Resources Department identifying those vacancies, including promotions, for which known disabled persons and protected veterans have been considered. Should any known disabled person or protected veteran be rejected for employment, promotion, or training, a record is made and kept of the reason. If such reason is medically related, the record is treated as a confidential medical record.

Where applicants or employees are selected for hire, promotion, or training, MWRA will undertake any reasonable accommodation which makes it possible to place a disabled person or veteran on the job, that is not an undue hardship. Records are maintained to describe the accommodation; such records are treated as confidential medical records.

Miscellaneous

- All MWRA job descriptions reflect the essential qualifications and requirements of each job.
- When an opportunity for hiring or promotion occurs, the MWRA will review the applicable job descriptions to ensure that the qualifications are job related and consistent with business necessity and the safe performance of the job.

- MWRA has established a hiring benchmark for veterans of 5.4% for the 2024 Affirmative Action Plan year.
- The MWRA will not reduce the amount of compensation to veterans by the amount the veteran receives from disability income, pension or other benefits related to his or her status as a veteran.

Internal Auditing and Reporting Systems

Internal auditing and reporting for Affirmative Action is managed through the use of monthly, quarterly, and annual reports generated by AACU and shared with management. Reports reflecting workforce compensation, promotions, transfers and terminations are reviewed to ensure that the policy of non-discrimination and equal employment opportunity is carried out. State and local governments information reports (EEO-4) are prepared and submitted in accordance with regulation and written instructions.

Internal Complaint Procedure

The internal complaint procedure provides the opportunity for any individual (employee or applicant) who believes that she or he has been harassed, discriminated against or unfairly treated by the MWRA to file a complaint using the procedures set forth below.

Filing a Complaint

- The individual alleging discrimination should file a written and signed complaint with the Special Assistant of Affirmative Action and Compliance Unit (form available in AACU), or the Director of Human Resources. Detailed and specific allegations should be provided along with an indication of the action(s) or resolution the individual is seeking.
- The complaint must be filed in as timely a fashion as possible.

No Retaliation

Employees and applicants shall not be subject to harassment, intimidation, threats, coercion or discrimination because they have engaged in or may engage in the following activities:

- Filing a complaint;
- Assisting or participating in an investigation, compliance evaluation, hearing, or any other activity related to the administration of the affirmative action provisions of the Federal, state or local law requiring equal opportunity for women, minorities, individuals with disabilities or protected veterans;
- Opposing any act or practice made unlawful by any Federal, state or local law requiring equal opportunity for women, minorities, individuals with disabilities or protected veterans; or

- Exercising any other right protected by any Federal, state or local law requiring equal opportunity for women, minorities, individuals with disabilities or protected veterans.

Procedure

- The Special Assistant of Affirmative Action and Compliance Unit and/or Director of Human Resources, will be responsible for accepting complaints of discrimination in writing.
- Upon receiving a complaint of discrimination, a complaint investigator will be assigned, who shall attempt to determine through preliminary fact finding if a formal investigation is warranted.
- Upon determination that an investigation is warranted, a date will be scheduled for an in-depth interview with the complainant and other relevant parties. The complaint investigator shall attempt to bring about a satisfactory resolution with the complainant and appropriate management and make recommendations accordingly.
- Any agreement or resolution may be in writing and if in writing, copies provided to all appropriate parties.
- The complaint resolution process shall be concluded in an expeditious manner. It is the MWRA's intention to resolve all complaints internally and every effort will be made to maintain confidentiality to the extent practicable.
- The complaint investigator will advise the complainant of his or her administrative rights and the right to file a formal charge with a state or federal agency and the time limits imposed on the exercise of these rights.

Rejection or Cancellation of the Complaint

The MWRA will indicate when a complaint has been rejected for further processing.

In the event an individual files an external complaint, the MWRA's legal counsel will handle all communications. All investigations shall be conducted in a confidential manner to the extent practicable.

In addition to the above, you may file a formal complaint with the government agencies listed below. Using MWRA's complaint process does not prohibit you from filing a complaint with these agencies.

Massachusetts Commission Against
Discrimination (MCAD)
One Ashburton Place, 6th Floor
Boston, MA 02108

Massachusetts Office of Diversity and Equal
Opportunity
One Ashburton Place - Rm. 213
Boston, MA 02108

Springfield Office
MCAD
436 Dwight Street - Rm. 220
Springfield, MA 01103

U.S. Equal Employment Opportunity
Commission
JFK Federal Building
475 Government Center
Boston, MA 02203

Worcester Office
MCAD
455 Main Street - Rm. 101
Worcester, MA 01608

U.S. Department of Labor
Office of Federal Contract
Compliance Programs
JFK Federal Building - Rm. E235
Boston, MA 02203

New Bedford Office
MCAD
800 Purchase Street - Rm. 501
New Bedford, MA 02740

V. MBE/WBE/DBE Program

Policy Statement

It is the policy of the Massachusetts Water Resources Authority (Authority) to ensure the equitable participation of Minority Business Enterprises (MBEs) and Women Business Enterprises (WBEs) and Disadvantaged Business Enterprise (DBEs) in the award of all contracts including contracts for construction, goods/non-professional services (supplies and equipment) and professional services (design selection and consultants).

Definitions

- Minority Business Enterprise (MBE) means an ongoing and independent business enterprise which is owned and controlled by one or more minority persons and meets the Massachusetts Supplier Diversity Office (SDO) criteria specified under 425 CMR 2.03 (d) (and, if applicable, one or more of the provisions of 425 CMR 2.06).
- Women Business Enterprise (WBE) means an ongoing and independent business enterprise which is owned and controlled by one or more women and meets SDO certification criteria specified under 425 CMR 2.03 (d) (and, if applicable, one or more of the provisions of 425 CMR 2.06).
- Disadvantaged Business Enterprise (DBE) means an ongoing, independent small business concern which is at least 51% owned and controlled by one or more individual(s) who are both socially and economically disadvantaged and meets the U.S. DOT eligibility criteria specified under 49 CFR Part 23 and 26 and has certification issued by the federal government or the SDO.

Outreach

The Authority communicates with appropriate advocacy groups and representatives such as SDO, Massachusetts Minority Contractors, and National Association of Minority and Women Owned Law Firms, as well as others, to develop new sources of supply, discuss the M/W/DBE Program and develop initiatives designed to enhance the Plan's effectiveness.

Monitoring and Reporting

The Affirmative Action and Compliance Unit will maintain such records, data and information as may be required to document compliance with Authority policies and procedures, and applicable federal, state and local laws and regulations.

MassDEP Procurement Goals

MassDEP has undertaken an Availability Analysis with Clean Water Trust in 2016 and the first half of 2017 to develop new DBE goals. As of January 1, 2018, the goals for all categories – Construction, Professional Services, Goods and Equipment are 4.2% for D/MBE and 4.5% for D/WBE.

Procurement Categories		
	Construction Goals	Professional Goals
D/MBE	4.2%	4.2%
D/WBE	4.5%	4.5%

In FY23, EPA-assisted contracts totaled 6.1% for construction, with the balance related to engineering, environmental consulting and other services. On this basis, MassDEP has utilized the above goals for both construction and professional services. The specific sub-industries such as water and wastewater engineering, etc. accounted for some of the dollars of these prime contracts and subcontracts.

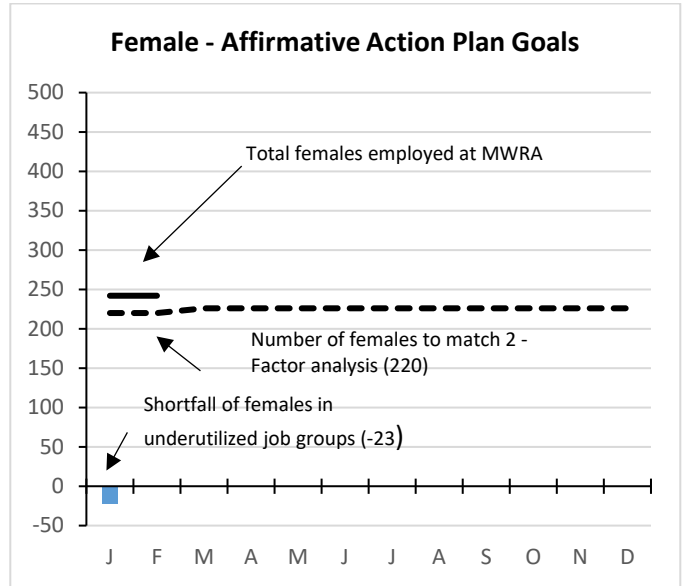
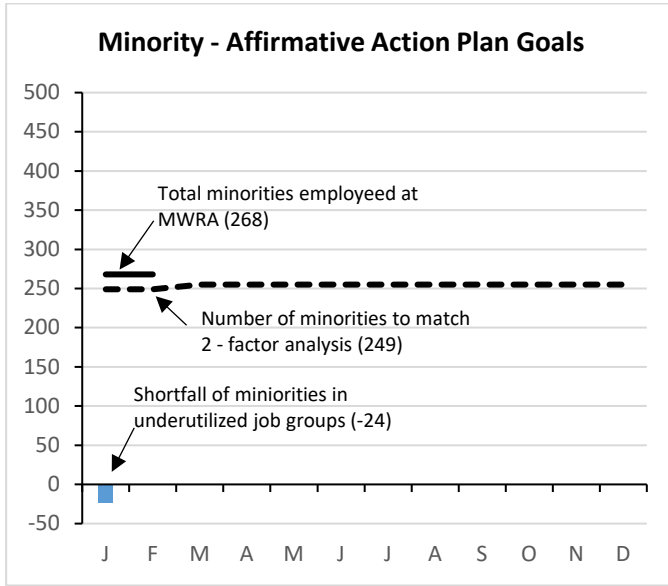
MWRA Procurement Goals

Based upon the Authority's 2002 Availability Study, the MBE and WBE procurement goals are as follows:

Procurement Categories			
	Construction Goals	Professional Goals	Non Professional Goals
MBE	7.24%	7.18%	5.61%
WBE	3.60%	5.77%	4.88%

For FY23 the MWRA spent \$5.6 million and \$6.3 million respectively with minority and women owned business. These amounts were 49.6% and 82.3% of the respective MBE and WBE targets.

Attachment B
MWRA Job Group Representation
CY24



Underutilized Job Groups – Workforce Representation

Job Group	Total Employees as of 1/1/2024	Actual Minorities as of 1/1/2024	Achievement Level	Minority Over or Under utilized	Actual Females As of 1/1/2024	Achievement Level	Female Over or Under utilized
Administrative A	23	4	3	1	9	6	3
Administrative B	25	4	6	-2	8	10	-2
Clerical A	23	8	5	3	19	17	2
Clerical B	22	6	3	3	3	6	-3
Engineer A	83	18	21	-3	21	23	-2
Engineer B	61	21	15	6	16	12	4
Craft A	114	19	24	-5	0	4	-4
Craft B	128	28	25	3	1	6	-5
Laborers	58	16	15	1	5	2	3
Management A	89	19	20	-1	33	26	7
Management B	36	11	7	4	5	8	-3
Operators A	65	3	16	-13	4	8	-4
Operators B	59	18	9	9	3	2	1
Professional A	28	8	7	1	14	13	1
Professional B	163	50	49	1	72	56	16
Para Professional	44	15	11	4	21	13	8
Technical A	50	17	12	5	7	7	0
Technical B	5	3	1	2	1	1	0
Total	1076	268	249	43/-24	242	220	45/-23

STAFF SUMMARY


TO: Board of Director
FROM: Frederick A Laskey, Executive Director
DATE: February 21, 2024
SUBJECT: February 2024 PCR Amendments



COMMITTEE: Personnel and Compensation

 INFORMATION
 X VOTE

Wendy Chu, Director of Human Resources
Preparer/Title


Michele S. Gillen
Director, Administration

RECOMMENDATION:

To approve amendments to the Position Control Register (PCR) included in the attached chart.

DISCUSSION:

The Position Control Register lists all positions of the Authority, filled and vacant. It is updated as changes occur and it is published at the end of each month. Any changes to positions during the year are proposed as amendments to the PCR. All amendments to the PCR, except those resulting only in a change in title or cost center, must be approved by the Personnel Committee of the Board of Directors. All amendments resulting in an upgrade of a position by more than one grade level, and/or an amendment which creates a position increasing annual cost by \$10,000 or more, must be approved by the Board of Directors after review by the Personnel and Compensation Committee.

February 2024 PCR Amendments

There are four PCR Amendments this month.

Organizational Changes:

1. Grade and title change to one filled position in the Operations Division, Pipe Maintenance Wastewater Department from Metal Fabricator/Welder, Unit 3 Grade 16, to Unit Supervisor, Metal Fabrication/Welding, Unit 3 Grade 19, due to changes in responsibilities.
2. Creation of a new position in the Operations Division, Environmental Quality Department for a Director, Water Quality, Non-Union Grade 15 due to a reorganization.
3. Grade and title change to one filled position in the Operations Division, Engineering and Construction Department from Program Manager, Engineering, Unit 9 Grade 29, to Senior Program Manager, Engineering, Unit 9 Grade 30, due to union agreement.
4. Salary adjustment to one filled position in the Operations Division, SCADA Maintenance Department for a Communication and Control Technician, Unit 2, Grade 18, due to union agreement.

BUDGET/FISCAL IMPACT:

The annualized budget impact of these PCR amendments will be a maximum cost of \$221,549. Staff will ensure that the cost associated with these PCR amendments will not result in spending over the approved FY24 Wages and Salaries budget.

ATTACHMENTS:

Job Descriptions

MASSACHUSETTS WATER RESOURCES AUTHORITY
POSITION CONTROL REGISTER AMENDMENTS
FISCAL YEAR 2024

PCR AMENDMENTS REQUIRING BOARD APPROVAL - February 21, 2024																		
Number	Current PCR #	V/F	Type	Current Title	UN	GR	Amended Title	UN	GR	Current/Budget Salary	Estimated New Salary		Estimated Annual \$ Impact		Reason For Amendment			
B71	Operations Pipe Maintenance Water Department 3383044	F	T,G	Metal Fabricator/Welder	3	16	Unit Supervisor, Metal Fabrication/Welding	3	19	\$87,926	\$101,377	-	\$101,377	\$13,451	-	\$13,451	Title and grade change due to change in job responsibilities.	
B72	Operations Environmental Quality Department TBD	N/A	N/A	N/A	N/A	N/A	Director, Water Quality	NU	15	\$0	\$124,713	-	\$186,368	\$124,713	-	\$186,368	Creation of a new position due to a reorganization. This new position will ensure that MWRA has adequate coverage and direction for all of the existing drinking water compliance programs.	
B73	Operations Engineering and Construction Dept. 55250119	F	T,G	Program Manager, Engineering	9	29	Senior Program Manager, Engineering	9	30	\$149,191	\$155,374	-	\$155,374	\$6,183	-	\$6,183	Title and grade change due to union agreement.	
B74	Operations SCADA Maintenance Dept. 5841017	F	S	Communication and Control Technician	2	18	Communication and Control Technician	2	18	\$81,355	\$96,902	-	\$96,902	\$15,547	-	\$15,547	Salary adjustment due to union agreement.	
BOARD TOTAL =					4													
TOTAL:														\$159,894	-	\$221,549		

**MWRA
POSITION DESCRIPTION**

OLD

POSITION: Metal Fabricator / Welder

DIVISION: Operations

DEPARTMENT: Pipe Maintenance-Water, Trade Labor Maintenance, EQ-General, Equipment Maintenance

BASIC PURPOSE:

Fabricates and repairs metal parts; welds, cuts and installs metal parts of equipment; lays out sketches and reads blueprints; rigs equipment and performs preventive maintenance on plant equipment.

SUPERVISION RECEIVED:

Works under the direct supervision of the Unit Supervisor.

SUPERVISION EXERCISED:

Exercises close supervision of one (1) skilled laborer in the absence of the Unit Supervisor.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Fabricates, cuts, forms, welds, assembles and installs metal parts of equipment in conformance with drawings, plans or instructions through the use of machine, tool, bench or hand work as required.
- Assembles and disassembles scaffolding, staging, flooring and grating.
- Sets-up and operates hand, electric and air-operated tools, hydraulic jacks and hoists using oxyacetylene and electric arc welding equipment for fabrication, repair or alteration to machinery.
- Sketches work to be completed and interprets existing blueprints to estimate size of parts needed.
- Performs preventive maintenance on pumps, generators, valves, turbines, gates and gate assemblies and related equipment.

- Rigs equipment to be moved using cranes and hoists with lift straps and/or chains.
- Evaluates equipment, reports damage and unsafe conditions and recommends maintenance program requirements.
- Performs light maintenance independently or as part of a team. Light maintenance shall include but not limited to:
 - Inspects and troubleshoots various systems and equipment
 - Installs and retrofits/new equipment related to plant systems.
 - Modifies and/or aligns existing equipment to specifications.
 - With proper training sets up ladders, staging and rigging and utilizes hoists, jacks, dollies, lifts, etc. for proper access to job and to remove and install equipment.
 - Operates portable pumping and/or ventilation equipment to prepare a work area for access.
 - Opens hatches.
 - Installs safety rails.
 - Routine testing, lockout/tagout, operation (startup/shutdown) and adjustment of process equipment.
 - Removes snow from immediate work area.

SECONDARY DUTIES:

- Promotes and participates in the cross-functional work practices.
- Trains peers and subordinates as requested.
- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A high school education or the equivalent; and
- (B) One (1) year certificate from college or technical school; and
- (C) Three (3) to six (6) years metal trades apprenticeship or related experience; or
- (D) An equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Knowledge of the standard practices, materials, tools, occupational hazards and safety practices common to the trade, including safe techniques for assembling and welding staging, rigging and material handling equipment.
- (B) Ability to work from manufacturer's manuals and specifications, blueprints, schematics and verbal instructions to weld and fabricate all kinds of metals.
- (C) Ability to maintain and repair mechanical, electro-mechanical, pneumatic and hydraulic equipment.
- (D) Skill in the operation of welding tools and equipment.
- (E) Ability to apply concepts of basic algebra and geometry.
- (F) Excellent interpersonal, oral and written communication skills.
- (G) Basic reading, writing, mathematical, scientific and oral communication skills.

SPECIAL REQUIREMENTS:

- A valid Massachusetts Class D Motor Vehicle Operators license.
- Complete productivity improvement competency-based training program related to **ESSENTIAL DUTIES AND RESPONSIBILITIES** as outlined above and successfully demonstrates required competencies.

TOOLS AND EQUIPMENT USED:

Power, hand and welding tools, construction equipment, mobile radio, telephone, personal computers including word processing and other software, copy and fax machine.

PHYSICAL DEMANDS:

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

The employee is regularly required to use hands to finger, handle, feel or operate objects, tools, or controls and reach with hands and arms. The employee frequently is required to stoop, kneel, crouch or crawl. The employee occasionally is required to stand, walk, talk or hear, sit, climb, or balance.

The employee must frequently lift and/or move up to 50 pounds and occasionally lift and/or move more than 100 pounds. Specific vision abilities required by this job include close vision, distance and peripheral vision, depth perception, and the ability to adjust focus.

WORK ENVIRONMENT:

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job.

While performing the duties of this job, the employee occasionally works in outside weather conditions. The employee occasionally works near moving mechanical parts and is occasionally exposed to wet and/or humid conditions and vibration. The employee occasionally works in high, precarious places and is occasionally exposed to fumes or airborne particles, toxic or caustic chemicals and risk of electrical shock. The employee occasionally works in extreme bright light or extreme inadequate light conditions, cramped work space that requires getting into awkward positions.

The noise level in the work environment is usually loud in field settings, and moderately quiet in an office setting.

April 2001

**MWRA
POSITION DESCRIPTION**



POSITION: Unit Supervisor (Metal Fabrication/Welding)

DIVISION: Operations

DEPARTMENT: Pipe Maintenance – Water

BASIC PURPOSE:

Supervises daily operations and activities of assigned staff. Fabricates and repairs metal parts; welds, cuts and installs metal parts of equipment; lays out sketches and reads blueprints; rigs equipment and performs preventive maintenance on plant equipment.

SUPERVISION RECEIVED:

Works under the general supervision of a WDS General Foreman.

SUPERVISION EXERCISED:

Exercises close supervision of the assigned skilled and unskilled staff.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Supervises staff in the performance of a variety of maintenance and operations functions.
- Determines the daily assignments for assigned staff and distributes work accordingly. Establishes deadlines and priorities on the basis of the maintenance schedule or emergencies.
- Ensures operating and maintenance records and logs are properly maintained.
- Communicates with all Supervisors and Managers regarding operational, maintenance and process control conditions.
- Assists employees with procurement of tools, parts and materials.
- Works with engineers to develop and improve designs for assigned work orders; reports modifications made to equipment.
- Works with operations Area Supervisors and Water Pipeline personnel to coordinate shutdown and start-up of pipelines and operational equipment.

- Works with appropriate management staff to develop new and improved operating practices and procedures and to coordinate efforts regarding troubleshooting and variances.
- Reviews assigned employee performance per MWRA procedures.
- Performs work in compliance with Operations Integrated Contingency Plan.
- Prepares daily and weekly job status and time utilization to track execution of written work plan. Details include, but are not limited to: crew time productivity, material utilization and costs, equipment utilization and costs.
- Oversees, measures and where appropriate, improves assigned work crew productivity.
- Supervises assigned crews including taking disciplinary actions (issuing verbal warnings and initiating written warnings) when necessary, conducting performance reviews, and preparing regular reports, as required, on work accomplished and crew productivity.
- Works from manufacturer's manuals and specifications, blueprints, schematics and verbal instructions to install, repair, troubleshoot, inspect, check & maintain mechanical, electrical-mechanical & hydraulic systems including HVAC mechanical components not carrying refrigerant.
- Performs preventative, predictive and corrective maintenance on systems & equipment including piping not covered by the plumbing and gas fitting codes & HVAC mechanical components not carrying refrigerant.
- Performs, documents and reports results in the Maximo database of inspections and work performed.
- Assists other trades in the performance of their work, as required, or as assigned.
- Inspects water pipeline and facilities equipment regularly to determine efficiency of operation, cleanliness, maintenance requirements and adherence to safety and environmental restrictions. Periodically conduct safety inspections.
- Monitors work-in-progress and provides final check that work is completed in accordance with specifications for the job, applicable vendors specifications, trade standards, etc., and that final clean-up is satisfactory. Personally, conducts audits of completed tasks.
- Follows established safety, operating, and emergency response procedures and policies established by MWRA.
- Assists Planner/Scheduler in determining appropriate preventive maintenance and corrective maintenance priorities, schedules and estimated levels of effort to ensure that equipment performance is maximized.

- Creates efficient work schedules and monitors staff performance in order to minimize travel time and staff downtime, and maximizes staff productivity. Keeps time utilization records and continuously strives for productivity improvements.
- Identifies and monitors unit's tools, parts and material requirements and works with Planner/Scheduler to insure timely procurement and maintenance of adequate inventory levels.
- Assists maintenance crews with troubleshooting assigned work orders, and provides instruction on difficult work operations.
- Supervises and assist in the setting up of staging and rigging for access on the job installation and removal of equipment as needed.
- Provides training to employees on a regular basis.
- Performs light maintenance independently or as part of a team. Light maintenance shall include but not limited to:
 - Operates forklift or other light equipment not requiring a special license.
 - Generates inspection lists and maintenance reporting through the Computerized Maintenance Management System.
 - Inspects and troubleshoots various systems and equipment
 - Installs and retrofits/new equipment related to plant systems.
 - Modifies and/or aligns existing equipment to specifications.
 - With proper training sets up ladders, staging and rigging and utilizes hoists, jacks, dollies, lifts, etc. for proper access to job and to remove and install equipment.
 - Operates portable pumping, ventilation and other equipment necessary to support and accomplish assigned tasks.
 - Greases and lubricates, replaces oil reserves, makes minor packing adjustments and opens hatches.
 - Installs safety rails, changes light bulbs and replaces HVAC filters.
 - Removes snow from immediate work area in order to perform tasks.
 - Conducts routine testing, lockout/tagout, operation (startup/shutdown) and

adjustment of process equipment.

- Performs necessary cleanup and housekeeping for work area and other light maintenance tasks.

SECONDARY DUTIES:

- Assists employees with preparation of injury/illness reports, safety and maintenance work orders, and assures that they keep high quality, accurate related documents and records.
- Assists in maintaining harmonious labor management relations through proper application of collective bargaining agreement provisions and established personnel policies.
- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A high school diploma or GED; and
- (B) Requires four (4) to six (6) years of related supervisory experience supervising Machinists, Welders, or Metal Fabricators or staff in an equivalent position, for proficiency in the following areas:
 - A working knowledge of the methods, procedures and work rules relating to preventive maintenance, repair, and proper inspection of mechanical, electro-mechanical, pneumatic or hydraulic equipment
 - The ability to troubleshoot problems in the maintenance and repair of equipment serviced by any of the following: Metal Fabricator/Welders or Master Welder I.
 - Successful completion of the MWRA sponsored supervisory training program and receipt of the training certificate may be substituted for supervisory experience.
- (C) Satisfactory completion of competency-based training program in accordance with the productivity improvement program as established at MWRA; or
- (D) Any equivalent combination of experience or education.

Necessary Knowledge, Skills and Abilities:

- (A) Basic reading, writing, mathematical, scientific and oral communication skills.
- (B) Ability to plan, organize, direct, train and assign duties to subordinates, as obtained through successful completion of supervisory training or an approved institution.
- (C) A working knowledge of the occupational hazards and safety practices common to the trade, and the satisfactory completion of MWRA safety training in the use of hoists, rigging, and material handling equipment.
- (D) Working knowledge of the methods, procedures and work rules relating to machine shop operations in a large industrial facility.
- (E) Ability to troubleshoot problem areas relative to complex machinist work assignments.
- (F) Utilizes personal computer, data terminals and specialized MAXIMO/Lawson software application packages to perform related duties, included but not limited to: work planning and scheduling, inventory maintenance, purchase order placement/tracking, work order reporting; time, utilization, and written work plan completion.
- (G) Ability to supervise staff effectively and to establish and maintain effective working relationships with subordinates, superiors and associates.
- (H) Ability to attain knowledge & work procedures required to perform maintenance tasks required by Reliability Centered Maintenance or similar Maintenance Management Program.
- (I) Ability to keep manual and computer-based records and write reports.
- (J) Trained in confined space entry. Capable of entering, setting up, installing and disassembling confined space equipment. Ability to work in a confined space.
- (K) Trained in CPR and First Aid.

SPECIAL REQUIREMENTS:

- A Valid Class D Vehicle Operators License.
- Must possess a Mechanical Certification from an agreed upon program or a certificate from a college or technical school in machining/metalworking or fabrication/welding.
- Complete competency based training program related to **ESSENTIAL DUTIES AND RESPONSIBILITIES** as outlined above and successfully demonstrates required competencies.

TOOLS AND EQUIPMENT USED:

Hand tools, mobile radio, telephone, beeper, personal computer including word processing and other software, copy and fax machine.

PHYSICAL DEMANDS:

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is regularly required to use hands to finger, handle, feel or operate objects, tools, or controls and reach with hands and arms. The employee occasionally is required to sit, stand and walk. The employee is frequently required to climb or balance; stoop, kneel, crouch, or crawl; taste or smell.

The employee must frequently lift and/or move up to 10 pounds and occasionally lift and/or move up to 25 pounds. Specific vision abilities required by this job include close vision, distance, color vision, peripheral vision, depth perception, and the ability to adjust focus.

WORK ENVIRONMENT:

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job.

While performing the duties of this job, the employee regularly works in an office environment. The employee occasionally works in outside weather conditions. The employee occasionally works near moving mechanical parts and is occasionally exposed to wet and/or humid conditions and vibration. The employee occasionally works in high, precarious places and is occasionally exposed to fumes or airborne particles, toxic or caustic chemicals, and risk of electrical shock.

The noise level in the work environment is usually loud in field settings, and moderately quiet in office settings.

February 2024

**MWRA
POSITION DESCRIPTION**

POSITION: Director, Water Quality

DIVISION: Operations

DEPARTMENT: Water Quality

BASIC PURPOSE:

Directs the collection and analysis of drinking water and environmental quality data for compliance with Massachusetts Department of Environmental Protection (MassDEP) Drinking water regulations. Directs the review of drinking water treatment processes and targets and the monitoring of compliance with Safe Drinking Water Act (SDWA) and other water regulations. Makes recommendations for treatment changes and adjustments. Defines the responsibilities and scope of technical and environmental studies related to drinking water quality. Provides broad technical assistance in environmental, technical and scientific assessments, testing and monitoring. Tracks new drinking water regulations, works with relevant professional and regulatory groups to furnish comments, and provides implementation guidance to ensure compliance with new regulations.

SUPERVISION RECEIVED:

Works under the general supervision of the Deputy Chief Operating Officer.

SUPERVISION EXERCISED:

Exercises direct supervision over one Senior Program Manager and one Project Manager and indirect management of drinking water quality assurance staff.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Provides intra-divisional coordination with users of drinking water treatment performance data and laboratory services so that data analysis and recommendations for division operation and capital project decisions are available to the division managers and the Executive Director.
- Reviews and comments on relevant state and federal environmental regulations including all relevant drinking water regulations.

- Analyzes monitoring data and prepares and presents results to Authority staff, the Board of Directors, state and federal regulatory agencies, the academic community, environmental advocacy groups, and the general public as needed.
- Assists in the development of consumer confidence reports (water quality reports).
- Directs the preparation and submission of required reports for regulatory agencies and related special projects.
- Seeks funding for studies, such as cooperative research projects, which will complement MWRA goals.
- Directs the timely monitoring of and reporting on drinking water quality, including sampling, testing, data analysis and interpretation of results.
- Directs the review of drinking water treatment processes and targets, and the monitoring of compliance with SDWA and other drinking water regulations. Makes recommendations for treatment changes and adjustments.
- Directs reservoir operations relating to algae control.
- Oversees staff participation in the start-up of new facilities, including development of facility handbooks, Standard operating procedures (SOPs), Operation and Maintenance (O&M) manuals and training programs.
- Directs the resolution of community or public drinking water quality complaints. Oversees timely notification and participates in emergency response for drinking water quality incidents.
- Informs various groups regarding departmental activities. Provides regulatory agencies and the public with requested information in a professional and timely manner.
- Provides assistance to other departments as directed for the review or development of environmental research and monitoring programs.
- Coordinates special project requests with existing water department programs.
- Reviews drinking water quality monitoring programs in other regions of the country for applicability to Authority goals.
- Manages the department in a manner that is consistent with MWRA's goals of Diversity, Equity, and Inclusion.

- Administers human resources policies, provides direction and coordinates the selection, supervision, training and evaluation of department personnel.
- Coordinates preparation of departmental staffing plan, budget and schedule and monitors the implementation of departmental objectives in keeping with budget parameters.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Analytical and research skills through a Master's degree in chemistry, biology, environmental sciences or related field is required. Doctoral degree is preferred; and
- (B) At least ten (10) years of experience in developing and evaluating environmental research programs and budgets and applying technical information to drinking water quality monitoring of which at least five (5) years were in a supervisory or managerial capacity; or
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Understanding of environmental research principles and practices.
- (B) Excellent interpersonal, management and written and oral communication skills.
- (C) Familiarity with water infrastructure issues.
- (D) Extensive knowledge and experience with federal and state environmental regulations.
- (E) Knowledge of federal, state and local laws related to water quality.
- (F) Understanding of water quality issues.
- (G) Demonstrated ability to manage a large staff of field workers.
- (H) Demonstrated ability to plan, organize, direct, train and assign duties to subordinates.
- (I) Excellent analytical, negotiation, and strategic planning skills.

- (J) Ability to successfully interact with high-level executives.
- (K) Ability to maintain confidentiality and diplomacy.

SPECIAL REQUIREMENTS:

A valid Massachusetts Class D Motor Vehicle Operators License.

Must be available for on-call assignments and responding to emergencies on a 24/7 basis.

A valid Massachusetts Grade II Water Treatment-Operator-in-training or Grade II Water Distribution Operator-in-training license or higher is preferred.

TOOLS AND EQUIPMENT USED:

Laboratory equipment and instruments, telephone, mobile radio, personal computer including word processing and other software, copy and fax machine.

PHYSICAL DEMANDS:

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is regularly required to use hands to finger, handle, feel or operate objects, tools, or controls and reach with hands and arms. The employee frequently is required to stand and talk or hear. The employee is occasionally required to walk; sit; climb or balance; stop, kneel, crouch, or crawl.

The employee must frequently lift and/or move up to 10 pounds and occasionally lift and/or move up to 25 pounds. Specific vision abilities required by this job include close vision, distance, color vision, peripheral vision, depth perception, and the ability to adjust focus.

WORK ENVIRONMENT:

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job.

While performing the duties of this job, the employee usually works in an office environment. The employee occasionally works in water and wastewater treatment facilities near moving mechanical parts and is occasionally exposed to wet and/or humid conditions and vibration. The employee is occasionally exposed to fumes or airborne particles, toxic or caustic chemicals, infectious organisms, and risk of electric shock. The employee occasionally works in high, precarious places and is exposed to outside weather conditions. The employee occasionally works on board boats.

The noise level in the work environment is usually loud in field settings, and moderately quiet in a laboratory environment.

February 2024

**MWRA
POSITION DESCRIPTION**



POSITION: Program Manager
DIVISION: Operations
DEPARTMENT: Engineering and Construction

BASIC PURPOSE:

Supervises project teams in the department to oversee professional engineering and design projects related to the rehabilitation and capital improvement of waterworks and wastewater facilities and infrastructure from conceptual planning through construction. Additionally, manages engineering and design projects related to the rehabilitation and capital improvement of water and wastewater facilities and infrastructure.

SUPERVISION RECEIVED:

Works under the general supervision of a senior manager in the Engineering and Construction Department.

SUPERVISION EXERCISED:

Exercises close supervision of a staff of professional and technical employees and or consultants.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Oversees projects, including the planning and design of rehabilitation and capital engineering projects for waterworks and wastewater facilities and pipelines. Additionally, manages the planning and design phases of assigned water and wastewater engineering and or maintenance projects including, feasibility and environmental impact reports, detailed plans and specifications, permitting, project schedules, technical assistance, progress review and evaluation.
- Oversees the work of professional engineering consultants, including all work products for quality of work, budget, schedule, and compliance with contractual terms and MWRA objectives and policies.
- Supervises and manages professional staff, including assignment of projects, evaluation of performance, and staff development planning. Provides technical and administrative assistance to staff in the development and management of projects which include design and

engineering services during construction of new and rehabilitation water and wastewater projects, development of maintenance and operations procedures and working closely with MWRA Safety staff, development of safety procedures.

- Supervises professional multi-discipline engineering work of substantial difficulty and importance, requiring application of professional engineering principles and the exercise of independent engineering judgment.
- Oversees and coordinates cooperative project development with other MWRA divisions and departments to ensure complete and coordinated projects. Coordinates projects with communities, government agencies and other MWRA departments. Provides technical information and assistance. Addresses professional and community groups and initiates outreach projects as required.
- Participates in consultant selection procedures and contract negotiations for projects. Additionally, oversees all phases of consultant selection for assigned projects including development of scope of services, specifications, cost estimates, work schedules, negotiations, and preparations of contract award recommendations. Ensures compliance with contract budgets, schedules and terms.
- Prepares annual and supplementary budget requests for the projects in the Capital Improvement Program. Oversees and reviews projects' budgets and schedules for compliance with established department, division, and MWRA program goals.
- Ensures compliance with MWRA procedures and policies, regulatory requirements and applicable engineering standards. Ensures all project activities are coordinated with MWRA divisions and departments, outside regulatory and permitting agencies and communities, as appropriate.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Completion of a four (4) year college program in civil or related engineering field; and
- (B) Seven (7) to nine (9) years of civil engineering experience of which three (3) years must be in a supervisory capacity and three (3) years in project management; or
- (C) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

- (A) Knowledge of principles and practices of engineering.
- (B) Understanding of issues related to design, construction and operation of water and wastewater facilities and infrastructure.
- (C) Demonstrated ability to work effectively as part of a project team and also to function independently with minimal supervision.
- (D) Knowledge of Massachusetts bidding laws, including M.G.L Chapter 30 and Chapter 149 construction bidding regulations.
- (E) Familiarity with computer software such as Word and Excel
- (F) Proven interpersonal, managerial, written and oral communications skills are required.

SPECIAL REQUIREMENTS:

Registered Massachusetts Professional Engineer preferred.

TOOLS AND EQUIPMENT USED:

Office machines as normally associated with the use of telephone, personal computer, including word processing and other software, copy fax machine, measuring equipment, light tools and mobile radio.

PHYSICAL DEMANDS:

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is regularly required to sit and to use hands to finger, handle, feel or operate objects, tools or controls. The employee is frequently required to talk or hear. The employee is occasionally required to stand, walk, and reach with hands and arms.

The employee must occasionally lift and/or move up to 10 pounds. There are no special visual requirements for this job.

WORK ENVIRONMENT:

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job.

While performing the duties of this job, the employee is not exposed to any unusual environmental conditions.

The noise level in the work environment is loud in field setting and moderately quiet in an office setting.

January 2013

**MWRA
POSITION DESCRIPTION**

NEW

POSITION: Senior Program Manager (Engineering & Construction)

DIVISION: Operations

DEPARTMENT: Engineering & Construction

BASIC PURPOSE:

Manages all projects in assigned programs from conceptual planning through construction contract award and supports construction implementation. Oversees engineering staff in their development, procurement, and management of engineering design consultant contracts for the design and construction of various capital improvement projects, studies, and programs.

SUPERVISION RECEIVED:

Works under the general supervision of the Assistant Director, Engineering.

SUPERVISION EXERCISED:

Exercises close supervision of professional engineering and project management staff.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Manages assigned programs including conformance to standards and procedures, staffing assignments, project scheduling and prioritization, and work product quality in accordance with the Quality Management Plan.
- Oversees the work of professional engineering consultants under contract to the MWRA including quality of outputs, budget and schedule compliance and conformance to contract terms.
- Prepares and manages staff development and provides thorough review of staff and consultant work products, including scopes of service, requests for proposals, project specifications, contract documents, and necessary documents to secure contracts, grants and permits from various federal and state agencies.
- Supervises professional engineering work of substantial difficulty and importance requiring the application of professional engineering principles and the exercise of independent engineering judgement.
- Oversees staff coordination of projects with communities, government agencies and other

MWRA departments.

- Coordinates and manages the preparation of annual and supplementary budget requests on future and current capital projects.
- Participates in consultant selection procedures and contract negotiations.
- Addresses community and professional organizations on agency programs and policies, prepares reports and correspondence and maintains liaison with representatives of other agencies.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Knowledge of engineering principles and practices as normally attained through Bachelor's Degree in civil engineering or related field; and
- (B) Understanding of issues related to engineering design as acquired through eight (8) to ten (10) years of experience in water and/or wastewater field, of which a minimum of four (4) years is in a supervisory capacity; or
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Demonstrated skill in the design of water and/or wastewater facility and system components including CSO remediation and regulatory requirements.
- (B) Knowledge of water and/or wastewater facility and system operations, process control theory, practices & principles, and computer applications.
- (C) Excellent interpersonal, oral and written communication skills. Ability to communicate technical information effectively.
- (D) Strong organizational skills and the ability to manage multiple priorities with competing demands for resources.

- (E) Excellent analytical and quantitative skills, and attention to detail with some experience supporting financial tracking and monitoring.
- (F) Skill in the development and oversight of MGL Chapter 30 and 149 contracts.
- (G) Proficient computer skills including MS Office Suite and project management software.

SPECIAL REQUIREMENTS:

A valid Class D Massachusetts Motor Vehicle Operators License.

Massachusetts Registered Professional Engineer preferred.

TOOLS AND EQUIPMENT USED:

Office equipment as normally associated with the use of telephone, personal computer including word processing and other software, copy and fax machine.

PHYSICAL DEMANDS:

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is regularly required to use hands to finger, handle, feel or operate objects, tools or controls and reach with hands and arms. The employee frequently is required to sit and talk or hear. The employee is occasionally required to stand, walk, climb or balance, stoop, kneel, crouch, or crawl, taste or smell.

The employee must frequently lift and/or move up to 10 pounds and occasionally lift and/or move up to 50 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, depth perception, peripheral vision and the ability to adjust focus.

WORK ENVIRONMENT:

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job.

While performing the duties of this job, the employee occasionally works in outside weather conditions. The employee occasionally works near moving mechanical parts, and is occasionally exposed to wet and/or humid conditions and vibration. The employee occasionally works in high precarious places and is occasionally exposed to fumes or airborne particles, toxic or caustic chemicals and risk of electrical shock.

The noise level in the work environment is usually loud in field settings and moderately quiet in an office setting.

November 2021

**MWRA
POSITION DESCRIPTION**

POSITION: Communications and Control Technician (Electronic Technician)

DIVISION: Operations

DEPARTMENT: Field Operations, Operations Support, Metering & Monitoring, DI

BASIC PURPOSE:

Participates in the development, installation and maintenance of the Authority's Supervisory Control and Data Acquisition (SCADA) system. Required to be on-call for emergencies 24 hours per day, 7 days a week.

SUPERVISION RECEIVED:

Works under the general supervision of the Senior SCADA Technician or Unit Supervisor.

SUPERVISION EXERCISED:

Exercises close supervision of technicians and support staff.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Assists with the development, installation, enhancement and maintenance of the control and monitoring system.
- Installs, repairs and services direct to line, time division multiplex digital channel banks, CSU/DSU high-speed data modems and other data communications equipment.
- Works with the phone company and other vendors to achieve data line installations and repairs.
- Performs precision calibration and maintenance on primary instrumentation devices utilized for the control and operation of SCADA controlled and monitored water and wastewater facilities.
- Installs, repairs and services UHF, point to multipoint multiple addresses, and spread spectrum data radios along with analog/digital microwave systems in the 2,6,10,11 and 23 Ghz bands as directed.
- Installs, repairs and services microwave towers, antennas, transmission lines and dehydrator units as directed.

- Works with Human Machine Interface screens, SCADA PCs, network equipment, programmable logic controllers and remote terminal units as directed.
- Performs preliminary path studies of proposed microwave links as well as frequency interference and intermodulation studies at microwave/radio sites.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) An Associate's Degree in Electronic Engineering, an electronics technician certification (community college or trade school), or an ISA Control Systems Technician Certification; and
- (B) One (1) year experience maintaining and servicing computer controlled programmable logic controllers (PLCs) and/or other types of automated process control; and
- (C) Experience in the calibration, repair and maintenance of instrumentation and data communication equipment required; or
- (D) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Ability to troubleshoot to the board level utilizing a variety of electronic test equipment as well as computer driven diagnostics is required.
- (B) Ability to install, align and service microwave towers, dish, yagi and Omni directional antennas in excess of 100 feet above ground level required.
- (C) Familiarity with windows-based HMI application software is desired.
- (D) Familiarity with Auto-CAD, or other equivalent CAD design program is desired.
- (E) Familiarity with computer aided microwave terrain analysis engineering program.
- (F) Working knowledge of Windows Operating Systems.
- (G) Strong initiative/work ethic and excellent interpersonal, oral and written communication skills required.

SPECIAL REQUIREMENTS:

Valid Massachusetts Class D motor vehicle license.

FCC General Radiotelephone Operator License (or ability to obtain license within six months.)

Pass Confined Space Entry Training within six months.

TOOLS AND EQUIPMENT USED:

Electronic test equipment, PLC's climbing and fall retrieval equipment, personal computer including word processing and other software, hand tools, mobile radios and copy and fax machines.

PHYSICAL DEMANDS:

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is regularly required to use hands to finger, handle, feel or operate objects, tools or controls and reach with hands and arms. The employee is regularly required to walk, sit, climb or balance, stoop, kneel, crouch, or crawl.

The employee must frequently lift and/or move up to 10 pounds and occasionally lift and/or move up to 50 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, depth perception and the ability to adjust focus.

WORK ENVIRONMENT:

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job.

While performing the duties of this job, the employee occasionally works in outside weather conditions. The employee frequently works near moving mechanical parts and is occasionally exposed to wet and/or humid conditions and vibration. The employee occasionally works in high, precarious places and is occasionally exposed to fumes or airborne particles, toxic or caustic chemicals and risk of electrical shock.

The noise level in the work environment is usually loud in field settings and moderately quiet in office settings.

December 2022