



# MASSACHUSETTS WATER RESOURCES AUTHORITY

Charlestown Navy Yard  
100 First Avenue, Building 39  
Boston, MA 02129

Frederick A. Laskey  
Executive Director

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

## **BOARD OF DIRECTORS' MEETING**

**To be Held on Wednesday, March 15, 2023**

Time: 1:00pm

**To be Held Virtually Pursuant to An Act Relative to  
Extending Certain State of Emergency Accommodations**

**WebEx Meeting Link (Registration Required)**

<https://mwra.webex.com/weblink/register/af03839af3e3e9d471df1d66a37f2f4ec>

Event Number: 2335 968 3989

Password: 31523

Telephone: (617) 242-6000  
Fax: (617) 788-4899  
TTY: (617) 788-4971

## **AGENDA**

### **I. APPROVAL OF MINUTES**

### **II. REPORT OF THE CHAIR**

### **III. REPORT OF THE EXECUTIVE DIRECTOR**

### **IV. EXECUTIVE SESSION**

i. Approval of February 15, 2023 Executive Session Minutes

#### **A. Litigation**

1. Conservation Law Foundation, Inc. v. MWRA, USDC No. 1:22-CV-10626-RGS: Update
2. U.S. v. MDC, et al., and CLF v. MDC, USDC Civil Action Nos. 85-0489-RGS and 83-1614-RGS: Update (Materials to Follow)
3. Chelsea Creek Headworks Project: Arcadis U.S., Inc., Contract 7206, BHD/BEC JV 2015, A Joint Venture, Contract 7161, Settlement of Claims

### **V. WATER POLICY & OVERSIGHT**

#### **A. Information**

1. Report on 2022 Water Use Trends and Reservoir Status
2. Watershed Forestry Review
3. Update on MWRA Aquatic Invasive Plant Control Activities
4. Local Water System Assistance Program Annual Update

**VI. PERSONNEL & COMPENSATION**

**A. Approvals**

1. PCR Amendments – March 2023
2. Approval of the 2023 Affirmative Action Plan

**VII. WASTEWATER POLICY & OVERSIGHT**

**A. Information**

1. Infiltration/Inflow Local Financial Assistance Program Annual Update

**VIII. ADMINISTRATION, FINANCE & AUDIT**

**A. Information**

1. Delegated Authority Report – February 2023
2. FY23 Financial Update and Summary through February 2023

**B. Approvals**

1. Retiree Cost of Living Increase

**C. Contract Awards**

1. MWRA Internet Website Replacement: Upandup Studios, Inc., Contract A634

**IX. CORRESPONDENCE TO THE BOARD**

**X. OTHER BUSINESS**

**XI. ADJOURNMENT**

## MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the Board of Directors

February 15, 2023

---

A meeting of the Massachusetts Water Resources Authority (“MWRA”) Board of Directors was held on February 15, 2023. The meeting was conducted via remote participation by the Board of Directors pursuant to Chapter 20 of the acts of 2021 and subsequent acts extending certain COVID-19 measures adopted during the state of emergency.

Chair Tepper presided remotely from MWRA headquarters. Also present from the Board were Messrs. Flanagan (remote participation), Foti (remote participation), Pappastergion (remote participation), Peña (remotely from MWRA headquarters), Vitale (remote participation), Jack Walsh (remotely from MWRA headquarters), and Patrick Walsh (remote participation), Rev. White-Hammond (remotely from MWRA headquarters) and, Ms. Wolowicz (remote participation). Mr. Carroll was absent.

MWRA Executive Director Frederick Laskey, General Counsel Carolyn Francisco Murphy, Chief Operating Officer David Coppes, and Assistant Secretary Kristin MacDougall participated remotely from MWRA headquarters. Other MWRA staff in attendance remotely included Carolyn Fiore, Deputy Chief Operating Officer; Thomas Durkin, Director, Finance; Michele Gillen, Director, Administration; Kathy Murtagh, Director, Tunnel Redundancy; Patterson Riley, Special Assistant for Affirmative Action; Paula Weadick, Director, MIS; Ria Convery, MWRA Special Assistant to the Executive Director and Board Assistant Secretary; Stephen Estes-Smargiassi, Director, Planning and Sustainability; Michael O’Keefe, Senior Program Manager, Planning; Rita Mercado, Acting Procurement Director; Michael Cole, Director, Budget; Matthew Horan, Deputy Director of Finance/Treasurer; David Duest, Deer Island Treatment Plant Director; and, John Colbert, Chief Engineer. Vandana Rao, Executive Office of Environmental Affairs (EEA), and Joseph Favaloro, MWRA Advisory Board, participated remotely from MWRA headquarters.

Chair Tepper called the meeting to order at 11:00am.

### ROLL CALL

MWRA General Counsel Francisco Murphy took roll call of Board Members in attendance. The Chair announced that except for Executive Session, the meeting was open to the public 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. Chair Tepper announced that the meeting would move into Executive Session after the Executive Director’s report, and that the Open Session would resume after the adjournment of Executive Session. She also announced that individual roll call votes would be conducted after each motion was made and given an opportunity for discussion.

### APPROVAL OF JANUARY 18, 2023 MINUTES

A motion was duly made and seconded to approve the minutes of the Board of Directors’ meeting of January 18, 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		
Vitale		
J. Walsh		
		P. Walsh
		Wolowicz

(Mr. Patrick Walsh had technical issues with his audio. Ms. Wolowicz could not be heard.) (ref. I)

#### REPORT OF THE CHAIR

#### ANNUAL MEETING OF THE MWRA BOARD OF DIRECTORS

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

Chair Tepper moved to designate the February 15, 2023 meeting as the Annual meeting which, as provided in the Authority's By-Laws, would be deemed a special meeting of the Board for the purpose of election of officers. Further, she moved to elect Andrew M. Pappastergion as Vice Chair of the Board; to appoint Brian Peña as Secretary of the Board and Rose Marie Convery and Kristin MacDougall 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 Staff Summary presented and filed with the records of this meeting. Chair Tepper noted that the Board Officer and Committee appointments would take effect commencing at the next Board Meeting.

The motion was seconded.

There was brief, general discussion about the Annual Meeting procedures. Chair Tepper asked if there were any other nominations, or 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		
Vitale		
J. Walsh		

Yes

No

Abstain

P. Walsh

Wolowicz

(Mr. Patrick Walsh had temporary technical issues with his audio.) (ref. II.A)

#### REPORT OF THE EXECUTIVE DIRECTOR

MWRA Executive Director Frederick Laskey reported that staff from MWRA and EEA were planning to conduct a tour of Deer Island with a reporter from WBUR with regards to PFAS. He then advised that some Board Members had expressed interest in resuming Committee meetings, to allow more time for discussion. He briefly described how Committee and Board meetings were conducted in the past. He requested that Board Members consider whether they'd like Committee meetings to resume, and how the meetings could be scheduled and structured.

Board Member Jack Walsh expressed support of resuming Committee meetings. Board Member White-Hammond agreed, and asked if the Committee meetings could be held virtually, for efficiency. Chair Tepper agreed with Rev. White-Hammond. Mr. Laskey affirmed that MWRA has the technology to host hybrid Committee meetings. General Counsel Francisco Murphy added that one possible constraint to holding hybrid meetings would be the March, 2023 expiration of the temporary COVID-19 related measures regarding the Open Meeting Law adopted during the state of emergency, currently under Legislative review. She noted that the Board voted in July, 2022 to adopt the Open Meeting Law remote participation option, and explained certain requirements of the Open Meeting Law for remote participation absent a further extension of the temporary measures. There was general discussion about the quorum requirements. Mr. Laskey suggested waiting until the Legislature makes its decision before deciding on resuming Committee meetings. Ms. Francisco Murphy advised that staff were following the matter closely, would keep Board Members apprised. There was general discussion about in-person meeting logistics.

Board Member Pappastergion expressed his strong preference for returning to in-person meetings. Mr. Flanagan asked where Board meetings would be held after MWRA vacates its CNY headquarters. Mr. Laskey explained that the meetings would be held in the new Board Room at Deer Island and could also be held at MWRA's Chelsea facility. Board Member Wolowicz requested that one meeting be held at the Quabbin Reservoir annually, noting that holding a meeting at Quabbin would be a good opportunity for Board Members to interact with staff. Chair Tepper, Mr. Laskey, Mr. Jack Walsh, Rev. White-Hammond and Mr. Peña agreed. There was general discussion about the benefits of in-person meetings at various sites.

Mr. Laskey resumed his report. He advised that staff continued discussions with the City of Waltham, and that he met with the Mayor to discuss MWRA's project. Next, he briefly reported on MWRA's Diversity, Equity and Inclusion Working Group and Environmental Justice Task Force lunchtime talk series, including an upcoming talk with Biobot Analytics' cofounder and CEO, Dr. Mariana Matus. Mr. Laskey then congratulated Board Member Vitale and Boston Water and Sewer Commission staff for

their participation in a White House ceremony to kick off the Biden-Harris Administration’s “Get the Lead Out” Partnership. Next, Mr. Laskey announced that Cori Barrett was retiring from her position as Director of Construction. He congratulated Ms. Barrett on her upcoming retirement and thanked her for years of dedicated service. Ms. Barrett thanked Board Members and her colleagues for their well wishes. Finally, Mr. Laskey provided an update on Board Member Carroll. Mr. Pappastergion asked for suggestions of appropriate ways to honor Mr. Carroll for his work on the Board of Directors. MWRA Special Assistant to the Executive Director Ria Convery advised that staff was preparing a photo book for Mr. Carroll and his family that documents his many contributions to MWRA.

Chair Tepper noted that Biobot’s Dr. Matus had offered positive feedback about MWRA staff during a recent meeting that she had attended with Governor Healey.

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

#### EXECUTIVE SESSION

Chair Tepper requested that the Board move into Executive Session to discuss Litigation, since Open Session may have a detrimental effect on the litigating position of the Authority. She announced that the planned topics of discussion in Executive Session were updates on the Conservation Law Foundation litigation pending in Federal District Court relating to MWRA’s industrial pretreatment program and the Chelsea Creek Headworks Project settlement negotiations. 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 this purpose, 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 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 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		
Vitale		
J. Walsh		
P. Walsh		

Yes                      No                      Abstain  
White-Hammond  
Wolowicz

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

The Board moved to Executive Session to discuss Litigation since discussing such in Open Session could have a detrimental effect on the litigating position of the Authority.

\*\*\* EXECUTIVE SESSION \*\*\*

The meeting entered Executive Session at 11:24am and adjourned at 11:58am.

\*\*\* CONTINUATION OF OPEN SESSION \*\*\*

#### ADMINISTRATION, FINANCE AND AUDIT

##### Information

##### Update on Space Consolidation Project

Ms. Convery presented an update on MWRA's Space Consolidation project. The presentation included an overview of prior consolidations, and the reasons for vacating MWRA's Charlestown Navy Yard offices. She explained that Navy Yard staff would relocate to Chelsea and Deer Island, where some staff workspaces will be shared. She then described the renovations at the Chelsea and Deer Island facilities. She noted that existing oak furniture will be refurbished in-house. Finally, she reviewed the two-phased project schedule. She advised that Phase One was expected to be complete in late February or early March, with Phase Two expected to be complete in late April or early May.

Mr. Pappastergion requested more details about Phase Two activities. Ms. Convery described the planned work, including the renovation of the Chelsea facility's west side and Deer Island's pump station building and Board Room areas. She noted that Deer Island is located within City of Boston limits. She further noted that materials for Phase Two were already ordered, so that phase should move ahead more quickly than the first.

Mr. Jack Walsh asked staff to provide a breakdown of the Chelsea facility's annual budget. MWRA Finance Director Thomas Durkin explained that the capital lease payment for MWRA's Chelsea facility was \$3.2 million, and that other operational costs such as maintenance, maintenance contractors and supplies brought the total budget to approximately \$5.3 million. Mr. Durkin noted that the cost of the lease payments was locked in for a number of years. Mr. Walsh asked about tax payments for the facility. Mr. Durkin explained that the taxes were paid in addition to the rent, through the Current Expense Budget. He advised that the City of Chelsea had recently raised the taxes nearly \$1 million, due to the property's increased Chelsea Assessor's value.

Board Member Vitale asked if MWRA parking was available at Chelsea and Deer Island. Ms. Convery responded in the affirmative, adding that parking would be free for staff. Mr. Vitale then asked which MBTA stations were closest to Deer Island and the Chelsea facility. Ms. Convery advised that Orient Heights was the closest MBTA station to Deer Island. Mr. Vitale asked how far the Orient Heights station was from Deer Island. Ms. Convery advised that the station was several miles away, and that a transportation survey would be conducted to identify how many staff members planned to commute to Deer Island via public transportation. She noted that MWRA would probably run a shuttle from Chelsea to Deer Island with stops along the route, and that the MBTA had discontinued its bus route to Deer Island. Mr. Laskey added that the MBTA's Silver Line runs to the Chelsea facility. Mr. Vitale asked if MWRA offers an MBTA pass discount to staff. Ms. Convery explained that staff do not receive a discount but they can purchase MBTA passes through a pre-tax payroll program. Rev. White-Hammond recommended that MWRA consider providing an MBTA pass subsidy to encourage staff to commute via public transportation.

Chair Tepper requested information about MWRA's fleet of electric vehicles (EV) and charging stations at Deer Island and Chelsea. MWRA Deputy Chief Operating Officer Carolyn Fiore explained that MWRA maintains a growing fleet of approximately 17 EVs, and that staff was participating in Eversource's Make Ready Program for EV charging infrastructure installation at Chelsea and Deer Island. She further explained that MWRA had an agreement with Eversource to install 15 EV chargers at the Chelsea facility for staff and MWRA vehicle use, and that Eversource had recently conducted a site visit to identify appropriate locations for EV chargers at Deer Island. She noted that chargers for Chelsea had been purchased, with the Deer Island purchase pending. Finally, Ms. Fiore explained that EV charger construction at both sites was expected to be complete in Fiscal Year FY24.

Chair Tepper asked if MWRA was constructing new parking lots at Deer Island for the EV chargers. Ms. Convery explained that the chargers would be installed in existing lots. Chair Tepper asked if MWRA had solar infrastructure installed in Deer Island's parking lots. Mr. Laskey explained that MWRA had three solar farms at Deer Island, but none in the parking lots, though it was being discussed. Chair Tepper noted that every parking lot is an opportunity for green energy.

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

#### FY2023 Second Quarter Orange Notebook

MWRA Senior Program Manager for Planning Michael O'Keefe presented an overview of performance indicators measured in the Orange Notebook. He noted that MWRA also prepares an internal, monthly Yellow Notebook, with similar metrics. Next, he described topics covered in the Orange Notebook, including Operations and Maintenance, Construction Programs, Drinking Water Quality and Supply, Wastewater Quality, Community Flows and Programs, Business Services, and Other Management. Mr. Jack Walsh requested more information about MWRA's career paths and promotional opportunities for staff retention. Mr. Laskey explained that MWRA works to provide career paths, training, certifications and promotional opportunities for internal candidates. There was general discussion



about current recruitment and retention challenges. MWRA Director of Administration Michele Gillen provided examples of MWRA's ongoing recruitment and retention initiatives such as a robust training program, a mentorship program, and the promotion of Diversity, Equity and Inclusion and Environmental Justice principles. Mr. Laskey noted that Deer Island staff had recently offered positive feedback on MWRA's new shadowing program, which provides on-the-job training in a variety of disciplines for entry level staff. He added that this program may be expanded and that he would provide a more detailed updates to Board members in the future.

Rev. White-Hammond described steps being taken to promote staff retention and advancement within her cabinet at the City of Boston, including conversations with staff about the goals they'd like to develop, and the identification of professional growth opportunities. Ms. Gillen added that MWRA had recently reinstated performance evaluations for some employees to encourage more interaction between supervisors and staff.

Chair Tepper added that she would be interested in having a more detailed discussion about staffing issues, solutions and best practices in the near future. Ms. Gillen noted that Mr. Laskey had recently asked staff to develop tools to measure the success of its recruitment and retention initiatives, and that staff welcomed the opportunity for further discussion.

Mr. Laskey thanked Personnel and Compensation Committee Chair Wolowicz for her hard work, accessibility and advice on personnel matters.

Ms. Wolowicz noted that in her view MWRA has consistently endeavored to provide a supportive, inclusive working environment for a diverse workforce, and stressed the importance of coaching, training and building a work culture where the principles of Diversity, Equity and Inclusion are consistently put into practice.

Mr. Vitale asked if MWRA has seen a rise in positive marijuana (THC) test results for job applicants as related to Massachusetts' legalization of recreational marijuana. Ms. Gillen explained that MWRA has not seen significant changes in positive test results for potential employees, but has seen a slight uptick of THC positives from federally-required random drug and alcohol screenings. She noted that some staff could potentially underreport vehicle accidents to avoid THC testing, and that the tests have further implications with regards to CDL licenses.

There was general discussion about challenges related to THC testing, which can detect traces after one month of use.

Mr. Vitale asked if the Orange Notebook was distributed to external parties such as rating agencies and bond holders. Mr. Durkin explained that staff direct external inquires about Key Performance Indicators to MWRA's website, where the Orange Notebook is posted. He noted that staff have received positive feedback on the Orange Notebook. Mr. Estes-Smargiassi added that staff frequently share the Orange Notebook in response to constituents' questions about MWRA operations.

Mr. Vitale asked for the forecasted fiscal year end variance for actual total interest income versus the amount budgeted, as well as the forecasted variance for actual versus budgeted interest expenses for variable rate debt. Mr. Durkin explained that if interest rates remained stable, staff expect money market investment income to nearly double by the end of the fiscal year.

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

#### Delegated Authority Report – January 2023

Committee Chair Foti invited questions for staff.

Mr. Jack Walsh requested more information about item C-8, the John Carroll Water Treatment Plant Corrosion Control Optimization Study. MWRA Chief Operating Officer David Coppes explained that the purpose of the study was to test the efficacy of various water corrosion and control treatments, in anticipation of Lead and Copper Rule changes. He added that under this delegated authority item, a consultant would provide guidance, and perform data collection and analysis. There was brief discussion about the cost and importance of the study.

Mr. Vitale asked for the hourly pay rate for Item P-9, Data Reporting Analyst (Report Writer) Consultant. MWRA MIS Director Paula Weadick advised that she would provide that information as soon as possible. (The question was answered later in this discussion.)

Mr. Jack Walsh requested the quantity provided under item P-15, Purchase for Supply and Delivery of Allen Bradley Programmable Logic Controller Components. Mr. Coppes explained that the purpose of the purchase was to increase MWRA's inventory during the current chip shortage. He advised that he would provide more details about the number purchased at a later date.

MWRA Acting Director of Procurement Rita Mercado responded to Mr. Vitale's earlier question regarding the hourly rate for a Data Reporting Analyst (Report Writer) Consultant. She advised that the pay rate was \$86.23 per hour.

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

#### FY23 Financial Update and Summary through January 2023

Mr. Durkin provided a financial update and summary through January 2023. He reported that direct expenses were 4.5% under budget, mostly attributable to underspending for wages and salaries (-10.7%). He advised that reduced spending on wages and salaries was offset by overspending for chemicals (+13.2%) and utilities (+6.6%). He noted that electricity and natural gas were 9.2% and 24.4% over budget, respectively. Mr. Durkin then reported that total direct expenses were \$7.2 million (-4.5%) under budget, and that indirect expenses were at budget (-1.1%). Next, he reported that there was a zero variance on the Capitol Finance budget, attributable to the transfer of savings from variable rate

bonds to the defeasance account. He noted that staff would present recommendations regarding bond defeasance and the use of budgetary savings to the Board at a future meeting. Mr. Durkin then reported on income activity. He advised that fixed investments were at budget while variable investments such as money market accounts were yielding approximately \$4 million more than budgeted due to rapidly rising interest rates. He added that the addition of income from Cambridge water sales and other sources brought MWRA's revenue to approximately \$11.2 million over estimate, total. Finally, Mr. Durkin reported that MWRA was \$18.7 million under budget overall.

Mr. Jack Walsh asked why was staff was proposing a budget increase for overtime. Mr. Durkin explained that the overtime budget increase was necessary to fund adequate coverage for any potential wet weather events or other emergencies.

Hearing no further discussion or questions from the Board, Mr. Foti moved to the next Information item. (ref. V A.4)

#### Preliminary FY24 Water and Sewer Assessments

Staff summarized the proposed Preliminary Water and Sewer Assessments for FY2024. Mr. Durkin began by providing an overview of MWRA's budgetary process and multi-year rate strategy. He advised that staff were proposing a 3.4% combined rate increase for FY24, and that MWRA staff would communicate the preliminary assessments to water and sewer service communities upon Board approval.

Mr. Jack Walsh asked if water purchases from the City of Cambridge were factored into MWRA assessments. Mr. Durkin explained that water sales to Cambridge were revenue income and not part of the rate base.

Hearing no further discussion or questions from the Board, Mr. Foti moved to Approvals. (ref. V A.5)

#### Approvals

##### Transmittal of the FY24 Proposed Current Expense Budget

A motion was duly made and seconded to approve transmittal of the FY24 Proposed Current Expense Budget to the MWRA Advisory Board for its 60 day review and comment period.

Staff presented an overview of MWRA's FY24 Proposed Current Expense Budget (CEB). Mr. Durkin briefly provided background on the CEB's preparation, review, comment and approval processes.

Next, MWRA Budget Director Michael Cole presented a comparison of the CEB as approved for FY23 and proposed for FY24, and noted that the most significant change was a proposed \$36.3 million (13.3%) increase for direct expenses for FY24. He explained that wages and salaries were the biggest component of the direct expense budget (40%) and that staff proposed an increase of \$4.1 million (3.5%) for FY24. He noted that the budget funds 1,168 FTEs, including 1,152 core FTEs and 16 for the Metropolitan Water Tunnel Program. He also noted that the proposed FY24 CEB includes a vacancy adjustment of \$2.7 million, consistent with FY23. Next, Mr. Cole presented budgetary areas driven by inflation, such as

chemicals, (\$13.3 million, or 89% increase proposed for FY24), and electricity (\$2.4 million or 10% proposed increase.) He advised that electricity usage has remained stable, but the cost per kilowatt hour jumped significantly in FY23. He further advised that the proposed budget for sludge pelletization was increased by \$9.9 million (58%) for FY24, driven by inflation and potential PFAS-related landfill costs.

Mr. Durkin then presented an overview of proposed FY24 indirect expenses related to the Retirement System. He provided background on the Retirement System's funding schedule, actuarial valuation process and budget requirements. He advised that staff proposed applying \$1.9 million in savings from the funding schedule of MWRA's Other Post-Employment Benefits (OPEB) actuarial valuation to the required \$14 million Retirement System funding in order to partly amortize an estimated \$140 million shortfall due to economic factors impacting retirement funds across the Commonwealth.

Next, MWRA Deputy Finance Director and Treasurer Matthew Horan reported that the proposed FY24 CEB included \$501.3 million in capital financing costs, a slight decrease over prior years. He explained that rising interest rates have presented a potential opportunity for MWRA to participate in a bond buyback. Mr. Horan then presented an overview of historical and Data Money Market Data (MMD) and taxable interest rates, and noted that staff anticipated a surplus of approximately \$2.2 million associated with variable interest rates for FY23 on the debt and \$11.7 million in surplus by the end of FY23 for investment income.

Mr. Durkin then presented a summary of MWRA's combined historical and projected rate revenue changes for FY19 through FY28, including a 3.9% increase for water assessments, and a 3.1% increase for sewer assessments for FY24. Finally, he briefly described the next steps in the CEB process pending Board approval, including transmittal to the MWRA Advisory Board for review, two public hearings, and the presentation the FY24 Draft Final CEB in May for its anticipated adoption in June 2023.

Mr. Vitale requested clarification on the projected cost increase for health insurance. Mr. Durkin explained that the proposed CEB includes a 6% increase for existing health insurance plans. There was brief discussion about whether employee deductibles would increase. Mr. Vitale asked staff for the status of MWRA's OPEB Trust funding level, and if staff expected a major change over FY23. Mr. Durkin advised that OPEB was approximately 60% funded, and did not forecast a significant change through the current fiscal year.

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		

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Vitale		
J. Walsh		
P. Walsh		
White-Hammond		
Wolowicz		

(ref. V B.1)

#### Approval of the Eighty-Sixth Supplemental Resolution

A motion was duly made and seconded to adopt the Eighty-Sixth Supplemental Resolution authorizing the issuance of up to \$650,000,000 of Massachusetts Water Resources Authority Tax-Exempt General Revenue Bonds and General Revenue Refunding Bonds and the supporting Issuance Resolution.

Mr. Durkin explained that staff were seeking Board approval to issue bonds through the public market, and to approve the issuance of refunding bonds that will replace existing bonds and provide budgetary savings.

Mr. Horan then invited questions from Board Members. Mr. Jack Walsh asked staff for their confidence levels regarding the bond tendering. Mr. Horan advised that staff identified approximately \$1 billion worth of bonds on the market to be tendered and estimated that only 20%-30% of bondholders would be interested in placing the bonds back. He noted that the sale was sensitive to interest rates, and added that staff determined that the potential cost savings to MWRA made this a worthwhile endeavor. Mr. Walsh asked how much staff expected to discount the bonds for the tendering. Mr. Horan explained that staff estimated that the bonds would be discounted one to three basis points above market rate, which is well below the face value of the bond. There was brief, general discussion about the logistics of the proposal.

Mr. Vitale asked if MWRA had tendered bonds in the past. Mr. Horan advised that MWRA had tendered bonds once, in 2000. Mr. Vitale requested a copy of the Staff Summary regarding the 2000 bond tendering. Mr. Horan confirmed he would forward the Staff Summary as soon as possible. Mr. Vitale asked for the amount of MWRA's total outstanding bond debt related to Green Bonds. Mr. Horan advised that the outstanding debt was approximately \$2.4 million. Mr. Vitale noted that MWRA was a leader in Green Bonds. Mr. Horan added that MWRA, along with the Commonwealth of Massachusetts, is a top ten issuer of Green Bonds in the United States.

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		

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Peña		
Vitale		
J. Walsh		
P. Walsh		
White-Hammond		
Wolowicz		

(ref. V B.2)

Chair Tepper advised that some outstanding agenda items would be postponed due to time constraints. There was brief, general discussion about the postponements.

Delegation of Authority to Execute Contracts for the Purchase and Supply of Electric Energy and Voluntary Renewable Energy Certificates for the MWRA Interval Accounts

A motion was duly made and seconded to authorize the Executive Director, on behalf of the Authority, to execute a contract for the supply of electric power to the Interval Accounts, consisting of the Carroll Water Treatment Plant and the larger Field Operations and Facility Management Accounts, and a contract to purchase additional Renewable Energy Certificates to voluntarily increase the percentage of the energy supply for the Interval Accounts to be 100% renewable, with the lowest responsive and responsible bidder(s) for the period and pricing structure selected, as 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 notify the selected bidders within a few hours of bid submittal to lock in the bid prices in a constantly changing market.

Ms. Fiore presented the proportion of MWRA's electricity usage by contract, noting that the interval account usage was 30% of the total. She then invited questions from Board members.

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		
Vitale		
J. Walsh		
P. Walsh		
White-Hammond		
Wolowicz		

(ref. V.B.3)

WASTEWATER POLICY AND OVERSIGHTContract AwardsDeer Island Treatment Plant Clarifier Rehabilitation, Phase II: Walsh Construction Company II, LLC, Contract 7395

A motion was duly made and seconded to approve the award of Contract 7395, Clarifier Rehabilitation, Phase II at the Deer Island Treatment Plant, to the lowest responsible and eligible bidder, Walsh Construction Company II, LLC and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of \$289,359,690, for a contract term of 1620 calendar days from the Notice to Proceed.

MWRA Deer Island Treatment Plant Director David Duest presented an overview of the Deer Island Treatment Plant (DITP) primary and secondary clarifiers' functions, and explained that they were critical to the plant's operations and MWRA's compliance with its NPDES permit. He then provided background on past Deer Island clarifier rehabilitation projects to address unanticipated corrosion and increase equipment life. He advised that the proposed contract does not repeat prior work and will rehabilitate equipment that has been in continuous operation since DITP startup. Next, Mr. Duest explained that the proposed contract's scope was complex and required confined space entry. He further explained that the clarifiers must remain operational during construction to meet design flows in compliance with the NPES permit. He then presented the current conditions of the clarifiers and described the scope of work. Mr. Duest then advised that the bid for this project was complicated, and that one Division of Capital Asset Management and Maintenance (DCAMM) certified firm had submitted a bid that was 26.7% higher than the Engineer's Estimate. He explained that the three major line item variances from the Engineer's Estimate were costs of mechanical equipment and materials; concrete remediation and coating; and, labor insurance, safety and quality control, due to the contract's general conditions.

Next, Ms. Gillen described the contract's procurement process. She noted staff's concerns about the lack of competition for bidders, and described steps taken to increase competition. Ms. Gillen then advised that staff met with the Inspector General's (IG) office, during which MWRA staff provided a project and procurement overview, as well as an explanation for the difference between the bid price and the Engineers Estimate. She further advised that based on this discussion and follow-up communications, the IG indicated no concerns regarding this procurement. She noted that staff had spoken with DCAMM about the competitive limitations to large, industry-specific projects posed by some of their certification limits, adding that DCAMM was amendable to future conversations about ways to potentially increase competition.

MWRA Special Assistant for Affirmative Action Patterson Riley then briefed Board Members on D/MBE and D/WBE matters related to the project. He advised that Walsh Construction Company, II, LLC ("Walsh") had requested a partial waiver of D/WBE participation requirements. He noted that MWRA takes M/WBE participation seriously, and explained that staff believed that Walsh had submitted the waiver request in good faith. He noted that only a very limited number of D/WBE subcontractors were certified to perform this project's scope of work, and stressed MWRA's continued commitment to providing opportunities for D/MBE and D/WBEs to perform work for the Authority.

Mr. Vitale asked for information about the cost of State Revolving Fund (SRF) loans for this project. Mr. Durkin explained that the cost for the SRF loans was 2.15%, versus the 3.3% expected with MWRA bonds. Mr. Vitale complimented MWRA staff for securing the SRF funding and thanked them for providing ongoing assistance with SRF funding processes for Boston Water and Sewer Commission projects.

On behalf of the MWRA Advisory Board Chair, Board Member Foti asked why this project was advertised under Chapter 149, rather than Chapter 30. Ms. Mercado advised that the project's infrastructure qualifies this clarifier rehabilitation work as a Chapter 149 project, and further, that similar DITP projects had been advertised as Chapter 149 projects. Mr. Foti asked if staff believed that more bids would have been received if the project was advertised under Chapter 30. Ms. Mercado advised that staff could not speculate on that, and further, staff believed that due to the project's complex nature, only a limited number of contractors would have been qualified to bid under Chapter 30 with respect to bonding capacity. She explained that a benefit of Chapter 149 advertisements was access to DCAMM-certified contractors that are bondable and pre-qualified to perform the work required. She noted that DCAMM certifies the contractors annually.

(Rev. White-Hammond left the meeting during the presentation.)

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		
Vitale		
J. Walsh		
P. Walsh		
		Wolowicz

(Ms. Wolowicz had temporary technical issues with her audio, and Mr. Foti left the meeting after the roll call vote.) (ref. VI A.1)

## WATER POLICY AND OVERSIGHT

### Information

#### Report on 2022 Water Use Trends and Reservoir Status

Item postponed due to time constraints. (ref. VII A.1)



Update on Invasive Aquatic Plants Management at MWRA Source and Emergency Reservoirs

Item postponed due to time constraints. (ref. VII A.2)

Public Outreach Plan for Temporary Fluoride Shutdown

Item postponed due to time constraints. (ref. VII A.3)

Contract Amendments/Change OrdersSection 56 Replacement of Saugus River Crossing, Design Engineering Services During Construction: AECOM Technical Services, Inc. Contract 7454, Amendment 1

A motion was duly made and seconded to authorize the Executive Director, on behalf of the Authority, to approve Amendment 1 to Contract 7454, Section 56 Replacement of Saugus River Crossing Design Engineering Services During Construction, with AECOM Technical Services, Inc., increasing the contract amount by \$999,993, from \$3,345,887, to \$4,345,880, and extending the contract term by 27 months from 51 months to 78 months.

MWRA Chief Engineer John Colbert presented the reasons for the proposed Amendment to the Section 56 Saugus River Crossing project. He explained that the amendment was needed to accommodate permitting and geotechnical evaluation challenges.

Mr. Jack Walsh asked work could take place under the existing bridge. Mr. Colbert explained that this was not possible because the bridge was 87 years old, and further, MassDOT was planning to move it south of its existing location. Mr. Walsh requested an update on the project's status. Mr. Colbert explained that the project is in preliminary design, and presented staff's proposed access alternatives and recommended alignment. He noted that final design would start after the completion of permitting activities. Mr. Walsh asked if the project would provide water system redundancy. Mr. Colbert explained that the project would restore water redundancy and improve system reliability for sections of Lynn and Revere.

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		
Pappastergion		
Peña		
Vitale		
J. Walsh		
P. Walsh		
Wolowicz		

(ref. VII B.1)

PERSONNEL AND COMPENSATION

Approvals

Approval of the 2023 Affirmative Action Plan

Item postponed due to time constraints. (ref. VIII A.1)

PCR Amendments - February 2023

Item postponed due to time constraints. (ref. VIII A.2)

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		
Pappastergion		
Peña		
Vitale		
J. Walsh		
P. Walsh		
Wolowicz		

The meeting adjourned at 1:28pm.

Approved:        March 15, 2023

Attest:

\_\_\_\_\_  
Brian Peña, Secretary

### STAFF SUMMARY

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director *Frederick A. Laskey*  
**DATE:** March 15, 2023  
**SUBJECT:** Report on 2022 Water Use Trends and Reservoir Status

**COMMITTEE:** Water Policy & Oversight

X  INFORMATION  
  VOTE

Carolyn Fiore, Deputy Chief Operating Officer  
Daniel Nvule, Senior Program Manager  
Stephen Estes-Smargiassi, Director, Planning and Sustainability  
Preparer/Title

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

### RECOMMENDATION:

For information only. At the beginning of each year, staff provide the Board with a review of the previous year's water use data and discuss trends.

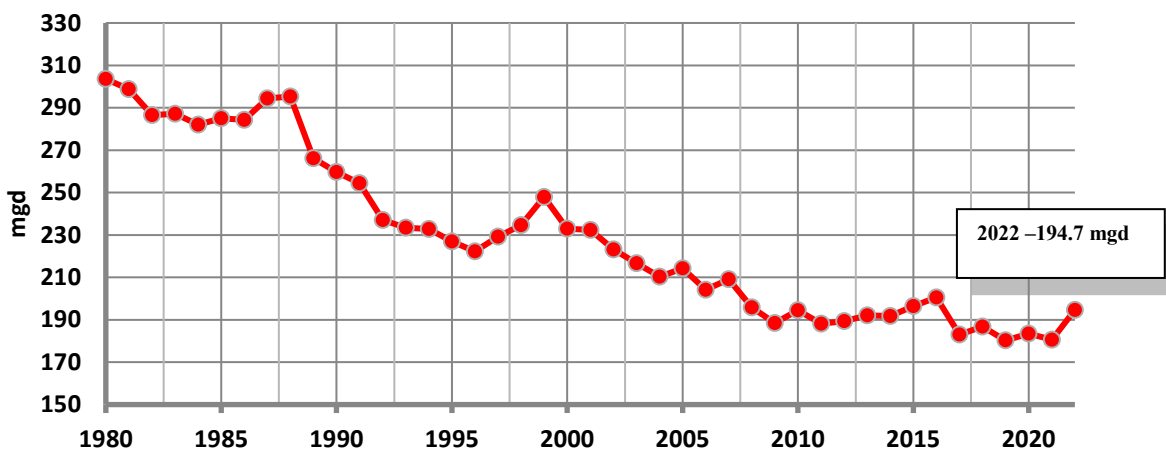
### DISCUSSION:

This staff summary provides an overview of water consumption by communities; base and seasonal water use trends; use by MWRA's partial and emergency customers; and reservoir withdrawals and reservoir status.

#### Water Consumption by MWRA Communities

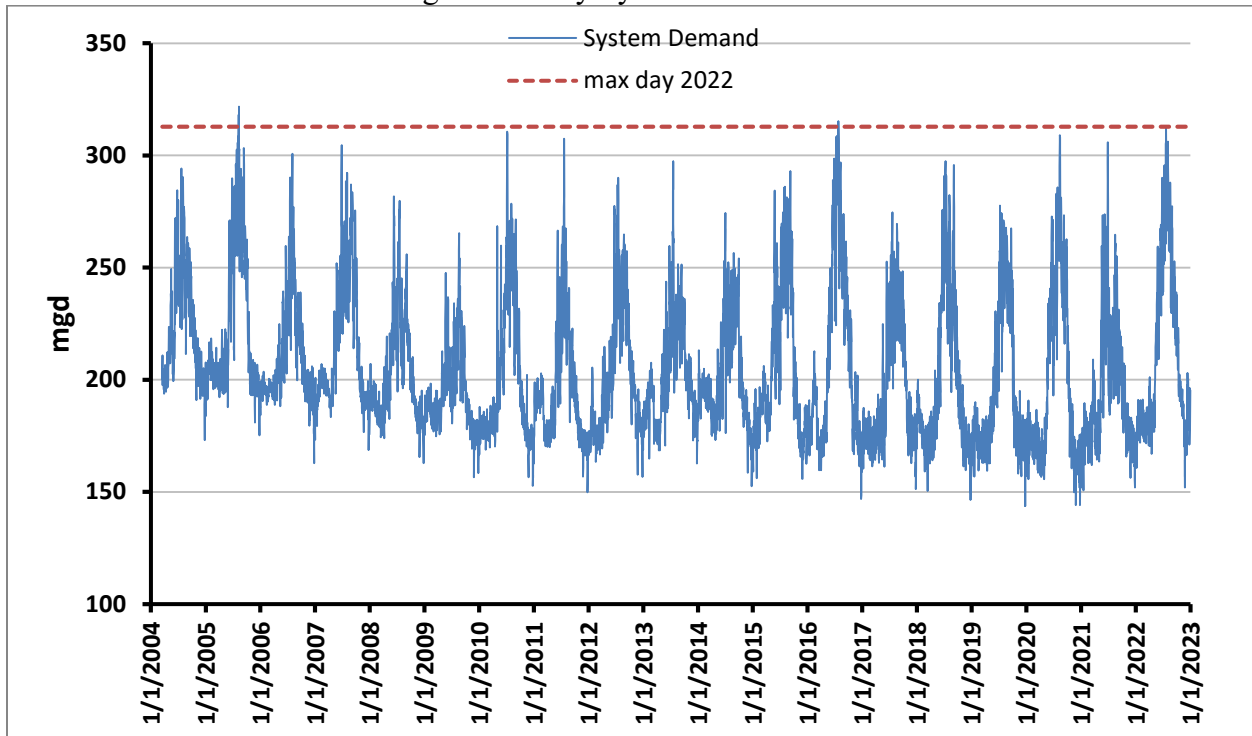
Water consumption by all MWRA communities of 194.7 million gallons per day (mgd) was about 14.1 mgd (7.8 percent) higher than 2021, as shown on Figure 1, due in part to the drought, and in part to additional use as partially served communities responded to elevated PFAS levels in their water sources. Reservoir withdrawals, the metric to be compared with the system's safe yield of 300 mgd, are discussed on page 5.

Figure 1 – Total Consumption by MWRA Communities (1980 to 2022)



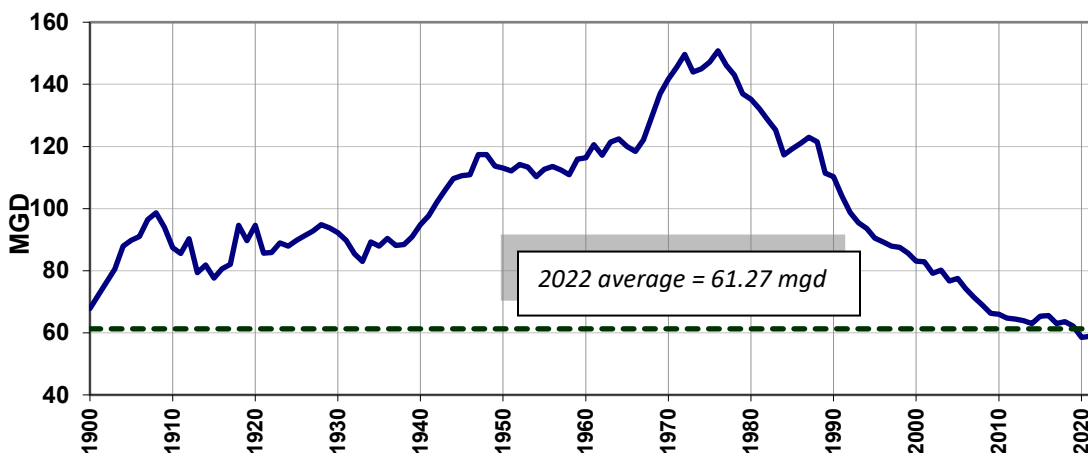
System wide, 2022 had a maximum day reservoir withdrawal of 312.75 mgd on July 22 (2.2 percent higher than 2021, but lower than during the drought in 2016). At the opposite extreme, Thanksgiving Day at 152 mgd was the lowest day of the year. Figure 2 below shows daily system withdrawals since 2004.

Figure 2: Daily System Withdrawals



Demand from MWRA’s largest customer, the Boston Water and Sewer Commission, was 61.27 mgd, which was higher than last year by 2.43 mgd (4.1 percent). Current Boston demand continues to be lower than demand before 1900 as shown on Figure 3 below.

Figure 3: Boston Water Use (1900-2022)

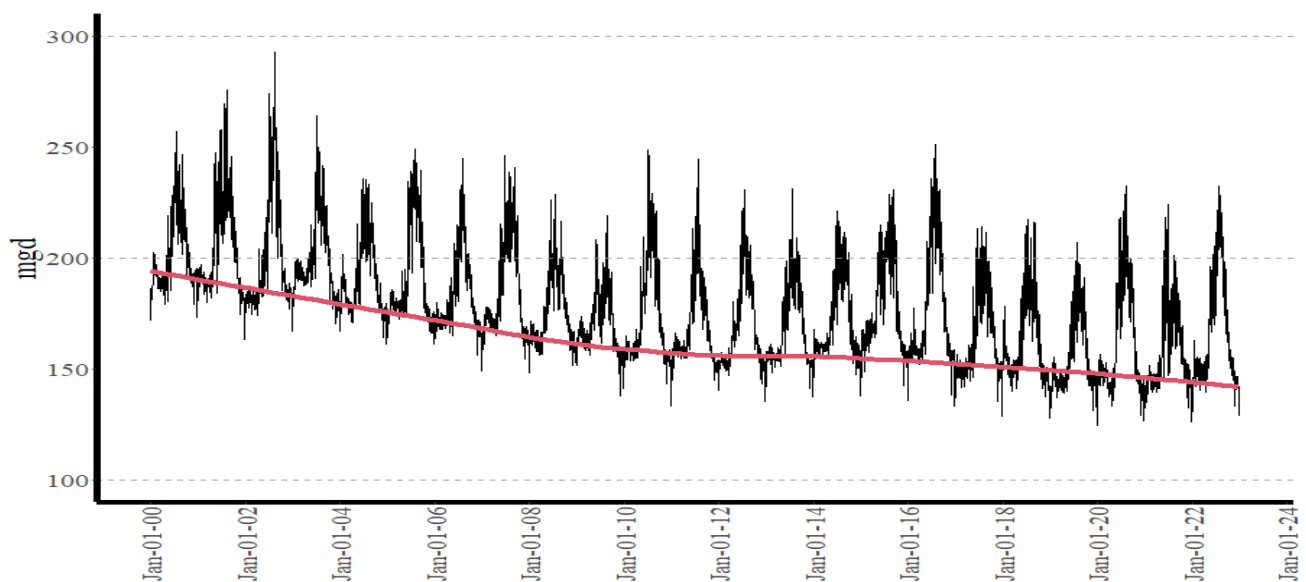


Many communities, including Boston, saw increases in demand. Despite the increase, Boston’s change in flow share decreased by 1.9 percent, as demand from more suburban communities and partially supplied communities increased by a higher percentage. See Attachment A for community demands and system share data.

Base or Indoor Demand

Over time, there have been substantial water use reductions in both base (or indoor) use, defined as water use, from November to March, and outdoor use (or seasonal use), defined as the increase over the base demand during the irrigation season from May to September. Base or indoor water use, shown as the red line on Figure 5 below, has dropped substantially over the past several decades, and continues to decrease, due to the improvements in the efficiency of water use in homes and businesses as water-saving technologies continue to increase market share, and consumers react to increases in water, sewer, and energy costs. Water use reductions also reflect the success of MWRA and community leak reduction programs with reduced pipeline leaks. Countervailing pressures include population and employment increases.

Figure 4: Fully Supplied Communities Demand (1999 to 2022)<sup>1</sup>



Seasonal or Outdoor Demand

Seasonal water use is more variable than indoor demand and driven in large part by weather during the irrigation season. Factors influencing seasonal use include the total irrigation season precipitation, the number of dry days between rainfall events, temperature, and the total amount of sunshine. During drought conditions, mandatory restrictions or general media exposure will reduce outdoor use over what it would have been, but dry years still tend to have higher demand. Over time, the price of water also influences seasonal use.

<sup>1</sup> Certain analyses can be done only on fully supplied communities where MWRA has information on their daily use available from MWRA’s revenue meters. MWRA receives data on monthly total use for partially supplied communities, but not until they provide that data to DEP in their Annual Statistical Reports in March. Fully supplied communities represent almost 90 percent of the total annual demand.

Figures 5 and 6 show the variation in seasonal water use in fully supplied communities over time, and both the longer-term decline in both base and total use and the relatively small impact that seasonal demand has on total water use. Seasonal use in 2022 of 24.2 mgd was the third highest since 2000 on a volume basis (seasonal use during the 2015/2016 drought was higher) and the highest (14.5 percent) on a percentage basis (reflecting in part the continued reduction in base demand). Most of the outdoor use season was affected by a significant to critical drought over much of the service area, although as discussed below, MWRA’s reservoirs remained in Normal Operating Range throughout the drought.

Figure 5: Fully Supplied Communities Annual Base and Seasonal Demand

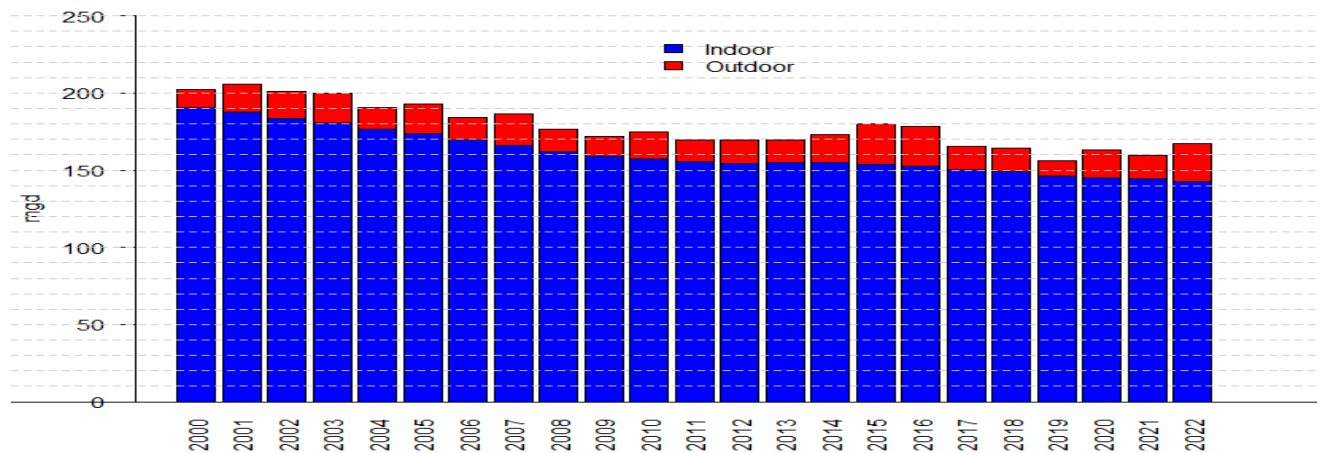
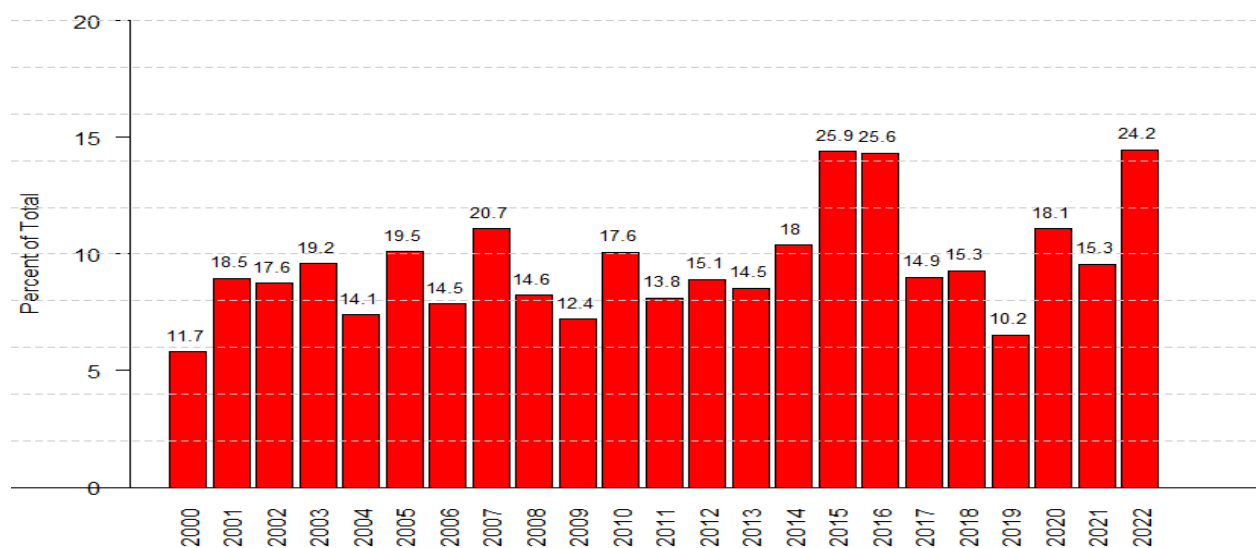


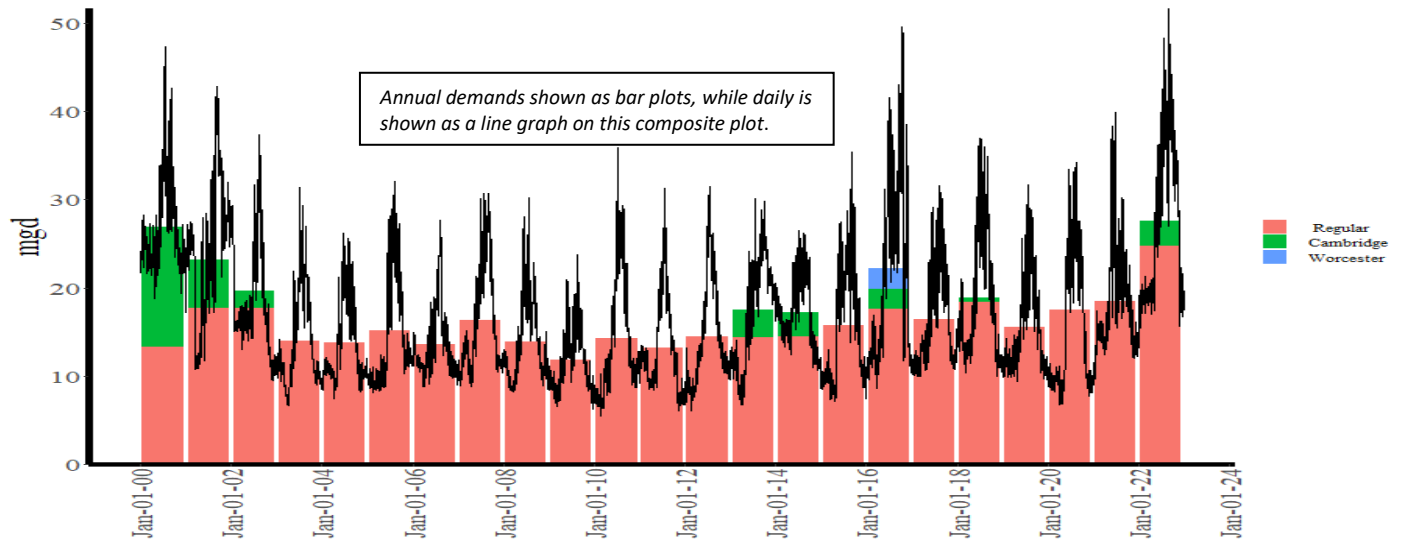
Figure 6: Fully Supplied Communities’ Annual Seasonal Demand (Labels show demand in mgd)



## Partially Supplied Communities

Demand for the partially supplied communities, shown on Figure 7 below, was up by 6.45 mgd (30.6 percent) when compared to 2021.

Figure 7: Partially Supplied Communities – MWRA Supplied Demand (Daily and Annual)



About half of the increase was due to three communities: Cambridge, Wellesley and Burlington. Cambridge used 1,018 million gallons between September and November as its treatment plant was being upgraded to handle PFAS contamination. Wellesley relied more heavily on MWRA as it worked to add temporary PFAS treatment for some of its wells, as did Burlington. Burlington will continue to draw more water from MWRA as MWRA and the town strengthen the pipe network supplying them.

## Reservoir Withdrawals and Releases

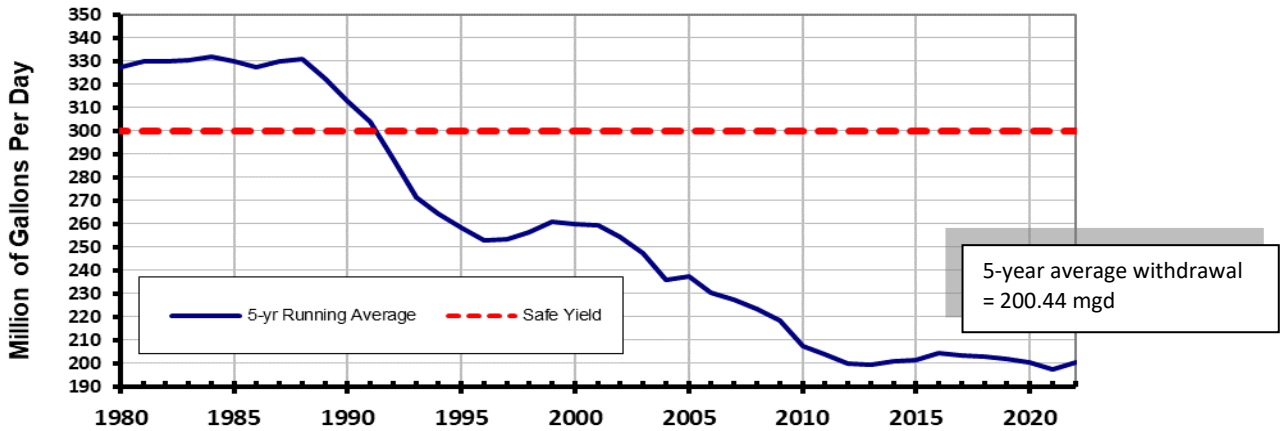
Reservoir withdrawals are the metric used to compare to the 300 mgd safe yield of the watershed/reservoir system<sup>2</sup>. Withdrawals include water sold to MWRA communities, as well as other non-revenue generating uses in the watershed and MWRA system. Total MWRA water withdrawals increased by 8.8 percent in 2022, from 194.56 mgd in 2021 to 211.62 mgd.

The pipeline supplying the McLaughlin Fish Hatchery in Belchertown was in service for the entire year, with an average withdrawal of 6.19 mgd. Without that withdrawal, total reservoir withdrawals for community water supply in 2022 would have been 205.43 mgd. MWRA began serving the hatchery through the dedicated hydroelectric station and pipeline in December 2016.

Figure 8 on the next page shows five-year averages of withdrawals from 1980 to present. The five-year averaging reduces the effects of year-to-year variability due to weather, and provides a good indication of longer-term trends. The average shows a 1.6 percent increase from 2021, although the trend line is essentially flat for most of the past decade.

<sup>2</sup> The 300-mgd safe yield is based on the drought of the 1960s. Use of a less conservative 20-year recurrence drought, as allowed by DEP, would result in a safe yield as high as 350 mgd. MWRA's Water Management Act registration is for 312 mgd.

Figure 8: Total Reservoir Withdrawals – Five-Year Running Average 1980 to 2022



It is worth noting that since MWRA was created, MWRA has added demand from eight additional communities and the McLaughlin Fish Hatchery, as well as the added demand from the substantial growth in population and employment within the original service area. Without the added communities and hatchery demands, the five-year average demand would have been almost nine mgd lower at 191.4 mgd. This further demonstrates the substantial improvements in water use efficiency within the MWRA service area, which have improved system reliability and allowed MWRA to provide service to additional communities in need of that reliable supply.

### Reservoir Status

As staff briefed the Board last September, the whole of Massachusetts was impacted by a critical to severe drought during a large portion of 2022, and portions of the state were still in drought condition in January 2023. In spite of the drought, demands were well below Safe Yield and Quabbin Reservoir levels were well within normal range throughout the year. Figure 9 on the next page shows a comparison of Quabbin volume levels between 2021 and 2022. During 2022, reservoir levels displayed the expected seasonal variability. The green line on the figure shows the seasonal monthly benchmarks for the operating band under MWRA’s approved drought plan<sup>3</sup>. Levels above the line are considered normal and below the line are considered below normal. Further operating bands for varying degrees of drought status are significantly lower still.

<sup>3</sup> In January 2023, MassDEP issued final changes to the Water Management Act (WMA) regulations. The changes affect water systems with only WMA registrations – those communities which are still using less water now than they did in the early 1980s when the WMA “registered” existing water use, setting that as the allowable withdrawal limit for the system. The changes create new requirements for registered systems when the state declares a drought in their region of the Commonwealth. As a system with large multi-year storage reservoirs, MWRA qualifies for the use of a system specific drought plan, rather than the generic limits placed on all other systems. This will require that MWRA update and submit its drought plan for acceptance by MassDEP by April of 2025. Staff have begun to work on the update.



Figure 9: Quabbin Reservoir Volumes and Drought Status for 2021 to present

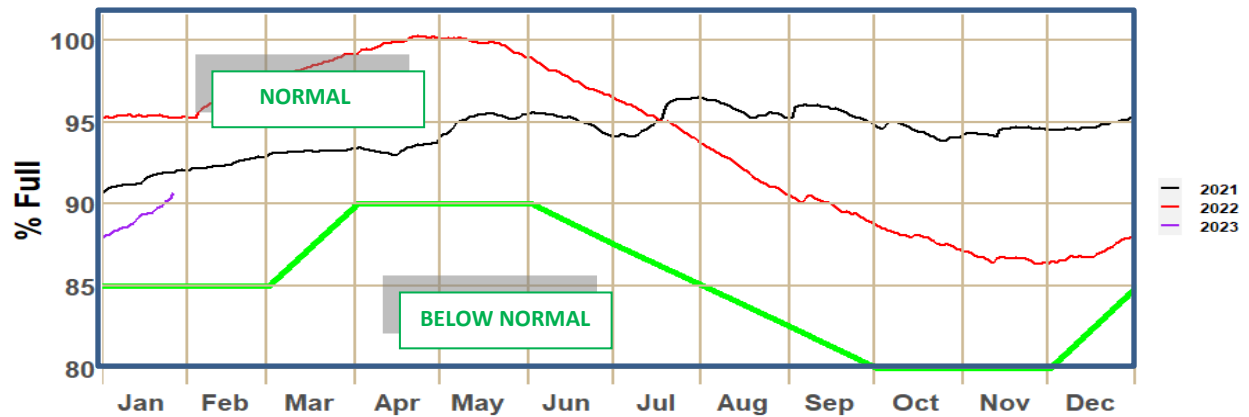
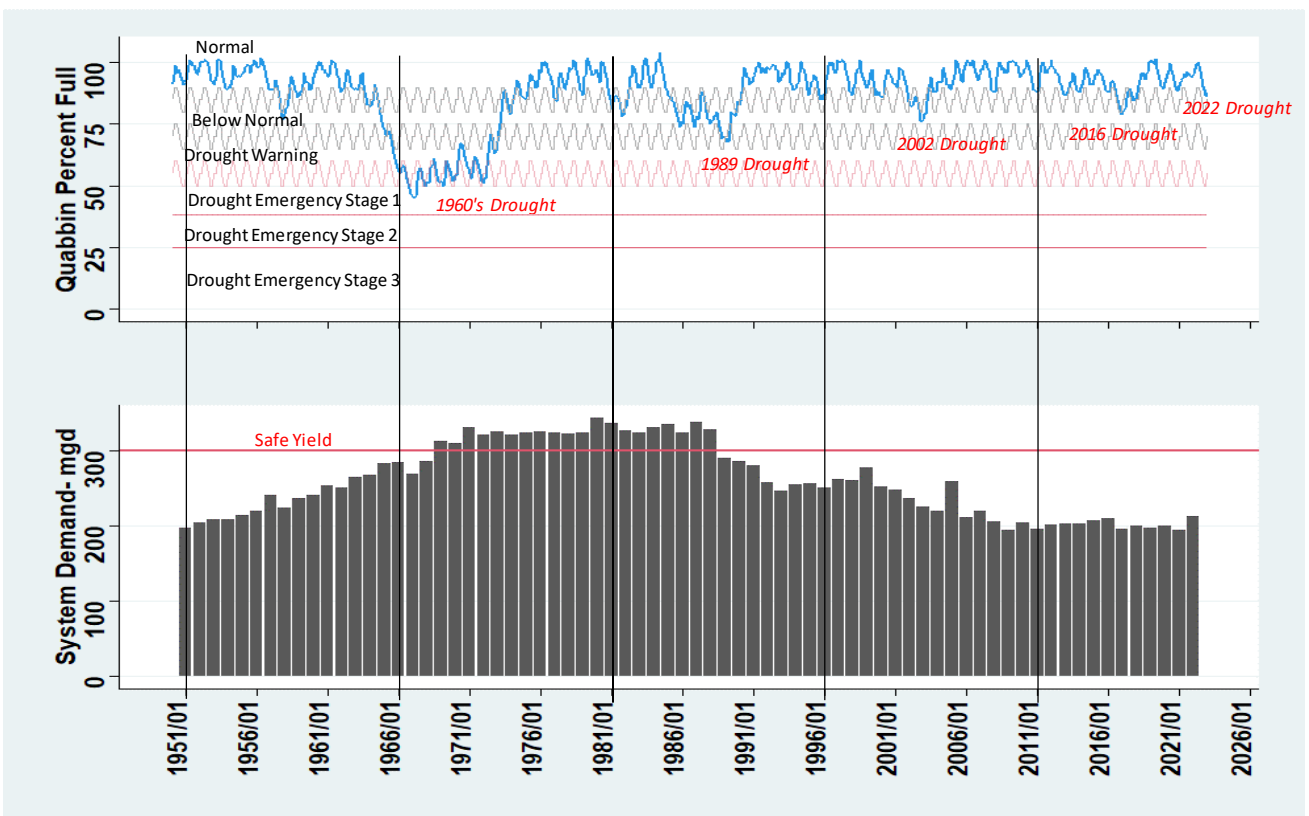


Figure 10 below further shows the relationship between the historical droughts, reservoir volume and annual demand.

Figure 10: Quabbin Storage, Annual System Demand & Drought Stage from 1950 to 2022



The Quabbin Reservoir spilled 14.1 billion gallons to the Swift River in 2022, beginning on February 12 and spilling for 141 days. In order to meet metro Boston water demand and to maintain water quality, 55 billion gallons of the higher quality Quabbin water was transferred to the Wachusett Reservoir during 2022. The transfer was equivalent to about 85 percent of Wachusett’s volume and about 83 percent of the water used by MWRA’s customers in the metro Boston system. To maintain Wachusett Reservoir in its normal narrow operating band, MWRA released 17.9 billion gallons to the Nashua River through controlled releases.

**CONCLUSION:**

The reduced demand has improved system reliability and allowed MWRA to provide service to additional communities in need of that reliable supply. Despite dry conditions for a substantial portion of the year and increased demands due to communities using MWRA water as they responded to PFAS issues with their local sources in 2022, and despite the addition of hundreds of thousands of new residents and jobs to our service area over the past three decades, MWRA's sources continued to perform well in 2022. The system stayed in the normal operating range during the entire year, both the Swift and Nashua rivers received substantial releases from the reservoirs, well above their minimum requirements, and the water quality delivered to our customers was excellent. The system is well situated to provide a reliable supply of safe water to our customers, economic vitality to the region, and to be an option for communities struggling with water quality or source reliability issues.

**ATTACHMENT:**

Community Water Use Data

**Massachusetts Water Resources Authority**  
**MWRA Water Supplied**  
**Reporting Period: December 2022**

ALL DATA SUBJECT TO CHANGE OR ADJUSTMENT PENDING ADDITIONAL MWRA AND COMMUNITY REVIEW

	Monthly (MG)			YTD (MG)			YTD System Share			Prior Year-End Totals	
	Dec		Flow Change	YTD		Flow Change	Flow Share <sup>1</sup>		% Change in YTD Flow Share	Annual Flow (mg)	Flow Share <sup>1</sup>
	2022	2021		2022	2021		2022	2021			
<b>Metro-System (Fully Served)</b>											
Arlington	85.7	95.5	-10.2%	1,261.8	1,220.4	3.4%	1.90%	1.96%	-2.6%	1,220.4	1.96%
Belmont	46.8	46.1	1.5%	723.5	677.3	6.8%	1.09%	1.09%	0.6%	677.3	1.09%
Boston (BWSC)	1,737.5	1,716.2	1.2%	22,362.8	21,475.3	4.1%	33.76%	34.41%	-1.9%	21,475.3	34.41%
Brookline	122.7	124.2	-1.2%	1,881.9	1,732.6	8.6%	2.84%	2.78%	2.3%	1,732.6	2.78%
Chelsea	93.3	94.3	-1.0%	1,205.0	1,179.9	2.1%	1.82%	1.89%	-3.8%	1,179.9	1.89%
Everett	105.6	109.2	-3.3%	1,362.2	1,387.8	-1.8%	2.06%	2.22%	-7.5%	1,387.8	2.22%
Frammingham	148.5	156.7	-5.2%	2,100.3	2,059.4	2.0%	3.17%	3.30%	-3.9%	2,059.4	3.30%
Lexington <sup>2</sup>	113.0	113.0	0.0%	1,947.2	1,835.2	6.1%	2.94%	2.94%	-0.0%	1,835.2	2.94%
Lymfield W.D.	9.6	11.8	-18.3%	208.5	187.0	11.5%	0.31%	0.30%	5.0%	187.0	0.30%
Malden	149.0	157.8	-5.6%	1,888.3	1,892.4	-0.2%	2.85%	3.03%	-6.0%	1,892.4	3.03%
Marblehead	37.6	40.1	-6.2%	690.0	635.5	8.6%	1.04%	1.02%	2.3%	635.5	1.02%
Medford	136.0	131.2	3.7%	1,724.7	1,656.5	4.1%	2.60%	2.65%	-1.9%	1,656.5	2.65%
Melrose	54.0	56.6	-4.5%	776.2	756.2	2.6%	1.17%	1.21%	-3.3%	756.2	1.21%
Milton	54.5	62.2	-12.4%	920.7	869.2	5.9%	1.39%	1.39%	-0.2%	869.2	1.39%
Nahant	7.3	8.5	-14.3%	130.6	125.0	4.5%	0.20%	0.20%	-1.5%	125.0	0.20%
Newton	211.1	215.4	-2.0%	3,212.7	3,059.0	5.0%	4.85%	4.90%	-1.1%	3,059.0	4.90%
Norwood	71.0	71.7	-0.9%	1,024.4	972.9	5.3%	1.55%	1.56%	-0.8%	972.9	1.56%
Quincy	229.8	240.5	-4.5%	3,095.5	2,994.0	3.4%	4.67%	4.80%	-2.6%	2,994.0	4.80%
Reading	40.2	41.2	-2.4%	623.1	606.7	2.7%	0.94%	0.97%	-3.2%	606.7	0.97%
Revere	110.1	111.9	-1.6%	1,413.5	1,371.8	3.0%	2.13%	2.20%	-2.9%	1,371.8	2.20%
Saugus	79.9	84.5	-5.4%	1,200.8	1,084.9	10.7%	1.81%	1.74%	4.3%	1,084.9	1.74%
Somerville	169.2	160.9	5.1%	2,091.7	2,046.6	2.2%	3.16%	3.28%	-3.7%	2,046.6	3.28%
Southborough	22.5	20.4	10.6%	374.5	322.1	16.3%	0.57%	0.52%	9.5%	322.1	0.52%
Stoneham	53.3	48.9	9.1%	797.5	710.7	12.2%	1.20%	1.14%	5.7%	710.7	1.14%
Swampscott	34.7	43.0	-19.4%	575.4	551.6	4.3%	0.87%	0.88%	-1.7%	551.6	0.88%
Waltham	189.2	178.5	6.0%	2,644.6	2,386.3	10.8%	3.99%	3.82%	4.4%	2,386.3	3.82%
Watertown	69.8	66.7	4.7%	926.5	896.1	3.4%	1.40%	1.44%	-2.6%	896.1	1.44%
Weston	22.4	29.7	-24.5%	632.2	530.7	19.1%	0.95%	0.85%	12.2%	530.7	0.85%
Winthrop	32.2	32.5	-0.8%	411.2	414.5	-0.8%	0.62%	0.66%	-6.5%	414.5	0.66%
<b>Subtotal Metro-System (Fully Served)</b>	<b>4,236.6</b>	<b>4,269.2</b>	<b>-0.8%</b>	<b>58,207.4</b>	<b>55,637.4</b>	<b>4.6%</b>	<b>87.9%</b>	<b>89.2%</b>	<b>-1.4%</b>	<b>55,637.4</b>	<b>89.16%</b>
<b>Metro-System (Partially Served)</b>											
Ashland (P)	-	-	0.0%	-	-	0.0%	0.00%	0.00%	0.0%	-	0.0%
Burlington (P)	34.2	32.9	3.8%	367.7	270.8	35.8%	0.56%	0.43%	27.9%	270.8	0.4%
Canton (P)	53.5	14.2	275.2%	549.0	436.9	25.6%	0.83%	0.70%	18.4%	436.9	0.7%
Dedham-Westwood W.D. (P)	0.1	13.4	-100%	147.9	55.3	167%	0.22%	0.09%	151.8%	55.3	0.1%
Leominster (P)	-	-	0.0%	-	-	0.0%	0.00%	0.00%	0.0%	-	0.0%
Lynn (LWSC) (P)	3.9	3.4	14.7%	32.6	40.6	-19.6%	0.05%	0.07%	-24.3%	40.6	0.1%
Marlborough (P)	115.4	114.0	1.2%	1,573.6	1,454.8	8.2%	2.38%	2.33%	1.9%	1,454.8	2.3%
Needham (P)	8.56	-	100%	416.02	316.4	31.5%	0.63%	0.51%	23.9%	316.4	0.5%
Northborough (P)	25.6	24.4	4.9%	325.5	326.0	-0.2%	0.49%	0.52%	-5.9%	326.0	0.5%
Peabody (P)	71.1	54.7	29.8%	871.4	817.1	6.6%	1.32%	1.31%	0.5%	817.1	1.3%
Stoughton (P)	1.4	1.5	-2.5%	22.8	25.7	-11.1%	0.03%	0.04%	-16.2%	25.7	0.0%
Wakefield (P)	51.2	48.0	6.6%	735.8	565.5	30.1%	1.11%	0.91%	22.6%	565.5	0.9%
Wellesley (P)	38.2	52.7	-27.4%	928.4	718.5	29.2%	1.40%	1.15%	21.7%	718.5	1.2%
Wilmington (P)	5.2	2.5	108.8%	252.5	154.8	63.1%	0.38%	0.25%	53.7%	154.8	0.2%
Winchester (P)	28.4	16.9	67.6%	519.6	420.0	23.7%	0.78%	0.67%	16.5%	420.0	0.7%
Woburn (P)	59.3	49.5	19.6%	1,289.9	1,163.7	10.8%	1.95%	1.86%	4.4%	1,163.7	1.9%
<b>Subtotal Metro-System (Partially Served)</b>	<b>495.8</b>	<b>428.2</b>	<b>15.8%</b>	<b>8,032.8</b>	<b>6,766.2</b>	<b>18.7%</b>	<b>0.12127</b>	<b>10.8%</b>	<b>11.8%</b>	<b>6,766.2</b>	<b>10.8%</b>
<b>Subtotal Metro-System (Full &amp; Partial)</b>	<b>4,732.4</b>	<b>4,697.4</b>	<b>0.7%</b>	<b>66,240.2</b>	<b>62,403.6</b>	<b>6.1%</b>	<b>100%</b>	<b>100%</b>		<b>62,403.6</b>	<b>100%</b>
<b>Chicopee Valley Aqueduct</b>											
Chicopee	133.3	124.6	7.0%	1,970.8	1,811.7	8.8%	70.31%	69.75%	0.80%	1,811.7	69.8%
South Hadley FD #1	24.5	25.3	-3.1%	391.3	383.5	2.0%	13.96%	14.77%	-5.47%	383.5	14.8%
Wilbraham	25.0	24.6	1.7%	440.9	402.1	9.7%	15.73%	15.48%	1.61%	402.1	15.5%
<b>Subtotal CVA System</b>	<b>182.7</b>	<b>174.4</b>	<b>4.8%</b>	<b>2,803.0</b>	<b>2,597.3</b>	<b>7.9%</b>	<b>100%</b>	<b>100%</b>		<b>2,597.3</b>	<b>100%</b>
<b>Other Revenue Supply</b>											
Cambridge (P)	-	-	0%	1,017.6	0.05	2133844%				0.048	
Clinton <sup>3</sup>	47.2	32.0	47.8%	487.1	449.5	8.4%				449.5	
Worcester (P)	-	-	0.0%	-	-	0.0%				0.0	
Other Revenue Customers <sup>4</sup>	44.5	39.0	14.2%	514.8	483.5	6.5%				483.5	
<b>Subtotal Other Revenue Supply<sup>5</sup></b>	<b>91.7</b>	<b>70.9</b>	<b>29.3%</b>	<b>2,019.5</b>	<b>933.0</b>	<b>116.5%</b>				<b>933.0</b>	
<b>Total Water Supplied</b>											
Fully Supplied Metro Communities	4,236.6	4,269.2	-0.8%	58,207.4	55,637.4	4.6%				55,637	
CVA Communities	182.7	174.4	4.8%	2,803.0	2,597.3	7.9%				2,597	
Partially Supplied Communities	495.8	428.2	15.8%	8,032.8	6,766.2	18.7%				6,766	
Other Revenue Customers	91.7	70.9	29.3%	2,019.5	933.0	116.5%				933.0	
<b>Total Water Supplied<sup>6</sup></b>	<b>5,006.9</b>	<b>4,942.7</b>	<b>1.3%</b>	<b>71,062.7</b>	<b>65,933.9</b>	<b>7.8%</b>				<b>65,933.9</b>	

1) System share for each rate revenue community is the community's share of total MWRA water use for all rate revenue communities. System share for each Chicopee Aqueduct Valley (CVA) community is each CVA community's share of total MWRA water supplied to the CVA system. Water assessments for revenue communities are calculated by allocating the total annual water rate revenue requirement based on each community's share of flow. Water assessments for CVA communities are calculated by allocating the annual CVA rate revenue requirement based on each CVA community's share of CVA flow.

2) Lexington supplies Bedford with partial MWRA water service.

3) The Town of Clinton receives up to 800 million gallons of water per year free of charge and is charged a flat wholesale rate per million gallons for water in excess of 800 million gallons per year.

4) Other Revenue Customers: D.C.R. (Parks & Pools), DCR Blue Hills Ski Area, Stone Zoo, and the Deer Island WWTP.

5) Other Revenue Customers are charged a flat wholesale rate per million gallons of water supplied.

6) This report includes only water supplied for which revenue is collected in accordance with existing water agreements. It does not include water utilized for system maintenance, or water provided to the McLaughlin Fish Hatchery.

(P) Community is partially supplied by MWRA. Marlborough & Northborough are temporarily being fully supplied.

Questions regarding water supplied can be directed to Tim Beaulieu @ (617) 660-7680 or Leo Norton @ (617) 788-2256.

## STAFF SUMMARY

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** March 15, 2023  
**SUBJECT:** Watershed Forestry Review




---

**COMMITTEE:** Water Policy & Oversight

X  INFORMATION  
  VOTE

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



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

---

### RECOMMENDATION:

For information only. Questions have arisen about the current forestry program at the Quabbin, Wachusett and Ware River watersheds, and whether its continuation is important to preservation of water quality, in light of calls for a moratorium on harvest operations on Commonwealth lands.

### DISCUSSION:

For many decades the Department of Conservation and Recreation (DCR) and its predecessor agencies have maintained an active forestry management program within the lands owned for watershed protection around MWRA's source waters. DCR staff have provided briefing materials on the watershed forestry program to Executive Office of Energy and Environment staff. This staff summary represents MWRA's review of those programs as essential parts of MWRA's watershed and source water quality protection.

The watershed forestry program is not a production harvest program, rather it is designed and operated for the specific purpose of maintaining a resilient forest to protect MWRA's source water quality. MWRA is one of the few water systems nationwide with water sources that consistently deliver high enough quality water and are sufficiently well protected naturally such that EPA and MassDEP regulations allow MWRA to only provide disinfection of the water. This avoids the use of chemically enhanced filtration with its energy intensive processes.

The watershed forestry program is designed to promote long-term protection of water quality and forest resilience to disease or natural disaster. When the Quabbin Reservoir was constructed in the 1930s, the vast majority of the watershed was in open fields, with the pre-existing forest having been cleared for farm use or damaged in the 1938 hurricane. Thus, almost all of the current forested lands are of a relatively uniform age, with large stands of single species. The goal of the program is to slowly, over many decades, move the forest toward a multi-species, uneven-aged forest that is less likely to be damaged by invasive species or a natural disaster such as a hurricane, thereby reducing the risk to water quality.

MWRA relies on the protective attributes of the forest as a critical component of its watershed protection efforts, and is judged annually by state and federal regulators on the ability of its

protection efforts to reliably ensure high quality source water. The on-going land acquisition programs at each watershed have added to the overall protected forest, avoiding loss of forest cover for development or private lands commercial forestry, and allowing some fields cleared for other purposes to return to forest.

DCR's forestry program is well documented in its most recent (2017) Land Management Plan which is updated periodically with an opportunity during that process for public input<sup>1</sup>. The entire watershed forestry program was the subject of an intensive independent scientific review in 2012 by the Science and Technical Advisory Council (STAC<sup>2</sup>) with extensive public comment opportunities.

The STAC report,<sup>3</sup> published in 2012, clearly laid out the scientific basis for active management of the watershed forest as prudent and required to ensure water quality. The report concluded that deferring or eliminating the forestry management programs exposes the water system to decades of increased risk from catastrophic disturbance from a hurricane or other natural disaster. Such risk only increased with the effects of climate change, resulting in unacceptable water quality, failure to meet drinking water quality standards, and the cost and energy and greenhouse gas expenses of building and operating a more intensive water treatment plant. Upon completion of the STAC report, DCR produced a companion report,<sup>4</sup> demonstrating how it was implementing each of the STAC report's recommendations, and then incorporated those actions into the current Land Management Plan.

The detailed inventory of current conditions within the Land Management Plan, based on decades of intensive surveys, indicates that a large majority of forested acreage at all the watersheds can be dated to late 19th century farm abandonment, to the hurricane of 1938, or to plantations created just after the original land takings at each watershed. The current forestry program aims to regenerate approximately one percent of the manageable forest on each watershed annually, for deliberate and steady progress at a rate within the range of long-term natural disturbance patterns. The plan also places sections of the watershed protection forest in reserves or otherwise protected categories to remain unmanaged. All together, these areas with restricted management total as much as 20-25% of Division of Water Supply Protection (DWSP) holdings.

The regeneration activities are carefully designed and implemented, on small appropriately located parcels within the watershed. While DCR had been criticized in the past for some larger multi-acre cuts, their current practice calls for typical average openings of around one acre, which retain trees within their interior for both habitat and seed sources. These are not large scale clear cutting of

---

1 **Land Management Plan**, Division of Water Supply Protection, Department of Conservation and Recreation, 2017 [www.mass.gov/doc/2017-dcr-division-of-water-supply-protection-2017-land-management-plan/download](http://www.mass.gov/doc/2017-dcr-division-of-water-supply-protection-2017-land-management-plan/download)

2 The STAC was originally chartered in the 1990s by DCR as the Quabbin Science and Technical Advisory Committee, and was later tasked in 2010 to assist in overseeing forestry programs by the Secretary of EEA. It includes forest, wildlife, and natural resource researchers and managers from several University of Massachusetts Amherst departments, Harvard Forest, the USDA Forest Service, Mount Holyoke College, Amherst College, the Institute of Ecosystem Studies, US Geological Survey, Massachusetts Audubon Society, the New England Small Farms Institute, the MA Natural Heritage and Endangered Species Program, Hampshire College, and several state agencies.

3 **Review of the Massachusetts DWSP Watershed Forestry Program**, DWSP Science and Technical Advisory Committee, November 2012, [www.mass.gov/files/documents/2017/10/02/review-of-mass-dwsp-watershed-forestry-program.pdf](http://www.mass.gov/files/documents/2017/10/02/review-of-mass-dwsp-watershed-forestry-program.pdf)

4 **From Here Forward: Changes to the Department Of Conservation & Recreation, Division of Water Supply Protection's Watershed Forest Management Program**, Department of Conservation and Recreation August 2013, [www.mass.gov/files/documents/2017/10/02/changes.pdf](http://www.mass.gov/files/documents/2017/10/02/changes.pdf)

commercial harvest operations. DCR’s standards for forestry cutting practices are substantially stricter than typical commercial scale operations. Individual trees to be removed are marked, access paths and loading zones are delineated, and intensive ecological and erosion control measures are mandated. Regeneration of site and soil-appropriate species is rapid. The photos below show a half acre cut on Prescott Peninsula over a 12 year period.



The DCR Land Management Plan echoes a question answered by a number of scientific studies from around the world: Is there a “best” forest for watershed protection?

“A protection forest has been defined by the Society of American Foresters as ‘an area, wholly or partly covered with trees, managed primarily to regulate stream flow, maintain water quality, minimize erosion, stabilize drifting sand, conserve ecosystems, or provide other benefits via protection’ (SAF, 2008). Given the full suite of potential disturbances likely to influence DWSP watershed forests, a prudent and conservative approach to maintaining water quality is to deliberately create and maintain a protection forest that is both resistant and resilient in the face of a range of such disturbances. A forest that is diverse in age structure limits the impacts of age-specific disturbances” (DCR Land Management Plan, 2017).

An appropriate protective forestry program:

- creates and maintains a watershed protection forest, resistant to and resilient from disturbance;
- monitors, maintains, and enhances overall forest health;
- encourages diversity of native species, while favoring those that are long-lived and adapted to site conditions;
- creates and maintains diversity of forest structure; and
- maintains the ability of the forest to establish abundant, diverse regeneration.

DCR’s watershed forestry program is responsive to each of these criteria.

These conclusions and recommendations are well supported in the scientific literature. The Water Research Foundation and EPA conducted an extensive review of the implications of the type of catastrophic vegetative change that could occur from a hurricane or wildfire, and concluded that species and age class diversity increased resilience, reduced risk, and promoted recovery after

damaging events.<sup>5</sup> The report indicated that active forestry management practices that promote diversity can be effective both in reducing risk and in managing the effects of any disturbance after an event.

Scientists and natural resource policy experts at the Environment and Natural Resources Program at the Kennedy School of Government at Harvard reached similar conclusions about the need for regeneration within the Quabbin watershed forest in their 1984 report<sup>6</sup>. They recommended a gradual addition to forest reserves as portions of the forest were restructured to near-natural conditions by active management.

The watershed managers for New York City, the largest of the unfiltered water supply systems in the United States, in their forest management plan focused on the long-term water quality benefits of optimization of forest cover resiliency. Their 2011 plan indicates that “the benefits of forest cover are maximized when forests are managed to promote long-term continuity of forest cover. Management to enhance the likelihood of continuous forest cover involves promoting vigorous tree growth and diversity in all aspects of forest composition, e.g., species, forest structure, natural community type, and development stage, to maximize resilience to disturbance. The most effective way to establish and maintain diversity and vigorous tree growth in the Northeast is through active forest management.<sup>7</sup>” Maintaining a healthy, resilient diverse forest is considered an attribute of their overall watershed protection program and one of the keys to maintaining NYC’s filtration avoidance determination, avoiding the potential for a required \$10 billion filtration plant, according to a recent review of New York City’s programs by the National Academy of Science<sup>8</sup>.

The DCR forestry practices affect only a very small portion of the hundreds of square miles of watershed forest each year. Timber removed from the forest is used for a variety of purposes, ranging from lumber for construction or furniture making, pulp for paper production, or firewood depending on the species and quality of each tree. The regeneration activity unleashed by opening forest floor to sunlight sparks rapid growth of new trees, well suited to the particular soil and slope conditions. These practices are far removed in purpose and effect from the industrial forestry practices in use in other states where there is wholesale removal of all timber for the production, for example, of wood pellets for export.

The forestry program and overall forest management approach contained within DCR’s 2017 Land Management Plan satisfies MWRA’s interest in assuring that DCR’s forest management programs are building a resilient forest and protecting reservoir water quality in both the short term and the longer term. Those programs are an integral part of the overall watershed protection efforts necessary to continue to allow MWRA to maintain its filtration avoidance determination from MassDEP and the US EPA, avoiding the potential for a capital expense of hundreds of millions of

---

<sup>5</sup> *Utility Guidance for Mitigating Catastrophic Vegetative Change in Watersheds*, Water Research Foundation and EPA, 2009. [www.waterrf.org/research/projects/utility-guidance-mitigating-catastrophic-vegetation-change-watersheds](http://www.waterrf.org/research/projects/utility-guidance-mitigating-catastrophic-vegetation-change-watersheds)

<sup>6</sup> *Managing the Greenwealth: The Forests of Quabbin*, Charles H.W. Foster and David R. Foster, Center for Science and International Affairs, Kennedy School of Government, October 1984. [harvardforest1.fas.harvard.edu/sites/harvardforest.fas.harvard.edu/files/publications/pdfs/Foster\\_Greenwealth\\_1994.pdf](http://harvardforest1.fas.harvard.edu/sites/harvardforest.fas.harvard.edu/files/publications/pdfs/Foster_Greenwealth_1994.pdf)

<sup>7</sup> *New York City Watershed Forest Management Plan*, NYC Department of Environmental Protection, November 2011. [www.nyc.gov/assets/dep/downloads/pdf/watershed-protection/opportunities-on-city-lands/dep\\_forest\\_management\\_plan\\_2011.pdf](http://www.nyc.gov/assets/dep/downloads/pdf/watershed-protection/opportunities-on-city-lands/dep_forest_management_plan_2011.pdf)

<sup>8</sup> *Review of the New York City Watershed Protection Program*, National Academy of Science, 2020. [www.nationalacademies.org/our-work/review-of-the-new-york-city-watershed-protection-program](http://www.nationalacademies.org/our-work/review-of-the-new-york-city-watershed-protection-program)


dollars, and substantial increased use of energy, production of greenhouse gasses and associated rate increases.

**BUDGET/FISCAL IMPACTS:**

The watershed forestry program is not designed to produce net positive revenue for DCR, as it is a critical part of ensuring resilience and long-term watershed protection. Annual revenue from the foresters bidding on specific wood lots offsets in part the costs of forestry and natural resource staff who oversee the program. The DCR fiscal year 2023 budget assumes gross revenue of \$450,000.



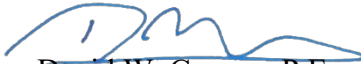
**STAFF SUMMARY**

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director   
**DATE:** March 15, 2023  
**SUBJECT:** Update on Invasive Aquatic Plants Management at MWRA Source and Emergency Reservoirs

**COMMITTEE:** Water Policy & Oversight

INFORMATION  
 VOTE

Valerie Moran, P.E., Director, Waterworks  
John J. Gregoire, Program Manager, Reservoir Operations  
 Preparer/Title

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

**RECOMMENDATION:**

For information only.

**DISCUSSION:**

MWRA’s control of aquatic invasive plants started at the Wachusett Reservoir in 2002. Since then, MWRA has diligently monitored source and emergency reservoirs for aquatic invasive plant species, and modified removal and treatment efforts as conditions have changed. The program goal is to identify new infestations and respond quickly with control measures to prevent spread. Staff have documented successful responses in locations where the repeated removal of invasive plants has led to the return of native plants. While staff report successes in a number of areas, continued diligence and program investment are required to prevent future aquatic invasive plant expansions. The current program focus and target plants are at the following reservoirs:

Location (west to east)	Target Plants (Figure 1)
Quabbin Reservoir	No current aquatic invasive plants in main body of reservoir
Wachusett Reservoir	Variable Milfoil, Eurasian Milfoil, Fanwort
Ware River at Shaft 8	Variable Milfoil
Sudbury Reservoir	Fanwort, Water Chestnut
Foss Reservoir	Eurasian Milfoil, Water Chestnut
Weston Reservoir	Eurasian Milfoil
Chestnut Hill Reservoir	Eurasian Milfoil

Table 1. Aquatic Plant Control areas

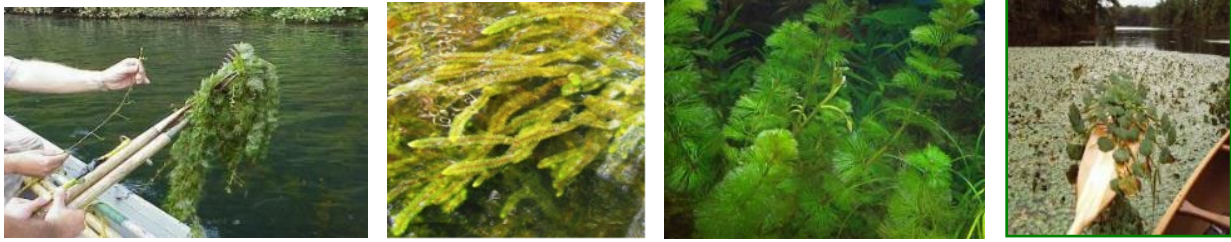


Figure 1. Left to Right: Eurasian Milfoil, Variable Milfoil, Fanwort, Water Chestnut

Pioneering aquatic invasive plants can quickly outcompete native species, grow to nuisance levels, and ultimately choke off water bodies, resulting in water quality problems. Plant die-off and decay consumes oxygen and loads the reservoir with organic matter. This creates a disinfectant demand and increased treatment cost. Added nutrients from this decay can also promote algal growth with the potential for associated toxins and additional water quality concerns. Lastly, aquatic invasive plants can clog intake screens and be an aesthetic nuisance.

The invasive plants Eurasian Milfoil, Fanwort and Variable Milfoil are the focus of most of MWRA's control efforts. These plants spread naturally by roots, seeds and fragmentation, as well as by people, boats, and wildlife. Wildlife is the most challenging vector to control, particularly wading birds, which can transport fragments and seeds from other water bodies to reservoirs.

Aquatic invasive plants respond to subtle changes in environmental conditions. Nutrient inputs, mild or cold winters, wet or dry seasons, duration of reservoir ice cover or lack of ice cover, and reservoir elevations can all have a seasonal impact on the growth of invasive plants. Some years have seen marked reductions in invasive plants through harvest and other control operations. In contrast, other years have seen a rebound of invasive plants in several areas.

Detailed annual surveys are performed at all reservoirs starting from the Quabbin Reservoir in the west and through the metropolitan emergency reservoirs in the east. Each season's findings are compared to the previous season for monitoring of shifts in plant community and as an early warning of the arrival of new aquatic invasive plants. Enhanced surveillance has now become the norm to scout for any new or changing conditions, and staff have built-in contingency efforts to respond rapidly to new infestations.

Control measures include Diver Assisted Suction Harvesting (DASH), hand removal by divers and by boat, mechanical harvesting, and winter drawdowns at two locations (Foss Reservoir and Chestnut Hill Reservoir) to expose and freeze the plants deep into their root systems.

Staff expect that invasive aquatic management at MWRA reservoirs will be a necessary and continuous annual activity to protect water quality for the foreseeable future with levels of effort adjusted to changing conditions.



Figure 1. DASH boat and operations

Quabbin Reservoir:

In 2009, the highly invasive Zebra Mussel was discovered in Laurel Lake, just 50 miles west of Quabbin. Due to this proximal threat, MWRA led the way to establish protocols on boats entering the reservoir. After an initial moratorium, a boat decontamination, inspection and quarantine program was established. This program remains in place to prevent all aquatic invasives from entering Quabbin by hitchhiking on boats and trailers.

Each year, consultant aquatic biologists perform a detailed survey of the Quabbin Reservoir littoral zone (areas of light penetration and potential for plant growth). A prior pioneering colony of the invasive plant *Brittle Naiad* was discovered in 2014. In accordance with established procedures, this was immediately reported to staff, which triggered a rapid contractor response to remove the infestation. This plant has not returned. In 2017, the invasive *Swollen Bladderwort* was discovered in a small concentration, reported and immediately removed. It has not returned.

As of the recent 2022 seasonal survey, the Quabbin Reservoir is free of aquatic invasive plants in the main body of the reservoir. Variable Milfoil is present in two remote upstream areas at Pottapaug Pond and O’Laughlin Pond, both impounded by regulating dams (Fig. 2). In this most recent survey, this plant was found to have decreased in coverage from the prior 2021 survey, and was found in fewer locations compared to the initial 2010 survey. MWRA deploys floating fragment barriers at both locations to prevent migration downstream. In 2022, new fragment barriers were deployed.

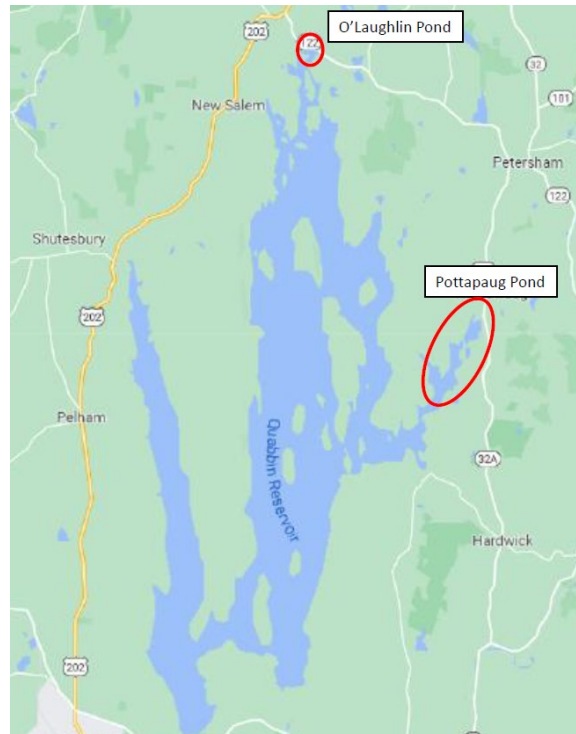


Figure 2. Remote ponds at Quabbin Reservoir

## Wachusett Reservoir:

Wachusett Reservoir continues to require the most effort for aquatic plant control and continued diligence due to the large area of shallow water, particularly in the northern basin near Cosgrove Intake (red and yellow areas on the map). The goal is to prevent aquatic invasive plants from colonizing these areas. As of the 2022 season, nearly all of the main reservoir coves were found to have had minimal aquatic invasive plants present, which were removed.

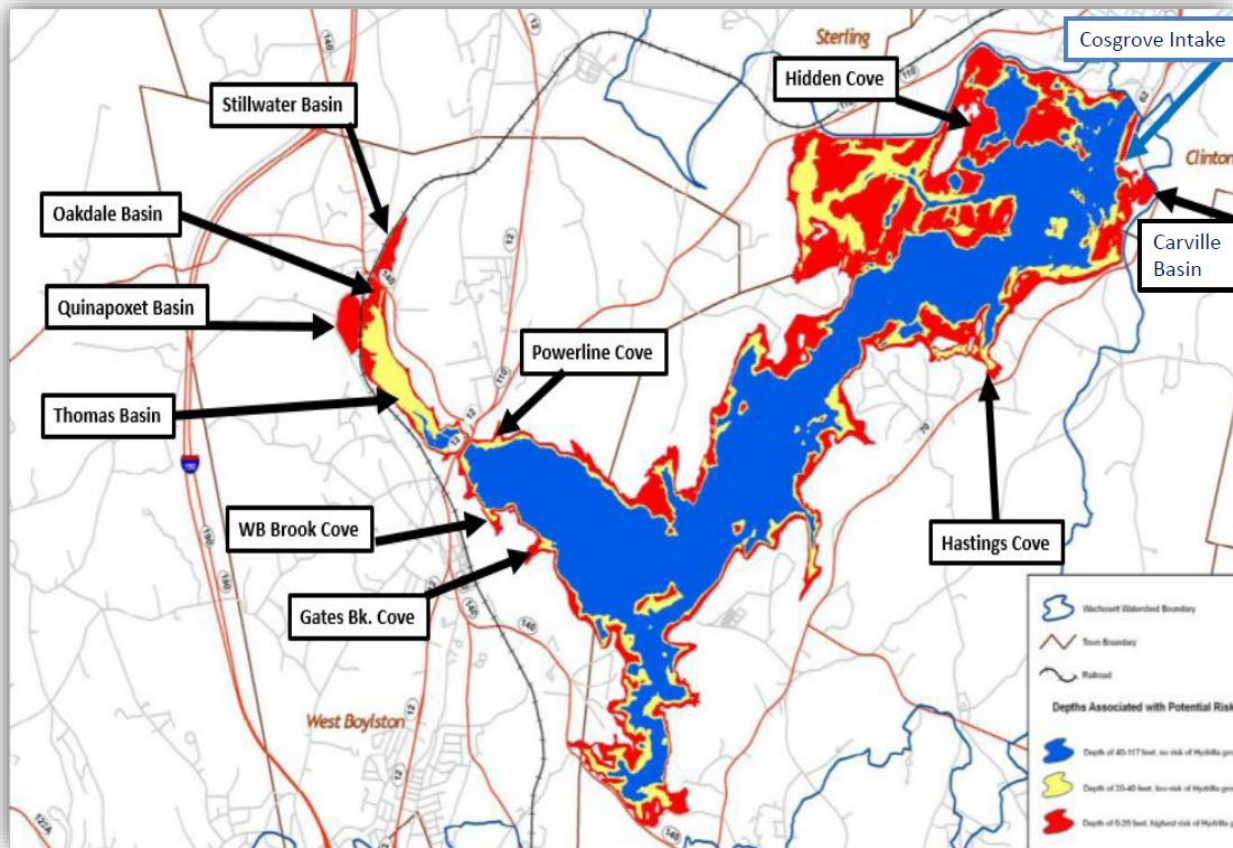


Figure 3. Wachusett DASH Areas

In 2013, control methods here switched from diver hand pulling of aquatic invasive plants to DASH. This occurred first at Stillwater Basin, a densely weed-choked area at the northern end of the reservoir, and subsequently at all reservoir locations. This method has proven to be very effective at removing the plants and their roots. Post-DASH Quality Control video surveys have shown a remarkable return of native plants to these cleared areas.

Figure 4 below shows the continued reduction of plant removal from Stillwater Basin (left side of chart) in gallons of plant matter removed through 2019. One measure of program success is that the plant harvest volume has decreased due to physical removal, but also smaller stems at regrowth since MWRA started the program. Consequently, MWRA now measures plant removal as stem counts, as opposed to gallons.

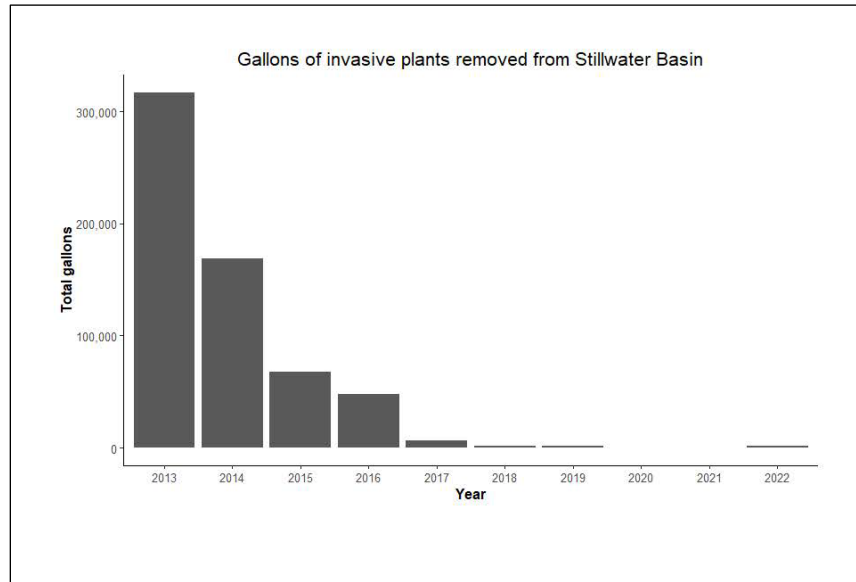


Figure 4. Stillwater Basin Aquatic Invasive Plants Removal (Gallons) 2013-2022.

The Wachusett main reservoir coves and most of the basin system appear to be under control with annual maintenance-level removal and survey passes. Because changing climate can effect plant growth on any given year, staff continue to carry contingency hours in the maintenance contracts.

In 2018, DASH control measures were undertaken in the Quinapoxet Basin targeting a dense Variable Leaf Milfoil population. Full-scale basin wide removal efforts commenced in 2020. This effort has reduced the amount of Variable Milfoil in this basin. As Figure 5 shows, after two heavy removal years, the DASH removal volume decreased as did the number of necessary diver hours.

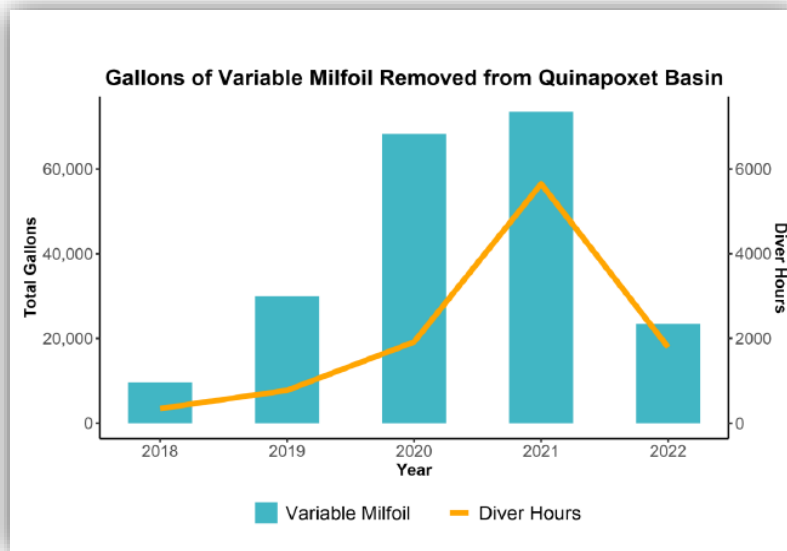


Figure 5. Quinapoxet Basin Variable Milfoil Removal (Gallons) 2018-2022

Emergency Reservoirs:

Different programs are deployed at the emergency reservoirs to control aquatic invasive plants.

Location (west to east)	Control Technique (target plant)
Ware River at Shaft 8	Manual removal (Variable Milfoil) from basin at drawdown
Sudbury Reservoir	DASH (Variable Milfoil) and manual removal (Water Chestnut)
Foss Reservoir	Winter drawdown (Eurasian Milfoil), manual removal (Water Chestnut)
Weston Reservoir	DASH (Eurasian Milfoil)
Chestnut Hill Reservoir	Mechanical harvest and winter drawdown (Eurasian Milfoil)


Table 2. Invasive Plants Removal at Emergency Reservoirs

The next annual survey and emergency reservoirs monitoring contract will commence on July 1, 2023. A key directive in the survey contract is that if any new or expanded aquatic invasive plants are discovered, they must be immediately reported for MWRA response to deploy resources.

**BUDGET/FISCAL IMPACT:**

The FY24 proposed CEB includes \$806,000 for Reservoir Operations invasive plants control program, which includes a comprehensive plant survey of all reservoirs and emergency reservoir water quality monitoring, aquatic invasives control operations, and quality assurance diver inspections for the DASH projects.

## STAFF SUMMARY


**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director   
**DATE:** March 15, 2023  
**SUBJECT:** Local Water System Assistance Program Annual Update

---

**COMMITTEE:** Water Policy & Oversight

X  INFORMATION  
    VOTE

Claudia F. Baptista, Project Manager  
David A. Granados, Project Manager  
Jon F. Szarek, P.E., Senior Program Manager, Planning  
Preparer/Title

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

---

### RECOMMENDATION:

For information only.

### DISCUSSION:

MWRA's goal in providing financial assistance to member communities is to improve local water systems in maintaining high water quality as it passes from MWRA facilities through local pipelines to customers' taps. Older water mains, particularly those constructed of unlined cast-iron pipe, need to be replaced or cleaned and lined to prevent tuberculation (rust build-up), loss of disinfectant residual, and potential bacteria growth. Replacement of lead service lines improves water quality by reducing the risk that lead can leach into the water consumed in customers' homes.



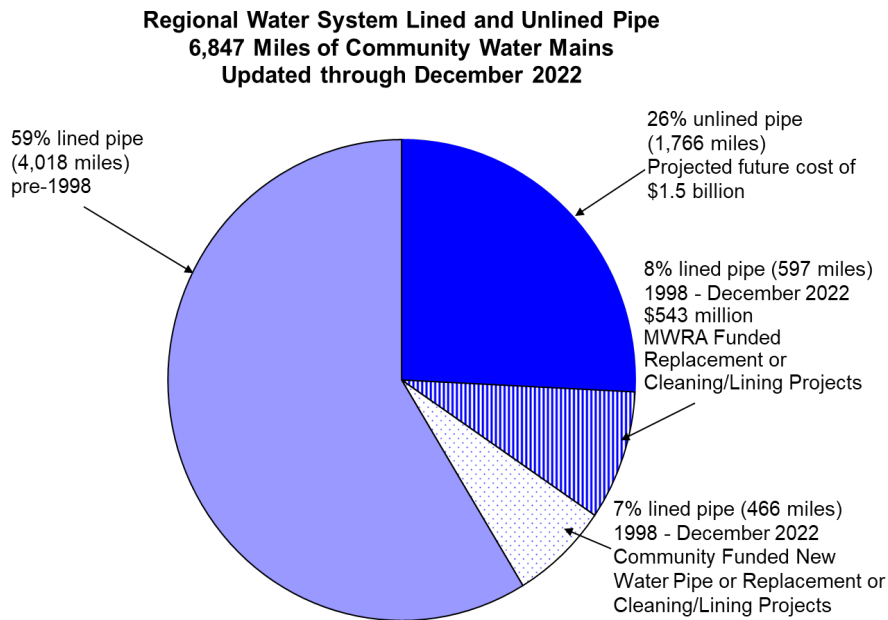
*Unlined Cast Iron*

*Tuberculated Pipe*

*Cement Lined Pipe*

Prior to 1998, 4,018 miles (59%) of the 6,847-mile regional distribution system consisted of lined water pipe. Since 1998, MWRA's community financial assistance programs (including the \$30 million pilot program in 1998/99) have invested \$543 million in local water distribution systems and resulted in the replacement or cleaning and lining of 597 miles of water mains. Additional community-only funded rehabilitation or new pipeline projects have added 466 miles of lined water mains. Approximately 1,766 miles (26%) of locally-owned distribution systems remain unlined, representing a regional need of about \$1.5 billion for future water main rehabilitation.

Attachment 1 provides individual statistics for the total miles of lined and unlined water main in each member communities' water system.



### Water Loan Funds Distribution Update

Under the Local Water System Assistance Program (LWSAP), the Board has authorized a total of \$725 million for community water loans from FY01 through FY30. Loan funds are allocated to member water communities based on a combination of their percent share of unlined pipe and wholesale water charge. MWRA's partially supplied communities receive pro-rated shares based on their percentage use of MWRA water<sup>1</sup>. Through December 2022, \$513 million<sup>2</sup> in ten-year interest-free loans have been distributed to member communities to finance 510 projects that will help maintain high water quality in local distribution systems. Of the 510 total projects, 440 have been completed and 70 are in construction. Community loans are repaid to MWRA over a ten-year period. All scheduled community loan repayments have been made, a total of \$356.6 million to date. Forty-three of the 47 eligible member water communities<sup>3</sup> have participated in the Program. Four communities' water loans (Brookline, Chicopee, Reading and Wakefield), totaling \$9.54 million, are expected to be distributed during the February/March 2023 LWSAP distribution cycle.

The photos below are typical examples of local water system rehabilitation construction work funded through the MWRA LWSAP.

<sup>1</sup> In December 2020, Ashland and Burlington received LWSAP loan allocations when they were approved as partially supplied member communities.

<sup>2</sup> Does not include MWRA's \$30 million pilot distribution rehabilitation program (FY98-99).

<sup>3</sup> MWRA has a total of 52 water communities (with Dedham/Westwood Water District counted as one). Under MWRA's Local Water System Assistance Program, 47 communities are allocated loan funds. The five ineligible water communities have special case considerations: Cambridge receives water on an emergency-only basis; Lynn receives water only for the GE Plant; and Clinton, Leominster, and Worcester (also on an emergency-only basis) receive untreated water from the Wachusett Reservoir. The three Chicopee Valley Aqueduct (CVA) communities (Chicopee, South Hadley FD#1, and Wilbraham) are allocated funds under Phases 2 and 3 of the Loan Program.





*Water Main Replacement  
Construction*



*Old Unlined Cast Iron  
Water Main Pipe*



*Rehabilitated Water  
Storage Tank*

The Phase 1 - Local Pipeline Assistance Program (LPAP) began in FY01 and was completed at the end of FY13. It provided \$222.3 million in ten-year interest-free loans to finance 257 water main replacement, cleaning and lining, and lead service line replacements projects.

The Phase 2 - LWSAP was established in FY11. The Phase 2 expansion of the water loan program added \$210 million in interest-free loans for member water communities [including a \$10 million allocation for the three Chicopee Valley Aqueduct (CVA) communities: Chicopee, South Hadley FD#1 and Wilbraham]. In April 2022, after reviewing community program participation, the MWRA Advisory Board's Operations Committee voted to approve an extension of the LWSAP Phase 2 sunset date from the end of FY23 to the end of FY25. Through December 2022, \$193.6 million in Phase 2 funds have been distributed and \$16.4 million remain to be distributed. Thirty-five communities have received their entire current Phase 2 funding allocation (see Attachment 2 - Allocation and Fund Utilization by Community). As part of the upcoming February/March 2023 funding distribution cycle, two additional communities (Brookline and Chicopee) will reach their Phase 2 allocation funding limit.

The Phase 3 LWSAP was established in FY18. The Phase 3 expansion of the water loan program added \$293.3 million in interest-free loans (including a \$14 million allocation for the three CVA communities). Phase 3 funding distributions are approved through FY30. Through December 2022, \$96.7 million in Phase 3 funds have been distributed and \$196.6 million remain to be distributed. Thirty-five communities have used all of their allocated Phase 2 funds and five communities have used all of their allocated to date Phase 3 funds (see Attachment 2 - Allocation and Fund Utilization by Community). Through December 2022, Program Phases 2 and 3 have financed 253 projects.

The majority of financial assistance loans (93%) under Program Phases 2 and 3 have funded replacement/rehabilitation of unlined water mains, lead service line replacements, water tank rehabilitation, and other water quality projects. In addition, some communities have financed system efficiency (Tier 2) projects such as water meter replacements, automated meter reading systems, and booster pump station rehabilitation.

## Lead Service Line Replacement Loan Program Update

In March 2016, the Board approved an enhancement to the LWSAP to provide up to an additional \$100 million in 10-year interest-free loans to communities solely for efforts to fully replace lead service lines from the main all the way to the house. Under MWRA's Lead Service Line Replacement Loan Program, each community can develop its own program tailored to its local circumstances. Some communities are implementing a phased approach, with multiple loans financing lead service replacements over a number of construction seasons. Lead line inventories are also eligible for financing under the Lead Loan Program. To date, MWRA has distributed \$34 million in Lead Loans (36 separate distributions) to fourteen communities to replace 3,498 lead service lines or goosenecks and perform two lead line inventories:



Lead Service Line Replacement

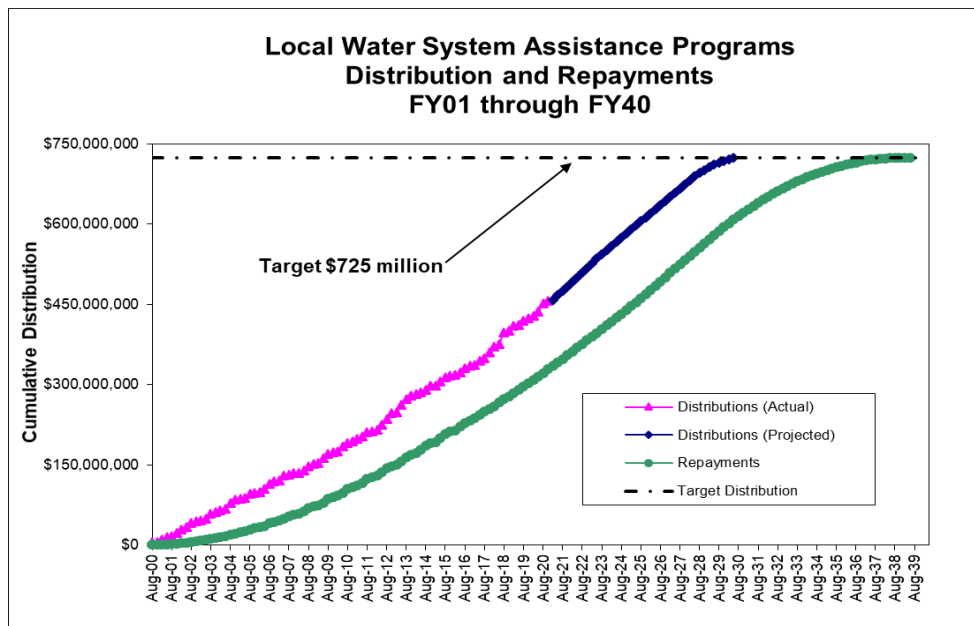
- Quincy: \$1.5 million in FY17
- Winchester: \$500,000 in FY17, \$500,000 in FY18, \$600,000 in FY20, \$600,000 in FY21 and \$600,000 in FY23 (\$2.8 million total)
- Newton: \$4.0 million in FY17
- Marlborough: \$1.0 million in FY18, \$1.0 million in FY19, \$1.0 million in FY20 and \$2.0 million in FY21 (\$5.0 million total)
- Revere: \$195,000 in FY18 and \$1.3 million in FY22 (\$1.5 million total)
- Winthrop: \$284,000 in FY18, \$487,850 in FY19, \$690,000 in FY20, \$750,000 in FY21, \$750,000 in FY22 (\$2.96 million total)
- Needham: \$1.0 million in FY18
- Everett: \$1.0 million in FY19, \$1.0 million, \$500,000 in FY20, \$1.5 million in FY21 and \$1.5 million in FY22 (\$5.5 million total)
- Chelsea: \$100,000 in FY19, \$300,000 in FY20, \$300,000 in FY21 and \$300,000 in FY22 (\$1.0 million total)
- Somerville: \$900,000 in FY20 and \$1.6 million in FY22 (\$2.5 million total)
- Weston: \$160,000 in FY20
- Watertown: \$600,000 in FY21 and \$300,000 in FY23 (\$0.9 million total)
- Boston Water & Sewer Commission: \$2.6 million in FY21 and \$900,000 in FY23 (\$3.5 million total)
- Reading: \$1.5 million in FY23.

Most communities have elected to fully fund replacement of the portion of the service line on private property, while others have a variety of incentive programs to encourage participation. Throughout the COVID-19 pandemic, community participation in the funding programs has remained strong. Staff have increased communication with member communities to gauge overall interest in program participation, and included discussions of the program in all training sessions on the Lead and Copper Rule Revisions. Staff have also revised and implemented new program funding application and financial assistance agreement execution parameters to facilitate the filing and reporting process for member communities.

**BUDGET/FISCAL IMPACTS:**

The FY23 CIP includes an overall net budget of zero dollars for both the LWSAP and the Lead Service Line Replacement Loan Program because community loans are offset by repayments over time. However, depending on the timing and level of community loan requests, annual loan distributions can fluctuate, sometimes causing overspending or underspending (versus budget projections) for any particular quarter or year. The LWSAP Guidelines restrict each community’s annual allocation to the larger of: (1) 10% of their total allocation; or (2) \$500,000. If not utilized in a given year, annual allocations roll over and accumulate up to the community’s total allocation. The annual allocation restrictions are intended to limit MWRA’s annual financial exposure.

The program budget target is \$725 million for water system rehabilitation loan distributions and repayments (not including the \$100 million for additional lead service line replacement loans). Through December 2022, \$513 million<sup>4</sup> in water project loans have been distributed. Community loan repayments total \$356.6 million. An additional \$33.8 million in lead service line project loans have also been distributed. Lead project loan repayments total \$7.8 million. As community loans are repaid, the funds are deposited into MWRA’s construction fund. The FY23 CEB budget includes \$6.2 million for the cost of loan interest as a separate line item under Debt Service. The graph below presents loan funding distributions (actual and projected) and corresponding repayments for the LWSAP (FY01 through FY40).



**MBE/WBE PARTICIPATION:**

MBE/WBE goals for community projects are outlined in the Program Guidelines.

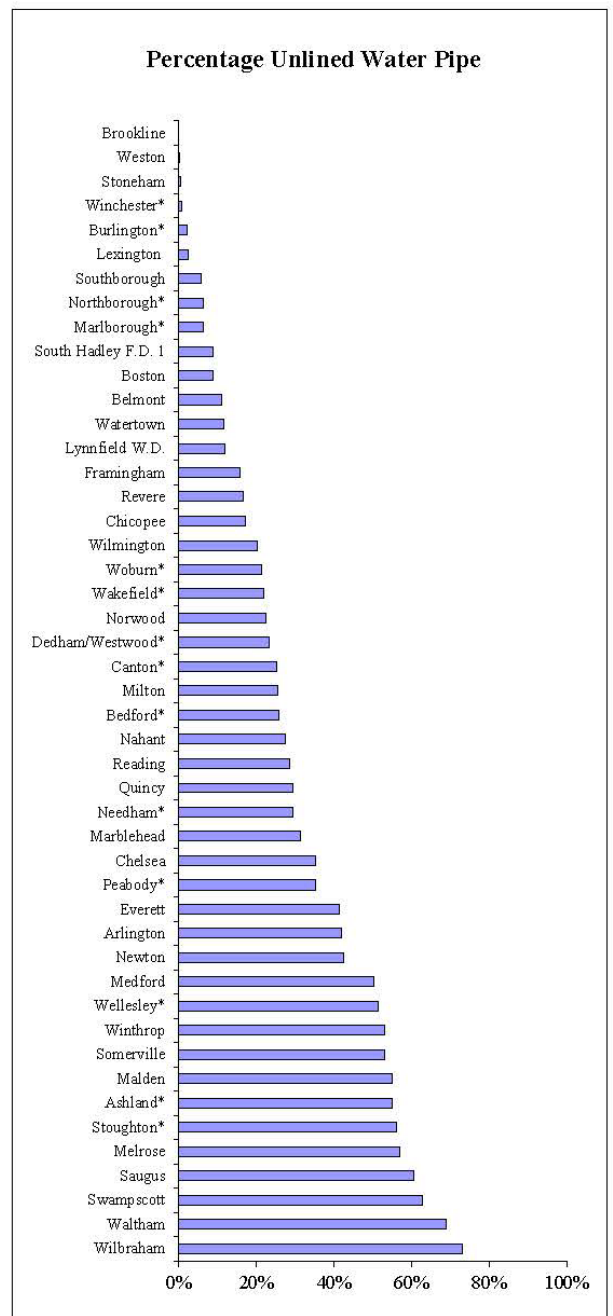
**ATTACHMENTS:**

- Attachment 1 - Lined and Unlined Pipe by Community (through December 2022)
- Attachment 2 - Phase 2 and 3 - Local Water System Assistance Program Allocation and Fund Utilization by Community

<sup>4</sup> Does not include MWRA’s \$30 million pilot distribution water rehabilitation program (FY98-99).

**MWRA LOCAL WATER SYSTEM ASSISTANCE PROGRAM  
 LINED AND UNLINED PIPE BY COMMUNITY  
 THROUGH DECEMBER 2022**

Community	Total Miles of Pipe	Miles of Lined Pipe	Miles of Unlined Pipe	Percent Unlined
<b>Arlington</b>	132	77	55	42%
<b>Ashland*</b>	80	36	44	55%
<b>Bedford*</b>	85	63	22	26%
<b>Belmont</b>	92	82	10	11%
<b>Boston</b>	1011	921	90	9%
<b>Brookline</b>	140	140	0	0%
<b>Burlington*</b>	135	132	3	2%
<b>Canton*</b>	128	96	32	25%
<b>Chelsea</b>	58	38	21	35%
<b>Chicopee</b>	269	223	46	17%
<b>Dedham/Westwood*</b>	203	156	47	23%
<b>Everett</b>	68	40	28	41%
<b>Framingham</b>	276	233	43	16%
<b>Lexington</b>	165	161	4	2%
<b>Lynnfield W.D.</b>	29	26	3	12%
<b>Malden</b>	121	54	67	55%
<b>Marblehead</b>	97	67	30	31%
<b>Marlborough*</b>	180	169	11	6%
<b>Medford</b>	144	72	72	50%
<b>Melrose</b>	82	35	47	57%
<b>Milton</b>	138	103	35	26%
<b>Nahant</b>	23	17	6	28%
<b>Needham*</b>	135	95	40	29%
<b>Newton</b>	319	184	135	42%
<b>Northborough*</b>	65	61	4	6%
<b>Norwood</b>	119	92	27	22%
<b>Peabody*</b>	208	135	73	35%
<b>Quincy</b>	240	170	70	29%
<b>Reading</b>	114	81	33	29%
<b>Revere</b>	107	90	18	16%
<b>Saugus</b>	125	49	76	61%
<b>Somerville</b>	125	59	66	53%
<b>South Hadley F.D. 1</b>	83	76	7	9%
<b>Southborough</b>	87	82	5	6%
<b>Stoneham</b>	80	80	0	1%
<b>Stoughton*</b>	151	66	85	56%
<b>Swampscott</b>	58	22	36	63%
<b>Wakefield*</b>	114	89	25	22%
<b>Waltham</b>	170	53	117	69%
<b>Watertown</b>	82	73	9	11%
<b>Wellesley*</b>	150	73	77	51%
<b>Weston</b>	111	111	0	0%
<b>Wilbraham</b>	74	20	54	73%
<b>Wilmington</b>	126	101	25	20%
<b>Winchester*</b>	112	111	1	1%
<b>Winthrop</b>	45	21	24	53%
<b>Woburn*</b>	190	150	40	21%
<b>TOTAL</b>	<b>6,847</b>	<b>5,081</b>	<b>1,766</b>	<b>26%</b>



\* Partially Served Communities

**MWRA LOCAL WATER SYSTEM ASSISTANCE PROGRAM  
ALLOCATION AND FUND UTILIZATION BY COMMUNITY  
THROUGH DECEMBER 2022**

Community	Community Total Phase 2 Allocation	Phase 2 Funds Distributed thru Dec 2022	Total Remaining Phase 2 Funds	Community Total Phase 3 Allocation	Community Phase 3 Annual Allocation	Phase 3 Allocation To Date (Year 6)	Phase 3 Funds Distributed thru Dec 2022	Phase 3 Funds Currently Available	Total Phase 2 and 3 Funds Available
Arlington	\$6,225,000	\$6,225,000	\$0	\$6,687,000	\$868,700	\$5,212,200	\$3,275,000	\$1,937,200	\$1,937,200
Ashland**	\$0	\$0	\$0	\$519,400	N/A	\$519,400	\$0	\$519,400	\$519,400
Bedford*	\$2,418,000	\$2,418,000	\$0	\$3,649,000	\$500,000	\$3,000,000	\$0	\$3,000,000	\$3,000,000
Belmont	\$3,477,000	\$3,477,000	\$0	\$3,852,000	\$500,000	\$3,000,000	\$3,000,000	\$0	\$0
Boston	\$38,754,000	\$38,754,000	\$0	\$52,787,000	\$5,278,700	\$31,672,200	\$20,880,364	\$10,791,836	\$10,791,836
Brookline	\$3,426,000	\$660,000	\$3,766,000	\$4,585,000	\$500,000	\$3,000,000	\$0	\$3,000,000	\$5,766,000
Burlington**	\$0	\$0	\$0	\$827,400	\$500,000	\$827,400	\$0	\$827,400	\$827,400
Canton*	\$3,216,000	\$3,216,000	\$0	\$2,971,000	\$500,000	\$2,971,000	\$2,500,000	\$471,000	\$471,000
Chelsea	\$3,814,000	\$3,814,000	\$0	\$5,039,000	\$503,900	\$3,023,400	\$2,511,700	\$511,700	\$511,700
Deedham/Westwood*	\$503,000	\$503,000	\$0	\$849,000	N/A	\$849,000	\$849,000	\$0	\$0
Everett	\$4,672,000	\$4,672,000	\$0	\$6,298,000	\$629,800	\$3,778,800	\$2,519,200	\$1,259,600	\$1,259,600
Framingham	\$7,357,000	\$7,357,000	\$0	\$9,003,000	\$900,300	\$5,401,800	\$2,700,900	\$2,700,900	\$2,700,900
Lexington	\$3,024,000	\$3,024,000	\$0	\$3,777,000	\$500,000	\$3,000,000	\$1,891,015	\$1,108,985	\$1,108,985
Lynnfield Water Dist.	\$1,396,000	\$1,396,000	\$0	\$1,678,000	N/A	\$1,678,000	\$1,530,800	\$147,200	\$147,200
Malden	\$7,272,000	\$7,272,000	\$0	\$10,605,000	\$1,060,500	\$6,363,000	\$4,921,800	\$1,441,200	\$1,441,200
Marblehead	\$4,237,000	\$4,237,000	\$0	\$5,112,000	\$511,200	\$3,067,200	\$1,022,400	\$2,044,800	\$2,044,800
Marlborough*	\$1,917,000	\$1,283,800	\$633,200	\$3,512,000	\$500,000	\$3,000,000	\$0	\$3,000,000	\$3,633,200
Medford	\$6,959,000	\$5,815,000	\$1,143,994	\$10,800,000	\$1,080,000	\$6,480,000	\$5,281,994	\$1,198,006	\$2,342,000
Melrose	\$3,988,000	\$3,988,000	\$0	\$6,865,000	\$686,500	\$4,119,000	\$3,431,000	\$688,000	\$688,000
Milton	\$4,123,000	\$4,123,000	\$0	\$5,967,000	\$596,700	\$3,580,200	\$641,000	\$2,939,200	\$2,939,200
Nahant	\$1,490,000	\$1,460,100	\$29,900	\$1,835,000	N/A	\$1,835,000	\$0	\$1,835,000	\$1,864,900
Needham*	\$794,000	\$794,000	\$0	\$1,894,000	N/A	\$1,894,000	\$337,265	\$1,556,735	\$1,556,735
Newton	\$13,602,000	\$13,602,000	\$0	\$20,837,000	\$2,083,700	\$12,502,200	\$2,083,700	\$10,418,500	\$10,418,500
Northborough*	\$1,048,000	\$986,053	\$61,947	\$1,450,000	N/A	\$1,450,000	\$0	\$1,450,000	\$1,511,947
Norwood	\$4,395,000	\$4,395,000	\$0	\$6,296,000	\$629,600	\$3,777,600	\$3,777,600	\$0	\$0
Peabody*	\$1,089,000	\$1,089,000	\$0	\$2,756,000	N/A	\$2,756,000	\$2,756,000	\$0	\$0
Quincy**	\$10,505,000	\$10,505,000	\$0	\$14,252,000	\$1,425,200	\$11,401,600	\$8,551,200	\$2,850,400	\$2,850,400
Reading	\$4,146,000	\$4,146,000	\$0	\$5,073,000	\$507,300	\$3,043,800	\$1,500,000	\$1,543,800	\$1,543,800
Revere	\$5,034,000	\$5,034,000	\$0	\$5,315,000	\$531,500	\$3,189,000	\$2,126,000	\$1,063,000	\$1,063,000
Saugus	\$6,621,000	\$6,621,000	\$0	\$9,688,000	\$968,800	\$5,812,800	\$621,994	\$5,190,806	\$5,190,806
Somerville	\$7,419,000	\$5,898,234	\$1,520,766	\$10,791,000	\$1,079,100	\$6,474,600	\$0	\$6,474,600	\$7,995,366
Southborough	\$1,512,000	\$0	\$1,512,000	\$1,920,000	\$500,000	\$2,742,000	\$242,000	\$1,920,000	\$3,432,000
Stoughton*	\$2,506,000	\$2,506,000	\$0	\$3,547,000	\$500,000	\$3,000,000	\$1,622,000	\$1,378,000	\$1,378,000
Swampscott	\$3,755,000	\$3,755,000	\$0	\$5,276,000	\$527,600	\$3,165,600	\$1,294,468	\$1,871,132	\$1,871,132
Wakefield*	\$2,325,000	\$2,325,000	\$0	\$3,566,000	\$500,000	\$3,000,000	\$1,000,000	\$2,000,000	\$2,000,000
Waltham	\$10,293,000	\$5,520,201	\$4,772,799	\$14,904,000	\$1,490,400	\$8,942,400	\$0	\$8,942,400	\$13,715,199
Watertown	\$2,978,000	\$2,978,000	\$0	\$3,745,000	\$500,000	\$3,000,000	\$2,683,000	\$317,000	\$317,000
Wellesley*	\$2,350,000	\$1,813,569	\$536,431	\$3,268,000	\$500,000	\$3,000,000	\$0	\$3,000,000	\$3,536,431
Weston	\$1,625,000	\$1,625,000	\$0	\$2,295,000	N/A	\$2,295,000	\$1,767,997	\$527,003	\$527,003
Wilmington*	\$611,000	\$611,000	\$0	\$1,306,000	N/A	\$1,306,000	\$0	\$1,306,000	\$1,306,000
Winchester*	\$882,000	\$775,000	\$107,000	\$1,394,000	N/A	\$1,394,000	\$0	\$1,394,000	\$1,501,000
Wimthorpe*	\$3,312,000	\$3,312,000	\$0	\$4,119,000	N/A	\$4,119,000	\$4,119,000	\$0	\$0
Woburn*	\$2,591,000	\$2,591,000	\$0	\$3,905,000	\$500,000	\$3,000,000	\$2,500,000	\$500,000	\$500,000
<b>SUBTOTAL</b>	<b>\$200,000,000</b>	<b>\$186,915,963</b>	<b>\$13,084,037</b>	<b>\$279,346,800</b>	<b>\$27,859,500</b>	<b>\$189,563,200</b>	<b>\$96,196,397</b>	<b>\$93,366,803</b>	<b>\$106,450,840</b>

Chicopee	\$7,153,000	\$5,183,400	\$1,969,600	\$9,774,000	\$977,400	\$5,864,400	\$0	\$5,864,400	\$7,834,000
South Hadley F.D. 1	\$1,538,000	\$1,538,000	\$0	\$2,026,000	N/A	\$2,026,000	\$500,000	\$1,526,000	\$1,526,000
Willbraham	\$1,309,000	\$0	\$1,309,000	\$2,200,000	N/A	\$2,200,000	\$0	\$2,200,000	\$3,509,000
<b>SUBTOTAL</b>	<b>\$10,000,000</b>	<b>\$6,721,400</b>	<b>\$3,278,600</b>	<b>\$14,000,000</b>	<b>\$977,400</b>	<b>\$10,090,400</b>	<b>\$500,000</b>	<b>\$9,590,400</b>	<b>\$12,869,000</b>
<b>TOTAL</b>	<b>\$210,000,000</b>	<b>\$193,637,363</b>	<b>\$16,362,637</b>	<b>\$293,346,800</b>	<b>\$28,836,900</b>	<b>\$199,653,600</b>	<b>\$96,696,397</b>	<b>\$102,957,203</b>	<b>\$119,319,840</b>

Phase 2 funds will sunset on FY25

\* Partially Served Communities

\*\* Ashland and Burlington: Partial Water Communities Beginning in FY21

\*\*\* Exempt per Board Approval

\*\*\*\* Per Board Approval, years 4, 9 and 10 allocations were distributed in June 2020

## STAFF SUMMARY

**TO:** Board of Director  
**FROM:** Frederick A Laskey, Executive Director  
**DATE:** March 15, 2023  
**SUBJECT:** PCR Amendments - March 2023




---

**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.

### March 2023 PCR Amendments

There are eight PCR Amendments this month.

#### Organizational Changes:

1. Salary adjustments to two filled Master Welder I (Unit 2, Grade 16) positions – one in the Operations Division, Pipe Maintenance - Water Department and one in the Operations Division, Metro Maintenance Department per union agreement for internal pay adjustment due to new recruitment rate.
2. Salary adjustments to four filled Sampling Associate (Unit 9, Grade 19) positions in the Operations Division, TRAC Department per union agreement for internal pay adjustment due to new recruitment rate.
3. New Toolmaker (Unit 3, Grade 16) position in the Operations Division, Western Maintenance Department to better meet staffing needs in Southborough.
4. Title and grade change to one vacant position in the Administration Division, MIS Department from .Net Developer/Programmer II (Unit 6, Grade 10) to .Net Developer/Programmer III (Unit 6, Grade 11) to better meet MIS staffing needs.

**BUDGET/FISCAL IMPACT:**

The annualized budget impact of these PCR amendments will be a maximum cost of \$123,734. Staff will ensure that the cost associated with these PCR amendments will not result in spending over the approved FY23 Wages and Salaries budget.

**ATTACHMENTS:**

Job Descriptions

**MASSACHUSETTS WATER RESOURCES AUTHORITY  
POSITION CONTROL REGISTER AMENDMENTS  
FISCAL YEAR 2023**

<b>PCR AMENDMENTS REQUIRING BOARD APPROVAL - March 15, 2023</b>																	
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		
B21	Operations Pipe Maint. Water 3383036	F	S	Master Welder I	2	16	Master Welder I	2	16	\$60,657	\$64,530	-	\$64,530	\$3,873	-	\$3,873	Per union agreement. Internal pay adjustment due to new recruitment rate.
B22	Operations Metro Maintenance 5470020	F	S	Master Welder I	2	16	Master Welder I	2	16	\$56,783	\$64,530	-	\$64,530	\$7,747	-	\$7,747	Per union agreement. Internal pay adjustment due to new recruitment rate.
B23	Operations TRAC 2210025	F	S	Sampling Associate	9	19	Sampling Associate	9	19	\$64,375	\$70,315	-	\$70,315	\$5,940	-	\$5,940	Per union agreement. Internal pay adjustment due to new recruitment rate.
B24	Operations TRAC 2210027	F	S	Sampling Associate	9	19	Sampling Associate	9	19	\$64,375	\$70,315	-	\$70,315	\$5,940	-	\$5,940	Per union agreement. Internal pay adjustment due to new recruitment rate.
B25	Operations TRAC 2210062	F	S	Sampling Associate	9	19	Sampling Associate	9	19	\$64,375	\$70,315	-	\$70,315	\$5,940	-	\$5,940	Per union agreement. Internal pay adjustment due to new recruitment rate.
B26	Operations TRAC 2210041	F	S	Sampling Associate	9	19	Sampling Associate	9	19	\$67,346	\$70,315	-	\$70,315	\$2,969	-	\$2,969	Per union agreement. Internal pay adjustment due to new recruitment rate.
B27	Operations Western Maintenance TBD	N/A	N/A	N/A	N/A	N/A	Toolmaker	3	16	\$0	\$56,783	-	\$80,928	\$56,783	-	\$80,928	New position to meet staffing needs in Southboro.
B28	Administration MIS 8610011	V	T, G	.Net Developer/Programmer II	6	10	.Net Developer/Programmer III	6	11	\$103,332	\$74,322	-	\$113,729	-\$29,010	-	\$10,397	To better meet staffing needs in MIS.
<b>BOARD TOTAL=</b>					<b>8</b>						<b>TOTAL:</b>		<b>\$60,182 - \$123,734</b>				



**MWRA  
POSITION DESCRIPTION**



**POSITION:** .Net Developer / Programmer II

**DIVISION:** Administration

**DEPARTMENT:** Management Information System (MIS)

**BASIC PURPOSE:**

This position is responsible for analyzing, designing, developing, testing, implementing and maintaining software applications. This includes Graphic User Interfaces, complex business logic and data access layer code, specifically for the analysis, development, and deployment of reports, dashboards, and queries from multiple complex data sources to provide analytical reporting solutions to the business community. This position is also responsible for post-implementation support including incident, performance, capacity, continuity, and problem management activities.

**SUPERVISION RECEIVED:**

Works under the general supervision of the Program Manager, Tech Services. On specific IT projects may be supervised by a team lead or project manager.

**SUPERVISION EXERCISED:**

None.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

**Application Development**

- Reviews application design prior to buy or build decision to ensure service levels can be met and recommends any performance enhancements prior to implementation.
- Codes, configures, implements, maintains and supports, new and upgrades to software applications (in-house and third party software) and interfaces to ensure processes and functionality of the applications comply with the organization's requirements, processes and standards.

- Develops and maintains technical documentation for applications as follows:
  - Design Model - Description of the system design. Comprised of a variety of work products, potentially including a deployment model, an object model, a physical data model (PDM), a security threat model, a system overview document, and a user interface model.
  - Source Code – The program code for the system.
  - Regression Test Suite - Collection of test cases, and the code to run them in the appropriate order. The regression test suite will include a wide range of tests, including acceptance tests, unit tests, system tests, etc.
  - Installation Scripts - Code for installing the system into pre- and post-production environments.
  - Release Notes - Summarize the things to know pertaining to the current release of the system.
  - Operations Procedure - Procedures and supporting information to operate the system once it is in production including continuity and disaster recovery procedures.
  - Support Reference- Used by support staff, such as trouble shooting guides, contact information for the development team, which enables them to support end users
  
- Develops a release package for all systems changes when transitioning to the production environments.

### **Post-Implementation Support**

- Supports the resolution of incidents and problems with software application functionality.
- Researches and corrects problems with the system applications code during production processing in an efficient and timely manner ensuring system recovery and integrity.
- Is available to execute and carry out IT Continuity and Disaster Recovery Plans.

### **Mentoring & Professionalism**

- Maintains professional interaction with the application development staff, user and extended IT community (i.e. project teams) to ensure adequate system functionality, promote team participation and encourage user confidence in the Application Development Staff's quality of service.
- Provides assistance to Systems Analysts/Programmer I personnel ensuring that all technical design work, coding and testing are done in a manner that meets or exceeds design and testing requirements and standards.

### **SECONDARY DUTIES:**

- Performs related duties as required.

### **MINIMUM QUALIFICATIONS:**

#### **Education and Experience:**

- (A) A Bachelor's degree in management science, engineering management, computer science or related field; and
- (B) Three (3) years to five (5) years experience supporting enterprise-wide applications with an N-tier architecture; or
- (C) Any equivalent combination of education or experience.

#### **Necessary Knowledge, Skills and Abilities:**

- (A) Knowledge of programming languages, troubleshooting techniques, database structures, triggers and procedures, application server platforms, middleware and operating systems.
- (B) Expertise in the following is highly desirable: MS, .Net, .Net Core 3.1, Javascript, J2EE, ORACLE, SQL Server, Stored Procedures, Tomcat, Eclipse IDE.
- (C) Ability to write complex SQL statements including multi-table joins, outer joins, pivot result sets, and hierarchical queries.
- (C) Analytical and interpersonal skills.
- (D) Written and oral communication skills.

### **SPECIAL REQUIREMENTS:**

- Information Technology Infrastructure Library (ITIL) Foundation Certification is required or the ability to obtain within 12 months.
- Formal training or certification in programming methodologies and System Development Life Cycle methodologies is required or ability to obtain within 12 months.

### **TOOLS AND EQUIPMENT USED:**

Office equipment as normally associated with the use of telephone, personal computers including word processing and other software, 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 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 walk and stand.

The employee must frequently lift and/or move up to 25 pounds and occasionally lift and/or move up to 50 pounds. Specific vision abilities required by this job include close vision and color vision, and the ability to adjust focus.

### **WORK ENVIRONMENT:**

The work 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 various field settings and in an office environment. The employee regularly works near moving mechanical parts, and is occasionally exposed to risk of vibration.

The noise level in the work environment is very loud in field settings, moderately loud at other work locations and moderately quiet at office settings.

**January 2021**

**MWRA  
POSITION DESCRIPTION**



**POSITION:** .NET Developer/Programmer III  
**PCR#:** 8610083  
**DIVISION:** Administration  
**DEPARTMENT:** Management Information Systems (MIS)

**BASIC PURPOSE:**

Serves as primary technical lead responsible for the design, development, implementation and support of software applications. This includes designing Web applications and services utilizing complex business logic and data access layer code for the deployment of custom application solutions to the business community.

**SUPERVISION RECEIVED:**

Works under the general supervision of the Program Manager, Technical Services. On specific IT projects may be supervised by a team lead or project manager.

**SUPERVISION EXERCISED:**

Exercises close supervision of assigned project staff and technical resources.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Performs senior-level programming and leads all technical efforts associated with development and support of the Custom Support developed systems.
- Manages assigned technical staff resources and combined user and MIS implementation task forces.
- Reviews application design prior to buy or build decision to ensure service levels can be met and recommends any performance enhancements prior to implementation.
- Codes, configures, implements, maintains, and supports new and upgraded software applications (in-house and third party software) and interfaces to ensure processes and

functionality of the applications comply with the organization's requirements, processes and standards.

- Effectively communicates complex architectural designs to both technical and non-technical audiences.
- Reviews and analyzes requirements and translates them into a documented technical design.
- Works closely with database administrators to provide efficient and effective delivery of information.
- Creates and optimizes SQL statements and stored procedures.
- Develops and maintains technical documentation for applications including architectural and design models, as well as system and process documents.
- Develops a release package for all systems changes when transitioning to the production environments.
- Troubleshoots problems in the production environment until resolved.
- Is available to execute and carry out IT Continuity and Disaster Recovery Plans.

**SECONDARY DUTIES:**

- Performs related duties as required.

**MINIMUM QUALIFICATIONS:**

Education and Experience:

- (A) A Bachelor's degree in computer science or related field; and
- (B) Four (4) to six (6) years of experience in programming and support on a varied application portfolio, including at least (2) years of project management experience; or
- (C) Any equivalent combination of education or experience.

**Necessary Knowledge, Skills, and Abilities:**

- (A) Strong understanding of the .NET framework including C#.NET, VB.NET, ASP.NET and ADO.NET.
- (B) Clear understanding of technologies like MVC, Web API, JavaScript, HTML5, XML, CSS3, LINQ, Entity Framework and AJAX.
- (C) Experience in database design, normalization and optimization.
- (D) Expertise at designing SQL queries, stored procedures, views, triggers and functions in MS SQL Server.
- (E) Strong written and oral communication skills.

**SPECIAL REQUIREMENTS:**

- A valid Massachusetts Class D Motor Vehicle Operators License.
- Information Technology Infrastructure Library (ITIL) Foundation Certification is required or the ability to obtain within 12 months.

**TOOLS AND EQUIPMENT USED:**

Office equipment as normally associated with the use of telephone, personal computers including word processing and other software, 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 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 walk; stand; climb or balance; stoop, kneel, crouch, or crawl; taste or smell.

The employee must frequently lift and/or move up to 25 pounds and occasionally lift and/or move up to 50 pounds. Specific vision abilities required by this job include close vision and color vision, and the ability to adjust focus.

**WORK ENVIRONMENT:**

The work 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 various field settings and in an office environment.

The noise level in the work environment is moderately quiet in office settings and moderately noisy in field settings.

**August 2022**



## STAFF SUMMARY

**TO:** Board of Directors  
**FROM:** Patterson Riley, Special Assistant, Affirmative Action & Compliance Unit  
**DATE:** March 15, 2023  
**SUBJECT:** Approval of the 2023 Affirmative Action Plan

---

**COMMITTEE:** Personnel & Compensation

         INFORMATION  
  X   VOTE

Patterson Riley, Special Assistant, AACU  
Preparer/Title

---

### RECOMMENDATION:

That the Board of Directors approve the Massachusetts Water Resources Authority's Affirmative Action Plan effective for a one-year period from January 1, 2023 through December 31, 2023.

### DISCUSSION:

The Affirmative Action Plan sets out the basic parameters of MWRA's commitment to Equal Opportunity in the areas of Employment (EEO) and Minority/Women Business Enterprise (M/WBE) participation in MWRA procurements and contracted services. The Plan has been prepared pursuant to Section 7(g) of the Authority's Enabling Act, which states:

"The Authority shall develop policies and plans for affirmative action in employment, procurement, and contracting in accordance with laws and consistent with general policies and plans for the Commonwealth."

MWRA updates its Affirmative Action Plan annually and provides information on the development, implementation and monitoring of the various plan elements in accordance with guidelines of the U.S. Department of Labor, Office of Federal Contract Compliance Programs (OFCCP). Since 2002, MWRA has utilized Affirmity, a nationally known computer software package to produce the required workforce staffing summary reports for each Affirmative Action Plan. Affirmative Action and Compliance Unit staff works with staff from the MIS and Human Resources Departments to convert personnel transaction data from the MWRA's Human Resources Information System and to validate the proposed workforce goals for CY2023.

The text of the plan is attached Attachment A. Copies of the full plan, including appendices are available by request. Attachment B, "MWRA Job Group Representation," shows the actual number of minority and female employees currently, along with the numbers of over-and under-utilized job groups. The underutilized job groups denote areas for AACU recruitment focus if positions become available. This report is included in the MWRA Orange Notebook, presented to the Board on a quarterly basis.

During the 2022 Affirmative Action Plan year, MWRA hired a total of 81 new employees, including 21 (26%) females and 18 (22%) minorities. There were 112 employees promoted during this period, including 35 (31%) females and 25 (22%) minorities. MWRA is in full compliance 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, 75 of these promotions reflect employee promotions where there has been a change in Job Group as described under “Availability Analysis.” Of this total, 17 (23%) females and 21 (19%) 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 37 transfers during the 2022 Affirmative Action Plan year and of these, 3 (8%) were minorities and 10 (27%) were females.

A total of 95 terminations occurred during CY 2022. Of the total number of terminations, 24 (25%) were females and 18 (19%) were minorities. Of the total number of terminations, 97% left voluntarily, 52% were employees who retired, and 42% were employees who resigned.

In comparison, during the 2021 Affirmative Action Program year, a total of 88 terminations occurred, including 15 (17%) females and 21 (24%) minorities. Of the total number of terminations, 20% were employees who resigned and 67% were employees who retired. A review of the total number of termination statistics for calendar years 2020, 2021 and 2022 is included in Table A below.

**Table A**

<b>Termination Statistics</b>	<b>Employee Count</b>	<b>Minority</b>		<b>Female</b>	
Total Terminations CY2020	35	9	26%	3	9%
Total Terminations CY2021	88	21	24%	15	17%
Total Terminations CY2022	95	18	19%	24	25%

The race/sex composition of the workforce did not change significantly during the 2022 Affirmative Action Plan year, particularly as compared to Plan years 2020 and 2021.

The current race/sex composition of the workforce for minorities of 23.9% greater than the overall 2022 MWRA workforce staffing goal of 21.3%; and the current sex composition of the workforce for females of 22.4% is greater than the overall 2022 workforce staffing goal of 19.3%.

A review of MWRA workforce staffing statistics for calendar years 2020, 2021, and 2022 is included in Table B below:

**Table B**

<b>Calendar Year</b>	<b>Minority</b>	<b>Female</b>
12/31/20	23.2%	23.5%
12/31/21	23.9%	23.1%
12/31/22	24.2%	22.5%

The 2023 Affirmative Action Plan documents include detailed workforce data for the reporting period December 1, 2021 through November 30, 2022. The data indicates that the number of underutilized job groups for females has increased. In calendar year 2021, there were 6 job groups underutilized by women and this number has increased to 8 job groups for 2022. In calendar year 2021, the data indicate that the number of underutilized job groups for minorities has decreased. In calendar year 2022, there were 5 job groups underutilized by minorities and this number has decreased to 4 job groups for 2022.

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.

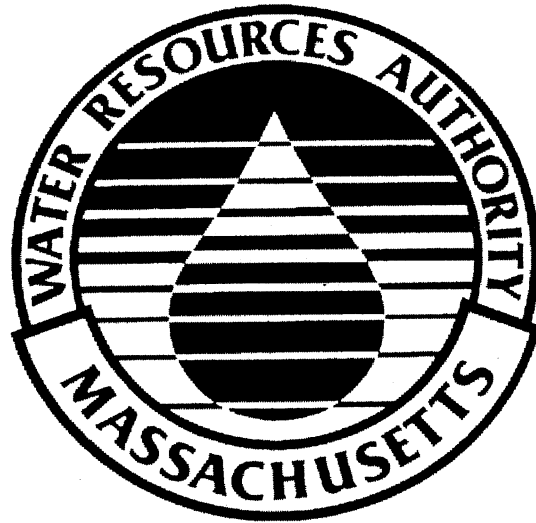
It is the policy of the MWRA to ensure the equitable participation of Minority Business Enterprises (MBEs) and Women Business Enterprises (WBEs) in the award of all contracts including contracts for construction, goods/non-professional services and professional services. As required by the Massachusetts 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.

The Plan also includes information on the MBE/WBE/DBE Procurement Program. The MWRA spent \$6.6 million and \$3.3 million, respectively, with minority-and women-owned businesses in the last fiscal year. These amounts were 82.6% and 58.3% of the respective MBE and WBE targets, which reflect the achievements of the last fiscal year.

**ATTACHMENT:**

Affirmative Action Plan

**MASSACHUSETTS WATER RESOURCES AUTHORITY**



**AFFIRMATIVE ACTION PROGRAM**

**JANUARY 1, 2023 - DECEMBER 31, 2023**

Frederick A. Laskey  
Executive Director

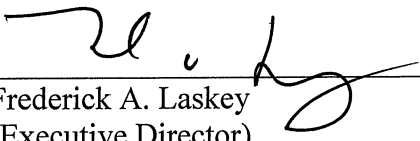
Patterson A. Riley  
Special Assistant  
Affirmative Action & Compliance Unit

Affirmative Action Program

Massachusetts Water Resources Authority  
Charlestown Navy Yard  
100 First Avenue  
Boston, Massachusetts 02129

AAP Completed by: Patterson A. Riley 1/18/2023 January 18, 2023  
Patterson A. Riley Date  
(Special Assistant for Affirmative Action)

Telephone Number: (617) 788-4070

Approved by:  January 18, 2023  
Frederick A. Laskey Date  
(Executive Director)

Inclusive Dates of the AAP: January 1, 2023 - December 31, 2023

**Massachusetts Water Resources Authority  
Affirmative Action Plan**

**Table of Contents**

<b>Section</b>		<b>Page</b>
	<b><u>Introduction</u></b>	1
I	Legal Sections	
	Description of Organization	2
II	<b><u>Policy Statement</u></b>	
	Executive Director's Statement	3
	Board of Directors' Statement	4
III	<b><u>Responsibility for Implementation</u></b>	5
IV	<b><u>Equal Employment Opportunity</u></b>	
	Dissemination of the Plan	7
	Internal	
	External	
	<b><u>Development and Execution of the Plan</u></b>	8
	Development: Workforce Analysis	
	Employment Activities 12/1 -11/30	9
	Availability Analysis	
	Action-Oriented Program	
	Identification of Areas for Special Attention/Goals	
	Execution: Recruitment and Advertising	12
	Training/Career Development	13
	Consideration of Minorities and Females not Currently in the Workforce	
	Support of Community Action Programs	14
	<b><u>Sex Discrimination Guidelines</u></b>	15
	<b><u>Religion and National Origin Discrimination Guidelines</u></b>	17
	<b><u>Affirmative Action Program For Individuals With Disabilities</u></b>	18
	<b><u>Affirmative Action Program for Protected Veterans</u></b>	21
	<b><u>Internal Audit and Reporting Systems</u></b>	23
	Internal Complaint Procedure	
V	<b><u>MBE/WBE/DBE Program</u></b>	26

## **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 Comparable Pay Act.

The AA Plan has been developed by the Affirmative Action and Compliance Unit (AACU) to cover the time period January 1, 2023 through December 31, 2023. 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, 2022, MWRA employed 1,061 people. The MWRA divides its workforce into 31 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 - Laboratory Services
Executive - Internal Audit	Operations - Planning
Executive - Public Affairs	Operations - Toxic Reduction & Control
Executive - Tunnel Redundancy Department	Operations - Engineering & Construction
Administration - MIS	Operations - Wastewater Operations
Administration - Facilities	Operations - Water Distribution & Pumping
Administration - Fleet Services	Operations - Water & Wastewater O&M
Administration - Human Resources	Operations - Water Treatment & Transmission
Administration - Procurement	Operations - Operation Support
Administration - Real Property & Environmental	
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 31 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, 2021 - November, 2022

From December 1, 2021 through November 30, 2022, there were a total of 81 new hires at the MWRA, including 21 (26%) females and 18 (22%) minorities. The current race/sex composition of the workforce for minorities of 23.9% is greater than the overall 2022 MWRA workforce staffing goal of 21.3%; and the current race/sex composition of the workforce for females of 22.4% is greater than the overall 2022 workforce staffing goal of 19.3%.

A total of 112 promotions, voluntary demotions and transfers occurred during this reporting period, including 35 (31%) females and 25 (22%) minorities. For Affirmative Action Plan reporting purposes 75 of these promotions reflect employee promotions where there has been a change in Job Group as described under "Availability Analysis." Of this total, 17 (23%) females and 21 (19%) minorities were promoted. In addition, to enhance upward mobility and avail all employees of a career track where one exists, there were 37 transfers and a voluntary demotion during the 2022 Affirmative Action Plan Year and of these 3 (8%) were females and 10 (27%) were minorities.

A total of 95 terminations occurred within the period, and of these, 24 (25%) were females and 18 (19%) were minorities. Of the total number of terminations, 97% left voluntarily, and of those, 52% were employees who retired and 42% 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 2023 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 confidential 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, Craft A, Craft B, Management B, Operator A, Para Professional, and Technical 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	3	11.41	22.81	4.55	18.18	1	
JOB GROUP CLERICAL B	# Opportunities	% Availability		% Workforce		Goal	
		Minority	Female	Minority	Female	Minority	Female
Total	6	24.18	50.11	29.17	12.50	2	4
JOB GROUP CRAFT A	# Opportunities	% Availability		% Workforce		Goal	
		Minority	Female	Minority	Female	Minority	Female
Total	9	15.99	5.98	13.76	0.00	1	1
JOB GROUP CRAFT B	# Opportunities	% Availability		% Workforce		Goal	
		Minority	Female	Minority	Female	Minority	Female
Total	7	18.65	3.49	17.89	0.81	1	1
JOB GROUP MANAGEMENT B	# Opportunities	% Availability		% Workforce		Goal	
		Minority	Female	Minority	Female	Minority	Female
Total	5	15.96	23.77	30.00	16.67	1	1
JOB GROUP OPERATOR A	# Opportunities	% Availability		% Workforce		Goal	
		Minority	Female	Minority	Female	Minority	Female
Total	4	20.69	16.40	25.61	10.62	2	1
JOB GROUP PARA PROFESSIONAL	# Opportunities	% Availability		% Workforce		Goal	
		Minority	Female	Minority	Female	Minority	Female
Total	3	24.53	51.59	33.33	50.00	1	
JOB GROUP TECHNICAL A	# Opportunities	% Availability		% Workforce		Goal	
		Minority	Female	Minority	Female	Minority	Female
Total	3	22.17	22.29	33.33	11.11		1

## **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 2023, 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 2022, 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 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 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.
- Employees of both sexes have equal opportunity to any available position which the individuals are qualified to perform.
- MWRA does not make any distinction based upon sex 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 men and women, resulting in equal benefits.
- MWRA does not support distinctions between married and unmarried persons of one sex that are not made between married and unmarried persons of the other sex.
- MWRA provides appropriate and comparable physical facilities to both sexes.
- MWRA does not deny a female employee the right to any job which she is qualified to perform.
- MWRA does not penalize women in their conditions of employment because they require time away from work on account of child bearing.
- MWRA does not specify differences for male or female employees on the basis of sex in either involuntary or optional retirement age.

### Wages

- MWRA's wage schedules do not relate to and are not based on the sex of its employees.
- MWRA does not discriminatorily restrict one sex 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 2023, Human Resources will roll out 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 his or her disability.

### Pregnancy and Childbirth

Disabilities caused or contributed to by pregnancy, childbirth or other related medical conditions, will be treated the same as disabilities caused or contributed to by other medical conditions.

### 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 31<sup>st</sup> 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 8% for the 2021 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, 6<sup>th</sup> 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.

<b>Procurement Categories</b>		
	Construction Goals	Professional Goals
D/MBE	4.2%	4.2%
D/WBE	4.5%	4.5%

In FY22, EPA-assisted contracts totaled 5.2% 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.

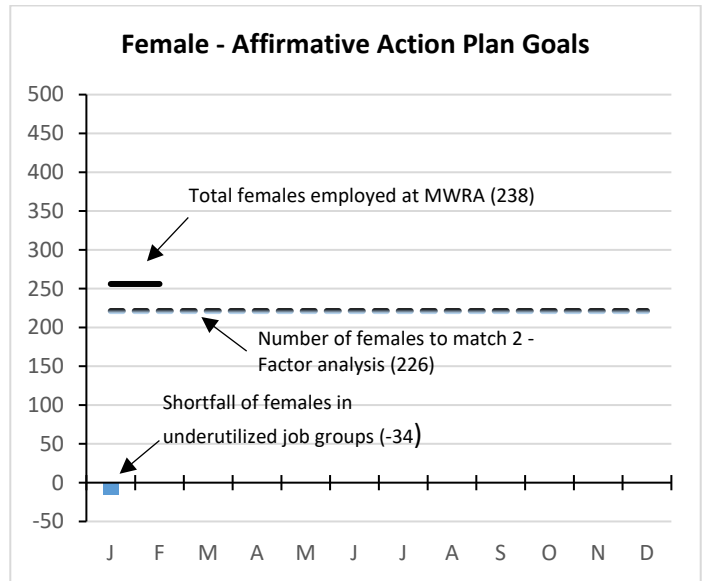
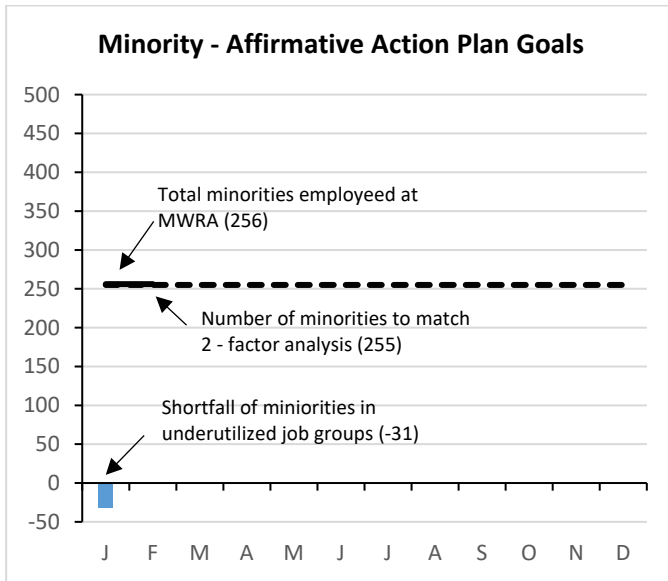
### MWRA Procurement Goals

Based upon the Authority's 2002 Availability Study, the MBE and WBE procurement goals are as follows:

<b>Procurement Categories</b>			
	Construction Goals	Professional Goals	NonProfessional Goals
MBE	7.24%	7.18%	5.61%
WBE	3.60%	5.77%	4.88%

For FY22 the MWRA spent \$6.6 million and \$3.3 million respectively with minority and women owned business. These amounts were 82.6% and 58.3% of the respective MBE and WBE targets.


**Attachment B**  
**MWRA Job Group Representation**  
**CY23**



**Underutilized Job Groups – Workforce Representation**

Job Group	Total Employees as of 1/1/2022	Actual Minorities as of 1/1/2022	Achievement Level	Minority Over or Under utilized	Actual Females As of 1/1/2022	Achievement Level	Female Over or Under utilized
Administrative A	27	5	3	2	14	6	8
Administrative B	22	1	4	-3	4	7	-3
Clerical A	23	7	5	2	19	17	2
Clerical B	24	7	6	1	3	12	-9
Engineer A	82	21	21	0	20	21	-1
Engineer B	59	19	17	2	14	14	0
Craft A	111	16	25	-9	0	6	-6
Craft B	123	24	26	-2	1	5	-4
Laborers	54	14	15	-1	3	2	1
Management A	87	18	21	-3	32	24	8
Management B	37	11	10	1	6	9	-3
Operators A	62	4	16	-12	2	7	-5
Operators B	59	19	9	10	3	2	1
Professional A	29	7	8	-1	17	13	4
Professional B	153	47	45	2	69	49	20
Para Professional	47	15	11	4	23	22	1
Technical A	52	18	11	7	6	9	-3
Technical B	8	3	2	1	2	1	1
<b>Total</b>	<b>1059</b>	<b>256</b>	<b>255</b>	<b>32/-31</b>	<b>238</b>	<b>226</b>	<b>46/-34</b>

## STAFF SUMMARY


**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director   
**DATE:** March 15, 2023  
**SUBJECT:** Infiltration/Inflow Local Financial Assistance Program Annual Update

---

**COMMITTEE:** Wastewater Policy & Oversight

X  INFORMATION  
  VOTE

Jon F. Szarek, P.E., Senior Program Manager, Planning  
Israel D. Alvarez, Project Manager, Planning  
Preparer/Title

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

---

### RECOMMENDATION:

For information only.

### DISCUSSION:

MWRA's Infiltration/Inflow (I/I) Local Financial Assistance Program was initiated in May 1993 to provide funding to member sewer communities to perform I/I reduction and sewer system rehabilitation projects within their locally-owned collection systems. The Program's goal is to assist member communities in improving sewer system conditions to reduce I/I and ensure ongoing repair and replacement and efficient operation and maintenance of local collection systems. Staff's review of long-term wastewater meter data and frequency and duration of sanitary sewer overflows (SSOs) indicates MWRA's financial assistance for local I/I reduction and collection system rehabilitation projects, together with CSO Control Program projects and indoor water conservation, have reduced and continue to maintain lower flows in the regional wastewater collection system.

The I/I Local Financial Assistance Program is a critical component of MWRA's Regional I/I Reduction Plan.<sup>1</sup> Specifically, local sewer system rehabilitation projects are intended to offset ongoing collection system deterioration to prevent a net increase in regional I/I. In the long-term, ongoing system rehabilitation should result in lower I/I. Regional I/I reductions ensure that the dry day wastewater flow does not exceed the Deer Island NPDES permit limit of 436 mgd. Over the last ten years, the dry day wastewater flow to the Deer Island plant has averaged 276 mgd, well below the NPDES permit limit. (See table below.)

---

<sup>1</sup> As required by the National Pollutant Discharge Elimination System (NPDES) permit for the Deer Island Treatment Plant, MWRA's Regional Infiltration/Inflow Reduction Plan was approved by MassDEP in November 2002. MWRA is required to report annually on the I/I Reduction Plan and present estimates of I/I for each member sewer community.

<b>Calendar Year</b>	<b>Total Wastewater Flow</b>	<b>Dry Day Wastewater Flow</b>
2013	318 mgd	263 mgd
2014	326 mgd	284 mgd
2015	295 mgd	256 mgd
2016	284 mgd	256 mgd
2017	318 mgd	280 mgd
2018	362 mgd	308 mgd
2019	335 mgd	295 mgd
2020	299 mgd	267 mgd
2021	347 mgd	305 mgd
2022	277 mgd	248 mgd
<b>10 Year Average</b>	<b>316 mgd</b>	<b>276 mgd</b>

### Update on Distribution of I/I Financial Assistance to Communities

Since 1993, a total of \$860.75 million in grant and loan funds has been authorized by the Board and allocated to member sewer communities through the Program’s 14 funding Phases. Community grant/loan allocations are based on each community’s share of sewer charges. In September 2022, Program funding Phase 14 (\$100 million) was added. Financial assistance under Phase 14 continues at 75% grants and 25% ten-year, interest-free loans (same as Program Phases 9 through 12). In June 2018, Program funding Phases 11, 12 and 13 were added at \$100 million per phase. Phase 13 was added as a ten-year, interest-free loan-only phase, which communities could utilize if they exhausted their grant/loan allocations, prior to the creation of a new grant/loan phase. With the addition of Phase 14, communities can now access their Phase 14 grant/loan funding when they have exhausted their Phase 12 allocation without using the loan-only Phase 13 funds. Through December 2022, three communities have used their entire Phase 13 funding allocation and 17 communities have used their entire Phase 12 funding allocation. As part of the February/March 2023 I/I funding distribution cycle, one community (Stoughton) is expected to receive its entire Phase 14 allocation.

All 43 metropolitan sewer customer communities are participating in the financial assistance program. Through December 2022, a total of \$518.7 million has been distributed to member communities to fund 653 local sewer rehabilitation projects. The remaining \$342.1 million are approved for distribution through FY30. All scheduled community loan repayments have been made, a total of \$194 million to date. Of the 653 total projects, 582 have been completed and 71 are ongoing in planning, design or construction phase. Attachment 1 provides a summary of funds allocated, distributed, and remaining for each member community. Attachment 2 provides a summary of funding distributions by fiscal quarter since program inception in May 1993. Throughout the COVID-19 pandemic, community participation in the Program remained strong. Staff have increased communication with member communities to gauge overall interest in Program participation. Staff have also revised and implemented new Program funding application and financial assistance agreement execution parameters to facilitate the filing and reporting process for member communities.

Grant and loan funding is provided to local communities for eligible I/I reduction projects including planning, design, construction, and engineering services during construction. These projects generally take one to three years to complete. Eighty percent of the funds distributed to

date have financed local construction projects. Table 2 details funds distributed for planning, design, construction and construction services for both completed and ongoing projects.

### **I/I Financial Assistance for Planning, Design and Construction**

<u>PROJECT PHASE</u>	<u>COMPLETED PROJECTS (\$ millions)</u>	<u>ONGOING PROJECTS (\$ millions)</u>	<u>TOTAL (\$ millions)</u>
Planning/Study:	\$ 51.8	\$ 8.7	\$ 60.5 (12%)
Design:	17.4	4.0	21.4 (4%)
Construction:	313.5	99.7	413.2 (80%)
Eng. Services During Const.:	19.7	3.9	23.6 (4%)
<b>TOTAL</b>	<b>\$ 402.4 (78%)</b>	<b>\$ 116.3 (22%)</b>	<b>\$ 518.7 (100%)</b>

### Program Results from Local Projects

Through December 2022, a total of 653 local I/I reduction and sewer system rehabilitation projects have been funded through the MWRA’s I/I Local Financial Assistance (grant/loan) Program. Cumulative results are summarized below.

Results for planning and sewer inspection projects:

- 2,422 miles of sewer TV inspected;
- 1,634 miles of sewer flow isolated;
- 1,439 miles of sewer smoke tested;
- 66,099 sewer manholes inspected; and
- 78,232 buildings inspected.



*Offset Joint Detected via TV Inspection*



*Inflow Source Identified by Smoke Testing*

Results for projects targeting infiltration reduction:

- 80 miles of sewer replaced;
- 323 miles of cured-in-place-pipe (CIPP) liner installed;
- 189 miles of sewer tested/chemically sealed;
- 3,233 sewer spot repairs;
- 18,663 service connection repairs; and
- 4.8 miles of underdrains sealed.

Results for projects targeting inflow reduction:

- 1,208 catch basins disconnected;
- 49 miles of new or replaced storm drains installed;
- 23,566 manholes rehabilitated/sealed;
- 3,954 manhole covers replaced or inflow seals installed;
- 551 sump pumps redirected; and
- 5,839 downspouts/area drains disconnected.



*Sewer Manhole in Marsh: Raised and Sealed*



*CIPP Liner Installation*

### I/I and Stormwater Impacts on the MWRA Collection System

Infiltration is groundwater that enters the collection system through physical defects such as cracked pipes, manholes and deteriorated joints. Typically, many sewer pipes and sewer service laterals are below the surrounding groundwater table. Therefore, leakage into the sewer (infiltration) is a broad problem that is difficult and expensive to identify and resolve.



*Infiltration into a Sanitary Sewer*

Inflow is extraneous flow entering the collection system through point sources and may be directly related to stormwater runoff from sources such as roof leaders, yard and area drains, basement sump pumps, ponded manhole covers, cross connections from storm drains or catch basins, and leaking tide gates. Inflow causes a rapid increase in wastewater flow during and continuing after storms and extreme high tides. The volume of inflow entering a collection system typically depends on the magnitude and duration of rainfall, as well as related impacts from snowmelt, flooding, and storm surge.



*Inflow into a Manhole during Flooding*

Stormwater in combined sewers is, by design, collected in the combined sewer system to be transported to a downstream treatment facility. During rainfall events that cause the combined sewer system to reach capacity, a portion of wastewater flow is diverted to combined sewer overflow (CSO) storage facilities and CSO outfalls.

The volume of I/I and stormwater (in combined sewers) that is discharged by member sewer communities into the MWRA collection system is influenced by seasonal and wet weather conditions as well as tide height and storm surge. Stormwater and I/I take up pipeline capacity in the collection system that would otherwise be available to transport sanitary flow. During extreme storm events, particularly in periods of high groundwater, excessive I/I may cause sewer system surcharging and sanitary sewer overflows (SSOs). I/I entering the collection system also results in the transport of groundwater and surface water out of the natural watershed.

### Review of Long-Term Flows in the MWRA Collection System

Attachment 3 provides graphs of long-term wastewater flow data (34 years from 1989 to 2022) for the total collection system to the Deer Island Treatment Plant as well as flow data for the north and south collection systems. The five-year running average wastewater flow is overlaid on each flow graph to smooth the annual variability in the flow data. Annual rainfall from the Logan Airport gauge is also displayed on Attachment 3. The long-term average daily flow for the total system is 349 mgd and the average annual rainfall is 43.3 inches. Using the five-year running average over the long term, the total system wastewater average daily flow has declined approximately 67 mgd, a reduction of 17%. The north collection system wastewater flow has declined by approximately 53 mgd, while the south collection system wastewater flow has declined by approximately 14 mgd.

The long-term flow tributary to the Deer Island Treatment Plant is impacted by a variety of factors, some helping to decrease wastewater flow while others increase wastewater flow, as noted below:

- CSO separation projects reduce stormwater tributary to the combined sewer system leading to decreased flows over time. However, MWRA's pumping and interceptor relief upgrades, as well as CSO optimization projects, are intended to maximize wastewater flow to the treatment plant and minimize CSOs and SSOs leading to increased flows over time.
- MWRA's financial assistance for local I/I reduction and sewer rehabilitation projects stimulate gradual improvements to the regional collection system reducing I/I and stormwater over time. However, the regional collection system continues to age and deteriorate, leading to increased I/I over time.
- Water use in the region has decreased significantly. The reduction in indoor water use has directly resulted in a decrease in wastewater flow. However, decreases in outdoor water use and water system leakage will have no impact on wastewater flow. Within MWRA's sewer service area over the last 20 years, indoor water use has decreased by approximately 20 gallons per capita per day due to water conservation trends. However, over the same 20-year period, sewer area population has increased by approximately 280,000 (due to increased population and expanded sewer areas). The net decrease in wastewater flow from reduced indoor water use is estimated at 20 mgd over the last 20 years.

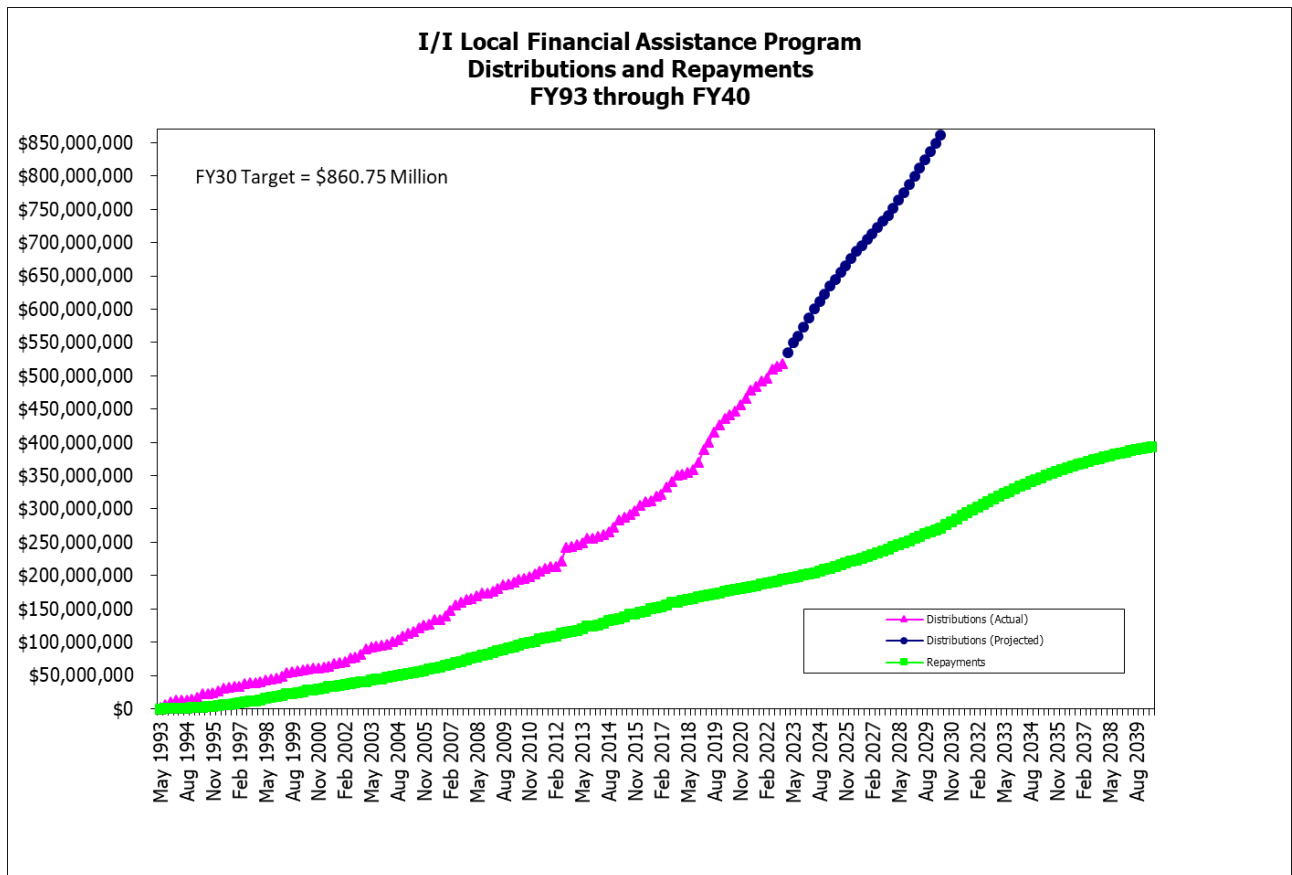
### Wastewater Flow Reduction Summary

In summary, MWRA's financial assistance for local I/I reduction and collection system rehabilitation projects, in combination with CSO Control Program project benefits and reductions in indoor water use, have reduced and continue to maintain wastewater flow in the regional collection system tributary to the Deer Island Treatment Plant.

**BUDGET/FISCAL IMPACT:**

For the total program, the budget target is \$860.75 million for grant and loan distributions. The FY23 CIP includes an overall budget of \$468 million for the grant portion of the I/I Local Financial Assistance Program. An additional \$393 million is budgeted for the loan portion of the program. Depending on the timing and level of community loan requests, loan distributions can fluctuate, sometimes causing overspending or underspending (versus budget) for any particular fiscal year. Community grants and loans are financed through MWRA 30-year bonds.

Through December 2022, \$519 million has been distributed (\$279 million in grants and \$240 million in loans). The loan portion is offset by an equal amount of loan repayments over time. All scheduled community loan repayments have been made, a total of \$194 million to date. As community loans are repaid, the funds are deposited into MWRA’s construction fund. The Program has a remaining balance of \$342 million in future community grants and loans through FY30. The graph below presents grant and loan distributions and loan repayments (actual and projected) for Program Phases 1-14 (FY93 through FY40).



**MBE/WBE PARTICIPATION:**

MBE/WBE participation goals are included in the Program’s Financial Assistance agreements.



**ATTACHMENTS:**

Attachment 1 - Community Funding Summary

Attachment 2 - Summary of Funding Distributions by Fiscal Quarter

Attachment 3 - Long-Term Regional Flow Data

**ATTACHMENT 1**  
**MWRA I/I LOCAL FINANCIAL ASSISTANCE PROGRAM**  
**COMMUNITY FUNDING SUMMARY AS OF DECEMBER 2022**

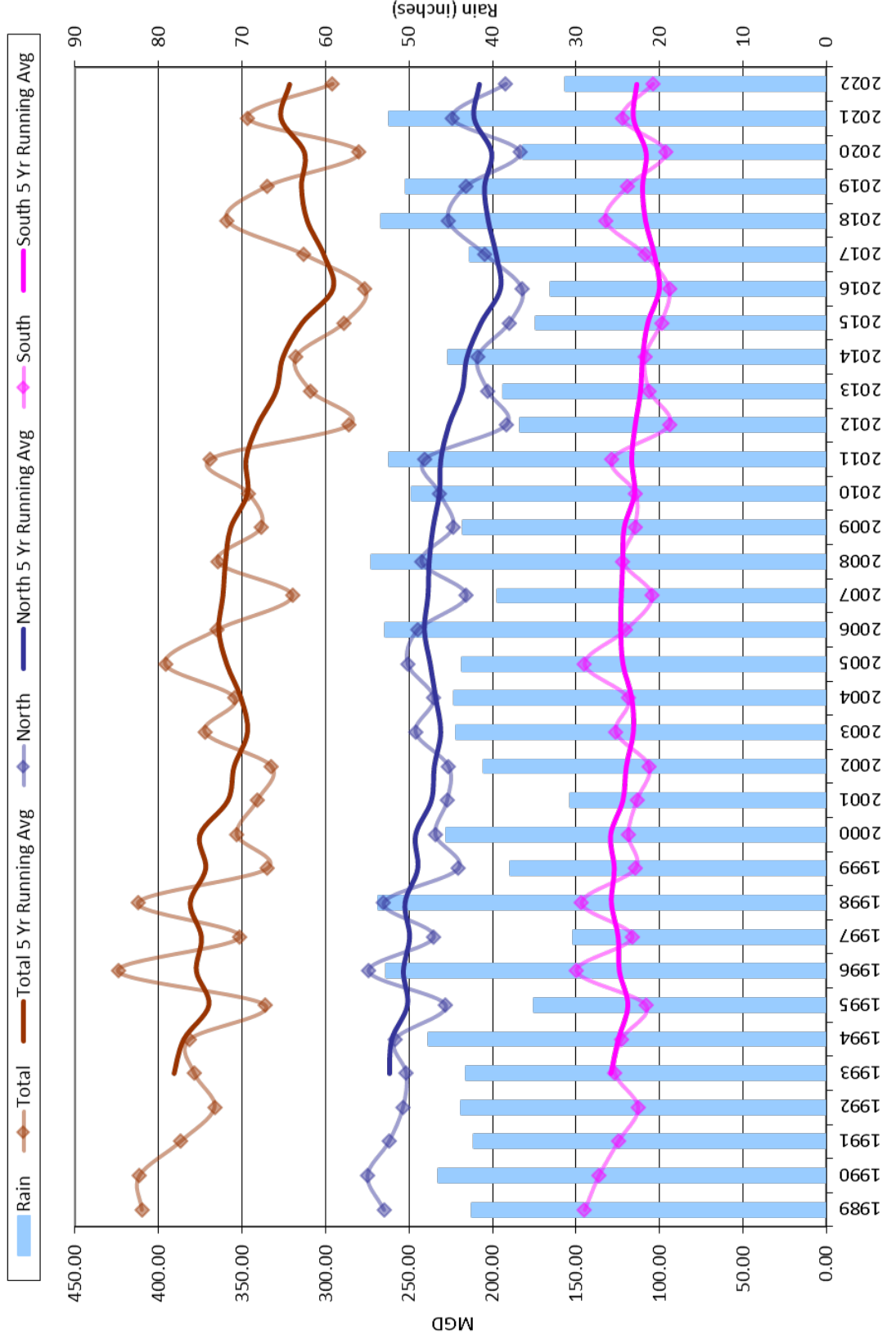
Community	Total Allocations (Phases 1 - 14)	Total Distributions (Phases 1 - 14)	Percent Distributed	Funds Remaining
Arlington	\$15,473,000	\$11,455,900	74%	\$4,017,100
Ashland	\$4,348,500	\$2,020,060	46%	\$2,328,440
Bedford	\$6,354,600	\$3,109,158	49%	\$3,245,442
Belmont	\$9,325,100	\$5,135,100	55%	\$4,190,000
Boston	\$246,921,200	\$121,596,909	49%	\$125,324,291
Braintree	\$16,449,000	\$10,379,000	63%	\$6,070,000
Brookline	\$24,005,200	\$15,895,200	66%	\$8,110,000
Burlington	\$9,632,800	\$7,322,800	76%	\$2,310,000
Cambridge	\$44,640,100	\$28,830,100	65%	\$15,810,000
Canton	\$7,565,900	\$3,126,850	41%	\$4,439,050
Chelsea	\$13,510,100	\$11,760,100	87%	\$1,750,000
Dedham	\$10,400,000	\$8,060,000	78%	\$2,340,000
Everett	\$15,251,500	\$11,611,500	76%	\$3,640,000
Framingham	\$23,045,000	\$13,671,000	59%	\$9,374,000
Hingham	\$3,202,500	\$2,412,500	75%	\$790,000
Holbrook	\$3,149,600	\$1,349,600	43%	\$1,800,000
Lexington	\$13,715,300	\$10,565,300	77%	\$3,150,000
Malden	\$23,373,900	\$6,725,900	29%	\$16,648,000
Medford	\$22,077,600	\$7,961,600	36%	\$14,116,000
Melrose	\$11,456,300	\$8,657,300	76%	\$2,799,000
Milton	\$10,164,500	\$9,014,500	89%	\$1,150,000
Natick	\$10,522,600	\$6,832,600	65%	\$3,690,000
Needham	\$11,267,600	\$4,018,600	36%	\$7,249,000
Newton	\$39,277,400	\$34,937,400	89%	\$4,340,000
Norwood	\$13,239,400	\$6,879,400	52%	\$6,360,000
Quincy	\$36,950,000	\$31,325,000	85%	\$5,625,000
Randolph	\$11,400,800	\$4,971,058	44%	\$6,429,742
Reading	\$8,789,100	\$6,709,100	76%	\$2,080,000
Revere	\$19,090,900	\$6,302,900	33%	\$12,788,000
Somerville	\$29,265,800	\$12,116,900	41%	\$17,148,900
Stoneham	\$8,919,900	\$6,859,900	77%	\$2,060,000
Stoughton	\$8,962,900	\$6,842,900	76%	\$2,120,000
Wakefield	\$11,116,900	\$8,526,900	77%	\$2,590,000
Walpole	\$6,940,000	\$4,490,000	65%	\$2,450,000
Waltham	\$25,062,400	\$19,214,560	77%	\$5,847,840
Watertown	\$11,475,800	\$8,865,800	77%	\$2,610,000
Wellesley	\$10,429,700	\$4,739,700	45%	\$5,690,000
Westwood	\$4,932,300	\$2,591,300	53%	\$2,341,000
Weymouth	\$21,750,900	\$13,670,900	63%	\$8,080,000
Wilmington	\$4,822,000	\$2,462,000	51%	\$2,360,000
Winchester	\$7,673,000	\$5,923,000	77%	\$1,750,000
Winthrop	\$6,293,400	\$5,083,400	81%	\$1,210,000
Woburn	\$18,505,500	\$14,675,500	79%	\$3,830,000
Totals	\$860,750,000	\$518,699,195	60%	\$342,050,805

Note: Through December 2022, three (3) communities have used their entire Phase 13 funding allocation and seventeen (17) communities have used their entire Phase 12 funding allocation.

**ATTACHMENT 2  
MWRA VI Local Financial Assistance Program - Fiscal Year Breakdown**

FY	Distribution Cycle	Distribution Amount	Distribution Cycle	Distribution Amount	Distribution Cycle	Distribution Amount	Distribution Cycle	Distribution Amount	Distribution Cycle	Distribution Amount	FY Total
FY93	Aug 1992	\$0	Nov 1992	\$0	Feb 1993	\$0	May 1993	\$2,714,883			\$2,714,883
FY94	Aug 1993	\$3,096,468	Nov 1993	\$4,096,133	Feb 1994	\$3,191,032	May 1994	\$251,494			\$10,635,127
FY95	Aug 1994	\$354,126	Nov 1994	\$976,700	Feb 1995	\$1,894,030	May 1995	\$6,489,891			\$9,714,747
FY96	Aug 1995	\$0	Nov 1995	\$504,100	Feb 1996	\$2,921,600	May 1996	\$3,902,426			\$7,328,126
FY97	Aug 1996	\$1,682,061	Nov 1996	\$1,581,266	Feb 1997	\$395,100	May 1997	\$3,530,758			\$7,189,185
FY98	Aug 1997	\$1,066,300	Nov 1997	\$1,157,260	Feb 1998	\$909,350	May 1998	\$2,001,608			\$5,134,518
FY99	Aug 1998	\$1,521,100	Nov 1998	\$2,464,263	Feb 1999	\$1,481,700	May 1999	\$5,758,077			\$11,225,140
FY00	Aug 1999	\$1,315,767	Nov 1999	\$1,847,900	Feb 2000	\$1,679,000	May 2000	\$1,070,100			\$5,912,767
FY01	Aug 2000	\$1,148,400	Nov 2000	\$388,000	Feb 2001	\$1,640,931	May 2001	\$804,800			\$3,982,131
FY02	Aug 2001	\$4,480,735	Nov 2001	\$704,040	Feb 2002	\$1,804,200	May 2002	\$5,002,691			\$11,991,666
FY03	Aug 2002	\$1,962,600	Nov 2002	\$4,461,768	Feb 2003	\$7,955,752	May 2003	\$1,836,600			\$16,216,720
FY04	Aug 2003	\$2,021,940	Nov 2003	\$1,306,200	Feb 2004	\$1,770,760	May 2004	\$3,295,400			\$8,394,300
FY05	Aug 2004	\$2,756,659	Nov 2004	\$6,013,436	Feb 2005	\$4,054,060	May 2005	\$2,636,700			\$15,460,855
FY06	Aug 2005	\$5,377,487	Nov 2005	\$4,589,600	Feb 2006	\$1,519,463	May 2006	\$6,489,676			\$17,976,226
FY07	Aug 2006	\$0	Nov 2006	\$4,947,414	Feb 2007	\$8,789,300	May 2007	\$8,121,023			\$21,857,737
FY08	Aug 2007	\$3,915,500	Nov 2007	\$4,355,750	Feb 2008	\$1,392,400	May 2008	\$4,436,600			\$14,100,250
FY09	Aug 2008	\$4,196,399	Nov 2008	\$352,000	Feb 2009	\$1,990,300	May 2009	\$4,872,400			\$11,411,099
FY10	Aug 2009	\$5,462,736	Nov 2009	\$616,600	Feb 2010	\$2,679,600	May 2010	\$4,845,000			\$13,603,936
FY11	Aug 2010	\$723,700	Nov 2010	\$3,183,250	Feb 2011	\$4,123,100	May 2011	\$4,258,900			\$12,288,950
FY12	Aug 2011	\$3,695,100	Nov 2011	\$2,417,378	Feb 2012	\$848,300	May 2012	\$7,010,324			\$13,971,102
FY13	Aug 2012	\$21,299,965	Nov 2012	\$1,004,610	Feb 2013	\$2,460,000	May 2013	\$2,675,000			\$27,439,575
FY14	Aug 2013	\$7,550,310	Nov 2013	\$0	Feb 2014	\$2,929,700	May 2014	\$2,271,852			\$12,751,862
FY15	Aug 2014	\$4,053,000	Nov 2014	\$7,647,400	Feb 2015	\$10,128,648	May 2015	\$4,803,450			\$26,632,498
FY16	Aug 2015	\$3,983,100	Nov 2015	\$5,783,000	Feb 2016	\$7,195,116	May 2016	\$5,483,000			\$22,444,216
FY17	Aug 2016	\$2,352,100	Nov 2016	\$6,553,210	Feb 2017	\$2,918,900	May 2017	\$10,434,030			\$22,258,240
FY18	Aug 2017	\$8,085,900	Nov 2017	\$10,311,545	Feb 2018	\$1,377,800	May 2018	\$1,909,730			\$21,684,975
FY19	Aug 2018	\$4,107,370	Nov 2018	\$12,150,449	Feb 2019	\$19,027,200	May 2019	\$11,067,748			\$46,352,767
FY20	Aug 2019	\$14,287,100	Nov 2019	\$10,990,840	Feb 2020	\$9,635,048	May 2020	\$5,454,250			\$40,367,238
FY21	Aug 2020	\$6,087,196	Nov 2020	\$9,789,250	Feb 2021	\$9,642,573	May 2021	\$11,878,316			\$37,397,335
FY22	Aug 2021	\$5,582,842	Nov 2021	\$7,692,520	Feb 2022	\$4,149,000	May 2022	\$13,903,765			\$31,328,127
FY23	Aug 2022	\$4,897,221	Nov 2022	\$4,024,558	Feb 2023		May 2023				\$8,921,779
Total		\$127,063,182		\$121,910,440		\$120,503,963		\$149,210,792			\$518,699,195
Average		\$4,235,439		\$4,063,681		\$4,155,309		\$4,973,683			\$17,428,113

**ATTACHMENT 3**  
**MWRA Long-Term Regional Flow Data**  
**NOAA Annual Rainfall at Logan Airport**



Note: As a result of the Wastewater Meter Replacement Project, CY21 wastewater flows were generated from Deer Island pumping records (as opposed to the summation of individual community flows).

## STAFF SUMMARY

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** March 15, 2023  
**SUBJECT:** Delegated Authority Report – February 2023



---

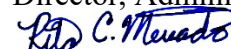
**COMMITTEE:** Administration, Finance & Audit

INFORMATION  
 VOTE

Betty Hill, Acting Admin. Systems Coordinator  
Barbara Aylward, Administrator A & F  
Preparer/Title



Michele S. Gillen  
Director, Administration



Rita C. Mercado  
Acting Director of Procurement

---

### RECOMMENDATION:

For information only. Attached is a listing of actions taken by the Executive Director under delegated authority for the period February 1 – 28, 2023.

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 FEBRUARY 1 - 28, 2023

NO.	DATE OF AWARD	TITLE AND EXPLANATION	CONTRACT	AMEND/CO	COMPANY	FINANCIAL IMPACT
C-1.	02/02/23	<b>JOHN J. CARROLL WATER TREATMENT PLANT SCADA SYSTEM UPGRADE, DESIGN, ESDC/RE SERVICES</b> INCREASE LEVEL OF EFFORT FOR SUBMITTAL REVIEW DUE TO THE ADDITION OF A SERVER ROOM TO THE DESIGN SCOPE AND RESTRUCTURE CONTRACT ALLOWANCES TO ALLOW CONSTRUCTION PHASE TASK ORDERS FOR UNFORESEEN DESIGN MODIFICATIONS.	7581	3	ARCADIS U.S., INC.	\$187,645.00
C-2.	02/13/23	<b>BRAINTREE-WEYMOUTH INTERMEDIATE PUMP STATION TRANSFORMER REPLACEMENT</b> AWARD OF A CONTRACT TO THE LOWEST RESPONSIVE BIDDER FOR THE BRAINTREE-WEYMOUTH INTERMEDIATE PUMP STATION TRANSFORMER REPLACEMENT FOR A TERM OF 600 CALENDAR DAYS.	7995	AWARD	DAGLE ELECTRICAL CONSTRUCTION CO.	\$293,392.00
C-3.	02/13/23	<b>INTERMEDIATE HIGH PIPELINE IMPROVEMENTS CP2 MATERIALS PRE-PURCHASE, WATERTOWN</b> AWARD OF A CONTRACT TO THE LOWEST RESPONSIVE BIDDER FOR THE PRE-PURCHASE OF MATERIALS FOR THE INTERMEDIATE HIGH PIPELINE IMPROVEMENTS FOR A TERM OF 360 CALENDAR DAYS. THE PRE-PURCHASE INCLUDES 20-INCH AND SMALL DIAMETER PIPE, FITTINGS, AND VALVES FOR WATERTOWN'S MOUNT AUBURN STREET.	6956A	AWARD	FERGUSON ENTERPRISES, LLC D/B/A FERGUSON WATERWORKS	\$721,786.56
C-4.	02/17/23	<b>REHABILITATION OF WASM 3 SECTIONS W11/W12/W16/51, MEDFORD, SOMERVILLE AND ARLINGTON</b> FURNISH AND INSTALL AN ADDITIONAL 6 FEET OF 60-INCH STEEL PIPE AT ARLINGTON PLAZA; RESTRAIN 8-INCH WATER MAIN AND RELOCATE 15-INCH DRAIN DUE TO UTILITY CONFLICTS; ADDITIONAL ROCK AND BOULDER REMOVAL, HANDLING, TRANSPORTATION AND DISPOSAL; PROVIDE CUSTOM FABRICATED FLANGE PLATES TO MATCH FLANGES ON EXISTING WATER MAIN; ADDITIONAL PRE-CONSTRUCTION CONDITION SURVEY.	6544	6	ALBANESE D&S, INC.	\$57,062.00
C-5.	02/17/23	<b>WACHUSETT DAM BASTION IMPROVEMENTS</b> MODIFY SELECT GRANITE BLOCKS FOR NEW WALLS. BEAMS AND ROOF PLANKS TO TIE THE GRANITE BLOCKS TO THE CONCRETE WALL IN ACCORDANCE WITH THE MASSACHUSETTS BUILDING CODE.	7697	1	MAS BUILDING & BRIDGE, INC.	\$136,080.23
C-6.	02/17/23	<b>NORUMBEGA COVERED STORAGE TANK CELL NO. 2 CLEANING</b> TRANSPORTATION AND DISPOSAL OF 750 TONS OF SEDIMENT TO AN OUT OF STATE LANDFILL.	W342	1	R. ZOPPO CORP.	\$154,500.00
C-7.	02/22/23	<b>ENTERPRISE CONTENT MANAGEMENT SYSTEM PURCHASE AND IMPLEMENTATION</b> INCREASE LEVEL OF EFFORT TO COMPLETE TESTING AND TRAINING, CONFIGURATION MODIFICATIONS, AND CREATION OF ADDITIONAL CUSTOM FORMS TO MEET ADDITIONAL WORKFLOW REQUIREMENTS AND EXTEND CONTRACT TERM BY 12 MONTHS FROM MARCH 24, 2023 TO MARCH 24, 2024.	7438	1	CADENCE SOLUTIONS, INC.	\$296,988.00
C-8.	02/22/23	<b>CRANE MAINTENANCE SERVICE</b> AWARD OF A CONTRACT TO THE LOWEST RESPONSIVE BIDDER TO PROVIDE CRANE MAINTENANCE SERVICE FOR 152 OVERHEAD AND GANTRY CRANES FOR A TERM OF 1,095 CALENDAR DAYS.	OP-452	AWARD	SAFEWAY OVERHEAD CRANE SERVICE, INC.	\$360,200.00
C-9.	02/22/23	<b>13.8kv ELECTRICAL SYSTEMS MAINTENANCE - WESTERN OPERATIONS</b> AWARD OF A CONTRACT TO THE LOWEST RESPONSIVE BIDDER FOR PREVENTIVE MAINTENANCE AND REPAIR OF THE 13.8KV ELECTRICAL SYSTEMS AT CARROLL WATER TREATMENT PLANT AND NINE OTHER LOCATIONS IN WESTERN OPERATIONS FOR A TERM OF 1,095 CALENDAR DAYS.	OP-454	AWARD	INFRA-RED BUILDING AND POWER SERVICE, INC.	\$419,820.00


## PURCHASING DELEGATED AUTHORITY ITEMS FEBRUARY 1 - 28, 2023

NO.	DATE OF AWARD	TITLE AND EXPLANATION	CONTRACT	AMENDMENT	COMPANY	
P-1	02/02/23	<b>UPGRADE FOR THE PIMS SYSTEM MIDDLE TIER AND WEB SERVERS</b> AWARD OF A SOLE SOURCE PURCHASE ORDER TO UPGRADE THE PRE-TREATMENT INFORMATION SYSTEM (PIMS) MIDDLE TIER AMD WEB SERVERS TO A VERSION THAT IS SUPPORTED ON THE LATEST OPERATION SYSTEM.			INFLECTION POINT SOLUTIONS, LLC	\$36,647.00
P-2	02/02/23	<b>ANALYSIS OF PERFLUOROADLKYL AND POLYFLUOROADLKYL SUBSTANCES (PFAS) IN WASTEWATER SAMPLES</b> AWARD OF A ONE-YEAR PURCHASE ORDER CONTRACT TO THE LOWEST RESPONSIVE BIDDER FOR THE ANALYSIS OF PERFLUOROADLKYL AND POLYFLUOROADLKYL SUBSTANCES IN WASTEWATER SAMPLES FROM MULTIPLE LOCATIONS.	WRA-5233		WECK ANALYTICAL ENVIRONMENTAL SERVICES, INC.	\$159,000.00
P-3	02/07/23	<b>PURCHASE OF SIX BACKFLOW PREVENTERS</b> AWARD OF A PURCHASE ORDER FOR SIX BACKFLOW PREVENTERS FOR DEER ISLAND TREATMENT PLANT.	WRA-5243-Q		METROPOLITAN PIPE & SUPPLY COMPANY	\$28,954.00
P-4	02/09/23	<b>DELIVERY OF ULTRA LOW SULFUR DIESEL FUEL</b> AWARD OF A PURCHASE ORDER UNDER MASS STATE CONTRACT ENE47 FOR DELIVERY OF ULTRA LOW SULFUR DIESEL FUEL FOR WARD STREET HEADWORKS ON JANUARY 4, 2023.			DENNIS K. BURKE INC.	\$25,897.88
P-5	02/09/23	<b>DELIVERY OF ULTRA LOW SULFUR DIESEL FUEL</b> AWARD OF PURCHASE ORDER UNDER MASS STATE CONTRACT ENE47 FOR DELIVERY OF ULTRA LOW SULFUR DIESEL FUEL FOR COLUMBUS PARK HEADWORKS ON JANUARY 6, 2023.			DENNIS K. BURKE INC.	\$26,336.70
P-6	02/13/23	<b>DELIVERY OF ULTRA LOW SULFUR DIESEL FUEL</b> AWARD OF PURCHASE ORDER UNDER MASS STATE CONTRACT ENE47 FOR DELIVERY OF ULTRA LOW SULFUR DIESEL FUEL FOR WARD STREET HEADWORKS ON JANUARY 18, 2023.			DENNIS K. BURKE INC.	\$28,393.53
P-7	02/13/23	<b>PURCHASE OF 60 ACTIVATED CARBON CANISTERS</b> AWARD OF A SOLE SOURCE PURCHASE ORDER FOR 60 ACTIVATED CARBON CANISTERS FOR THE ODOR CONTROL SYSTEMS AT QUINCY AND SQUANTUM PUMP STATION.			CONTINENTAL CARBON GROUP, INC.	\$50,400.00
P-8	02/16/23	<b>MAINTENANCE AND SUPPORT OF CROWDSTRIKE ENDPOINT AND SERVICES LICENSES</b> AWARD OF A ONE-YEAR PURCHASE ORDER UNDER STATE CONTRACT ITC73 TO THE LOWEST RESPONSIVE BIDDER FOR MAINTENANCE AND SUPPORT OF ENDPOINT AND SERVICES LICENSES. THIS SOFTWARE PROVIDES ANTI-VIRUS PROTECTION, ANTI-MALWARE PROTECTION, PROACTIVE THREAT HUNTING, ETC.	WRA-5255-Q		INTRASYSTEMS, INC.	\$67,754.08
P-9	02/17/23	<b>PURCHASE OF TWO SIX-INCH CENTRIFUGAL DRY PRIME TRAILER MOUNTED PUMPS</b> AWARD OF PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR TWO SIX-INCH CENTRIFUGAL DRY PRIME TRAILER MOUNTED PUMPS FOR THE PIPE MAINTENANCE PROGRAM.	WRA-5228		XYLEM DEWATERING SOLUTIONS, INC.	\$108,584.00
P-10	02/17/23	<b>PURCHASE OF FOUR FORTINET APPLICATION DELIVERY CONTROLLERS</b> AWARD OF PURCHASE ORDER UNDER STATE CONTRACT ITT72 TO THE LOWEST RESPONSIVE BIDDER FOR FOUR FORTINET APPLICATION DELIVERY CONTROLLERS, THREE YEARS OF SUPPORT, AND INSTALLATION AND MIGRATION SERVICES.			EPLUS TECHNOLOGY, INC.	\$119,370.00
P-11	02/22/23	<b>DELIVERY OF ULTRA LOW SULFUR DIESEL FUEL</b> AWARD OF PURCHASE ORDER UNDER MASS STATE CONTRACT ENE47 FOR DELIVERY OF ULTRA LOW SULFUR DIESEL FUEL FOR WARD STREET HEADWORKS ON JANUARY 25, 2023.			DENNIS K. BURKE INC.	\$29,416.53
P-12	02/22/23	<b>DELIVERY OF ULTRA LOW SULFUR DIESEL FUEL</b> AWARD OF PURCHASE ORDER UNDER MASS STATE CONTRACT ENE47 FOR DELIVERY OF ULTRA LOW SULFUR DIESEL FUEL FOR COLUMBUS PARK HEADWORKS ON JANUARY 23, 2023.			DENNIS K. BURKE INC.	\$29,960.84
P-13	02/21/23	<b>PURCHASE OF ONE AIR CONDITIONER CONDENSER UNIT</b> AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR SERVICE FOR ONE AIR CONDITIONER CONDENSER UNIT FOR DEER ISLAND TREATMENT	WRA-5241Q		HTS ENGINEERING, INC.	\$38,680.00
P-14	02/21/23	<b>PURCHASE OF THREE WEIL SUMP PUMPS</b> AWARD OF A SOLE SOURCE PURCHASE ORDER FOR THREE WEIL SUMP PUMPS FOR THE GAS HANDLING FACILITY AT DEER ISLAND TREATMENT PLANT.			GUSTAVO PRESTON COMPANY, INC.	\$53,127.00
P-15	02/24/23	<b>CONSULTING SERVICES TO UPGRADE THE PROCESS INFORMATION CONTROL SYSTEM (PICS) PI</b> AWARD OF A PURCHASE ORDER UNDER STATE CONTRACT ITS77 TO THE LOWEST RESPONSIVE BIDDER FOR CONSULTING SERVICES TO UPGRADE THE PROCESS INFORMATION SYSTEM ON DEER ISLAND.			ACRO SERVICE CORPORATION	\$27,641.74
P-16	02/24/23	<b>ONE YEAR CONTRACT FOR 24-HOUR EMERGENCY OIL SPILL RESPONSE</b> AWARD OF A ONE-YEAR SOLE SOURCE PURCHASE ORDER FOR 24-HOUR EMERGENCY OIL SPILL RESPONSE FOR DEER ISLAND TREATMENT PLANT.			BOSTON LINE AND SERVICE COMPANY, INC.	\$39,084.00
P-17	02/24/23	<b>ONE YEAR CONTRACT FOR MOBILE MASSACHUSETTS STATE VEHICLE INSPECTIONS</b> AWARD OF A ONE-YEAR PURCHASE ORDER CONTRACT TO THE LOWEST RESPONSIVE BIDDER FOR MOBILE MASSACHUSETTS STATE VEHICLE INSPECTIONS.	WRA-5264Q		MASS MOBILE INSPECTIONS, INC.	\$31,516.00



NO.	DATE OF AWARD	TITLE AND EXPLANATION	CONTRACT	AMENDMENT	COMPANY	
P-18	02/28/23	<b>REFURBISH FIVE SIEMENS VARIABLE FREQUENCY DRIVE HARMONY CELLS ASSEMBLIES</b> AWARD OF A SOLE SOURCE PURCHASE ORDER TO REFURBISH FIVE SIEMENS VARIABLE FREQUENCY DRIVE HARMONY CELLS ASSEMBLIES FOR DEER ISLAND TREATMENT PLANT.			SIEMENS LARGE DRIVES, LLC	\$44,395.00
P-19	02/27/23	<b>PURCHASE OF TWO FLOWSERVE SODIUM BISULFITE PUMPS</b> AWARD OF A SOLE SOURCE PURCHASE ORDER FOR TWO FLOWSERVE SODIUM BISULFITE PUMPS FOR DEER ISLAND TREATMENT PLANT.			AQUA SOLUTIONS, INC.	\$85,978.00
P-20	02/28/23	<b>PURCHASE OF ONE SCREENING EJECTION POD</b> AWARD OF A SOLE SOURCE PURCHASE ORDER FOR ONE SCREENING EJECTION POD FOR COLUMBUS PARK HEADWORKS .			WESTECH ENGINEERING, LLC.	\$42,201.00

## STAFF SUMMARY

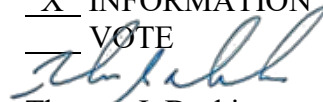
**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director   
**DATE:** March 15, 2023  
**SUBJECT:** FY23 Financial Update and Summary through February 2023

---

**COMMITTEE:** Administration, Finance & Audit

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

X INFORMATION  
VOTE

  
Thomas J. Durkin  
Director, Finance

---

### RECOMMENDATION:

For information only. This staff summary provides the financial results and variance highlights for Fiscal Year 2023 through February 2023, comparing actual spending to the budget, and includes a projection to June 30, 2023.

### 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 February the year-to-date debt related savings of \$6.0 million was transferred to the Defeasance Account. This variance is primarily due to lower than budgeted variable interest expense and lower senior debt spending.

The total Year-to-Date variance for the FY23 Current Expense Budget (CEB) is \$20.4 million, due to lower direct expenses of \$5.9 million and indirect expenses of \$1.4 million, as well as higher revenue of \$13.0 million. The year-end favorable variance is projected at \$39.8 million, of which \$15.6 million is related to debt service. Beyond debt service savings, staff project a favorable variance of approximately \$24.2 million at year-end of which \$6.6 million would be from lower direct expenses, \$0.4 million from lower indirect expenses, and \$17.2 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.

### FY23 Current Expense Budget

The CEB expense variances through February 2023 by major budget category were:

- Lower Direct Expenses of \$5.9 million or 3.3% under budget. Spending was lower for Wages & Salaries, Other Services, Fringe Benefits, Professional Services, Workers

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

- Lower Indirect Expenses of \$1.4 million or 3.3% under budget due primarily to lower Watershed Reimbursements and PILOT payment.
- Debt Service expenses were right on budget after the transfer to the defeasance account, driven by lower than budgeted variable interest expense and timing of the new money and SRF transactions.
- Revenue was \$13.0 million or 2.3% greater than estimate driven by Investment Income of \$7.4 million due to higher than anticipated interest rates, Other User Charges of \$4.7 million for water usage by the City of Cambridge and Other Revenue of \$0.9 million.

**FY23 Budget and FY23 Actual Variance by Expenditure Category  
(in millions)**

	<b>FY23 Budget</b>	<b>FY23 Actual</b>	<b>\$ Variance</b>	<b>% Variance</b>
Direct Expenses	\$178.1	\$172.2	-\$5.9	-3.3%
Indirect Expenses	\$43.2	\$41.8	-\$1.4	-3.3%
Capital Financing	\$311.3	\$311.3	\$0.0	0.0%
<b>Total</b>	<b>\$532.6</b>	<b>\$525.3</b>	<b>-\$7.4</b>	<b>-1.4%</b>

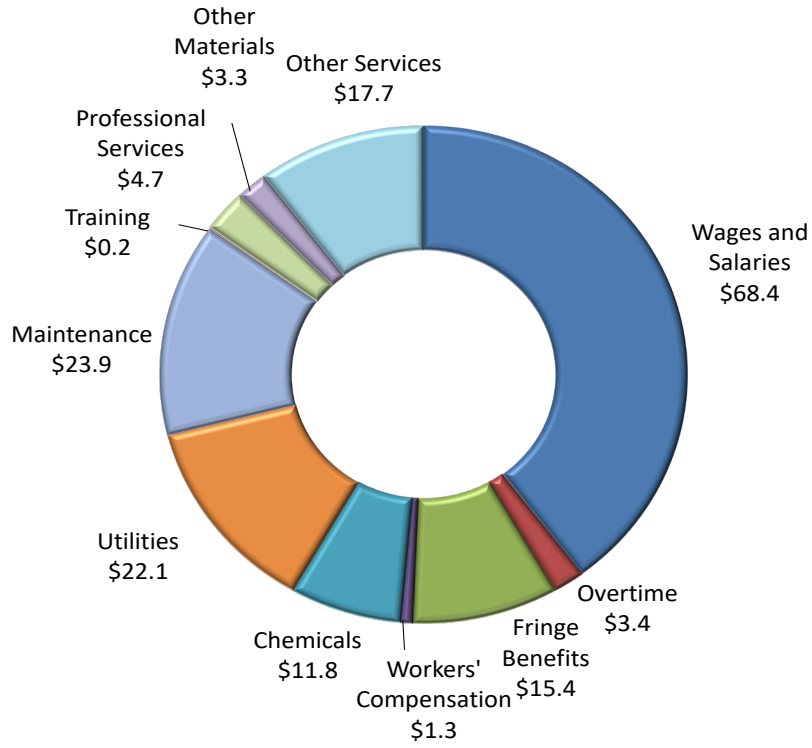
*Totals may not add due to rounding*

*Please refer to Attachment 1 for a more detailed comparison by line item of the budget variances for FY23.*

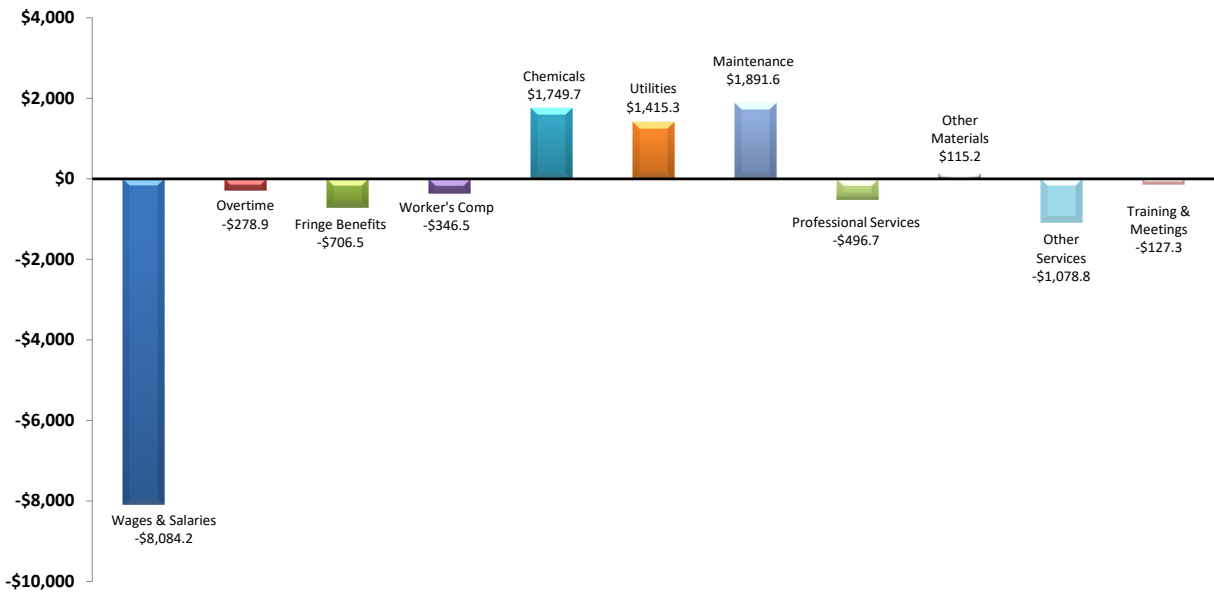
**Direct Expenses**

FY23 direct expenses through February totaled \$172.2 million, which was \$5.9 million or 3.3% less than budgeted.

**FY23 Direct Expenses  
(in millions)**

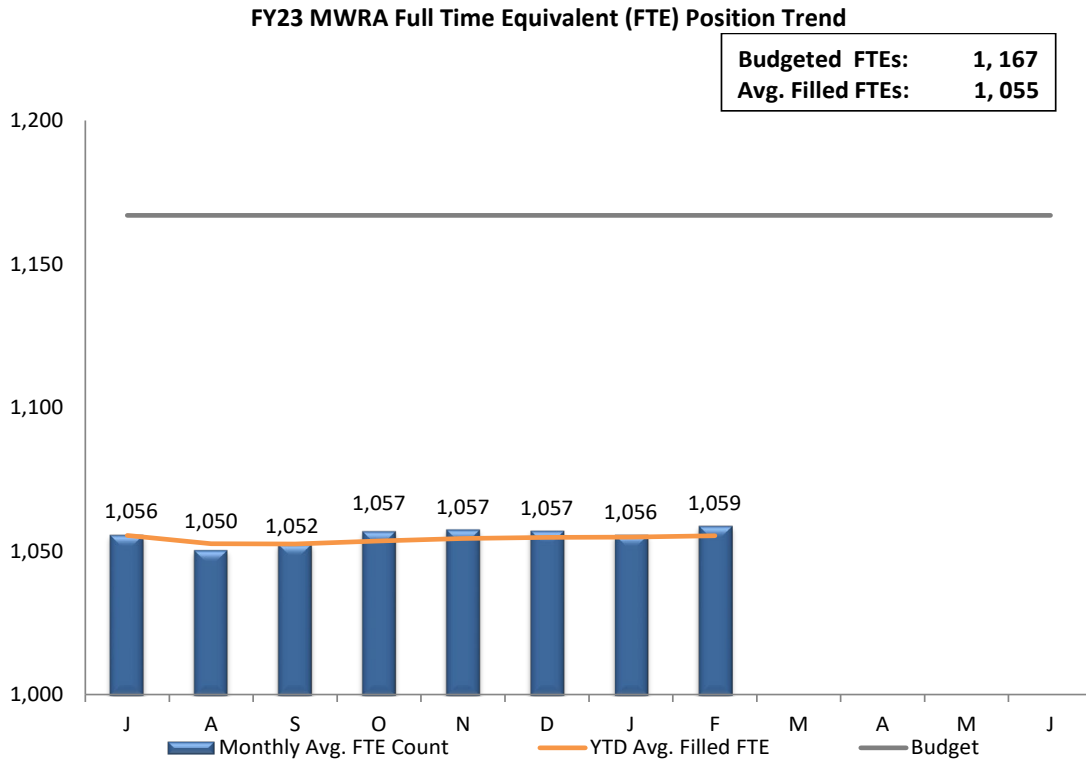


**FY23 Direct Expense Variance  
(in thousands)**



## Wages and Salaries

Wages and Salaries was under budget by \$8.1 million or 10.6%. Through February, there were 112 fewer average FTEs (1,055 versus 1,167 budget) or 9.6% and lower average salaries for new hires versus retirees. The timing of backfilling vacant positions also contributed to Regular Pay being under budget.



## Maintenance

Maintenance was greater than budget by \$1.9 million or 8.6%, largely driven by the timing of projects. Maintenance Services are over budget by \$1.2 million due to higher Plant & Machinery Services of \$2.1 million due to timing of some service contracts and the Norumbega Tank Cleaning award being greater than budgeted, and cleaning of surfaces and equipment at the Cottage Farm CSO facility that was unbudgeted. In addition, higher Computer Software Licenses of \$368,000 was due to timing (and includes Windows Exchange renewal and the multi-factor authentication software support renewal that was greater than budgeted). These are partially offset by lower Building & Grounds Services of \$690,000 due to timing and includes the Eastern Ave Traffic Light and Shaft 8 Retaining Wall work and lower Computer Services of \$331,000 and Electrical Services of \$252,000 also due to timing. Maintenance Materials are over budget by \$710,000 driven by higher Computer Materials of \$186,000, Special Equipment Materials of \$121,000, and HVAC Materials of \$88,000.

## **Chemicals**

Chemicals were greater than budget by \$1.7 million or 17.4%. Higher than budget spending on Sodium Hypochlorite of \$961,000 driven by Deer Island of \$768,000 due to additional usage for disinfection and odor control due to lower flows and higher pricing, \$92,000 in Water Operations mostly due to higher contract price, and \$89,000 in Wastewater Operations primarily at Nut Island Headworks, Ferric Chloride of \$412,000 driven by Deer Island to keep the orthophosphate levels in the digesters at the desired target level and higher pricing, Hydrogen Peroxide of \$178,000 driven by Deer Island to reduce elevated Hydrogen Sulfide (H<sub>2</sub>S) levels for pretreatment and odor control and provide maintenance safely, Carbon Dioxide of \$150,000 primarily due to increased contract price, Activated Carbon of \$106,000 driven by Wastewater Operations of \$59,000 and Deer Island of \$43,000 due to timing of replacements, partially offset by Sodium Bisulfite of \$111,000 primarily in Wastewater Operations. Deer Island flows are 11.1% lower than the budget and Carroll preliminary flows are 4.8% greater than the budget through February. 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**

Utilities were greater than budget by \$1.4 million or 6.9%. Overspending in Electricity of \$1.5 million primarily at Deer Island of \$1.1 million is driven by higher real time pricing as well as higher usage and peak demand charges. Electricity in Field Operations was greater than budget by \$420,000 due to T&D and Generation costs being greater than budget.

## **Other Services**

Other Services was less than budget by \$1.1 million or 5.7% for Sludge Pelletization of \$176,000 and Grit & Screenings Removal \$78,000 both due to lower quantities, and lower Telecommunications costs of \$479,000 due to less than anticipated spending. Also, Space Lease/Rentals of \$193,000 due to the timing of rock core storage, shelving, and furniture.

## **Fringe Benefits**

Fringe Benefit spending was lower than budget by \$707,000 or 4.4%. Lower than budget in Health Insurance of \$496,000 is 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. In addition, there was lower spending on Paid Family Medical Leave of \$64,000, Tuition Reimbursement of \$41,000, and Unemployment Insurance of \$35,000.

## **Professional Services**

Professional Services were less than budget by \$497,000 or 9.5% driven by lower Computer Systems Consultant of \$148,000, Other Services of \$137,000, Lab & Testing and Analysis of \$109,000, and Engineering Services of \$78,000 all primarily due to timing.

## **Worker's Compensation**

Worker's Compensation expenses were lower than budget by \$346,000 or 20.6%. The lower expenses were due to favorable variances in Compensation Payments of \$293,000, Medical Payments of \$33,000, and Administrative Expenses of \$21,000. Due to uncertainties of when spending will happen, the budget is spread evenly throughout the year.

## **Overtime**

Overtime expenses were less than budget by \$279,000 or 7.7%. Lower spending mainly in Field Operations of \$405,000 primarily for planned overtime (due to vacancies), emergency overtime being under budget and minimal bad weather conditions, and Engineering & Construction of \$73,000, are partially offset by higher spending at Deer Island of \$228,000 for shift coverage due to vacancies for Deer Island Operations positions.

## **Training & Meetings**

Training & Meetings expenses were lower than budget by \$127,000 or 43.9% driven by the timing of spending.

## **Other Materials**

Other Materials were greater than budget by \$115,000 or 3.6% driven by Vehicle Purchase/Replacements of \$445,000 due to timing of purchases and Computer Hardware of \$239,000 also due to timing for additional hardware purchases. This overspending is partially offset by lower Vehicle Expense of \$279,000 primarily due to delay in installation of electrical vehicle chargers, Equipment/Furniture of \$100,000 and Computer Software of \$86,000, both due to timing.

## **Indirect Expenses**

Indirect Expenses totaled \$41.7 million, which is \$1.4 million or 3.3% lower than budget. The variance is driven by lower Watershed reimbursements and PILOT payment.

Based on FY23 operating activity only, the Watershed Division is \$1.5 million or 12.1% under budget. Lower spending on Wages and Salaries and Fringe Benefits are slightly offset by higher spending on Maintenance and Utilities/Fuel due to timing. When factoring in the FY22 balance forward of \$273,000 which was paid during Q1 of FY23, Watershed Reimbursement is \$1.2 million or 9.8% below budget through February 2023. The PILOT payment in the amount of \$8.5 million was paid in February, and was \$424,000 under budget.

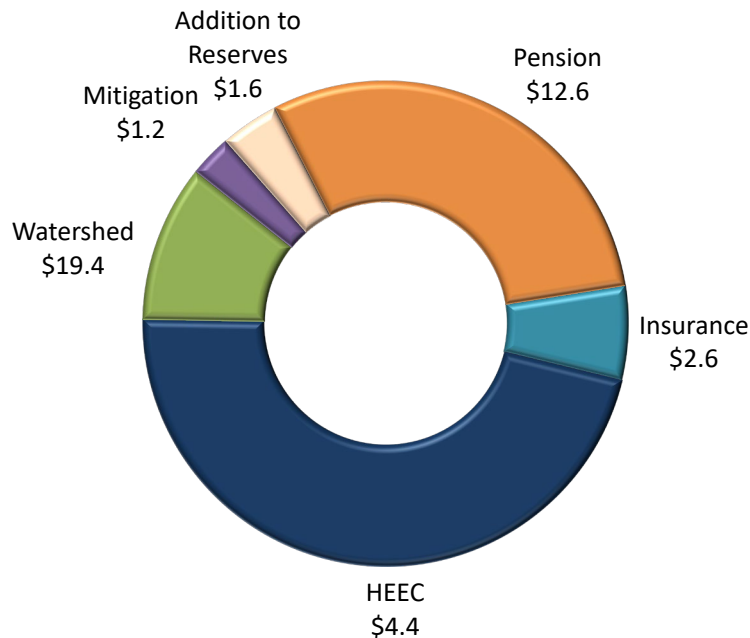
**FY23 Watershed Protection Variance**

\$ in millions	YTD Budget	YTD Actual	YTD \$ Variance	YTD % Variance
Operating Expenses	12.8	12.1	-0.7	-5.6%
Operating Revenues - Offset	0.7	1.4	0.7	109.0%
<b>FY23 Operating Totals</b>	<b>12.1</b>	<b>10.7</b>	<b>-1.5</b>	<b>-12.1%</b>
DCR Balance Forward (FY22 year-end accrual true-up)	0.0	0.3	0.3	
<b>FY23 Adjusted Operating Totals</b>	<b>12.1</b>	<b>10.9</b>	<b>-1.2</b>	<b>-9.8%</b>
PILOT	8.9	8.5	-0.4	-4.8%
<b>Total Watershed Reimbursement</b>	<b>21.0</b>	<b>19.4</b>	<b>-1.6</b>	<b>-7.7%</b>

*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 estimated expenses 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 February was 140 (and 141.1 on a year-to-date basis) vs. a budget of 150.

**FY23 Indirect Expenses  
(in millions)**

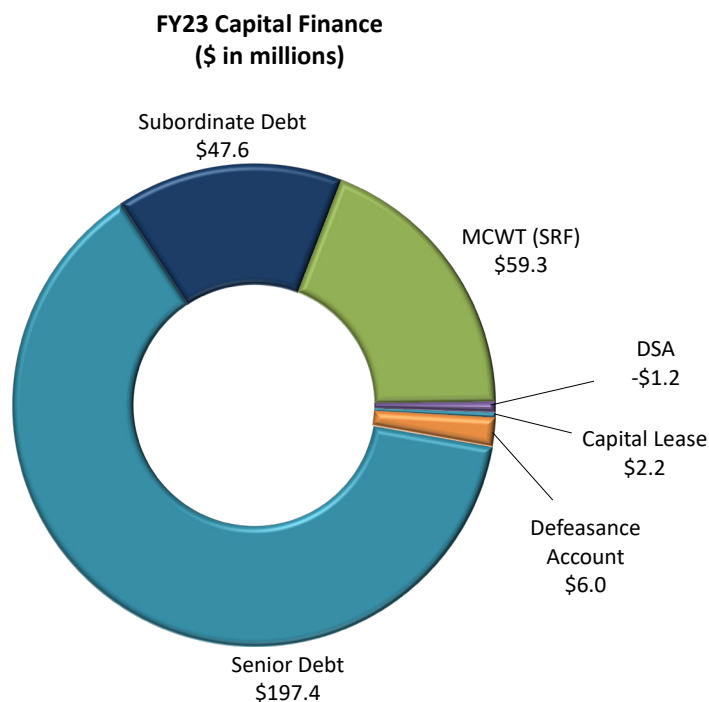




## **Capital Financing**

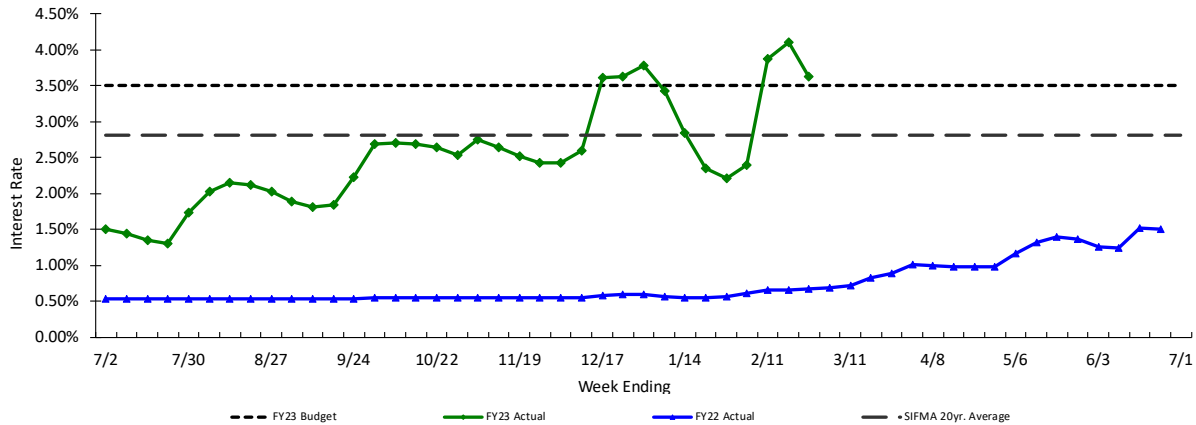
Capital Financing expenses include the principal and interest payments for fixed senior debt, the variable subordinate debt, the Massachusetts Clean Water Trust (SRF) obligation, the commercial paper program for the local water pipeline projects, current revenue for capital, Optional Debt Prepayment,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

Capital Financing expenses for FY23 through February totaled \$311.3 million which matches the budget after the transfer of \$6.0 million to the Defeasance account. The positive year-to-date variance of \$6.0 million is driven by lower Senior Debt spending of \$3.7 million as a result of timing of the new money transaction and lower than budgeted variable interest expense of \$2.7 million, partially offset by higher SRF spending of \$396,000 based on timing.



The following graph reflects the FY23 actual variable rate trend by week against the FY23 Budget.

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



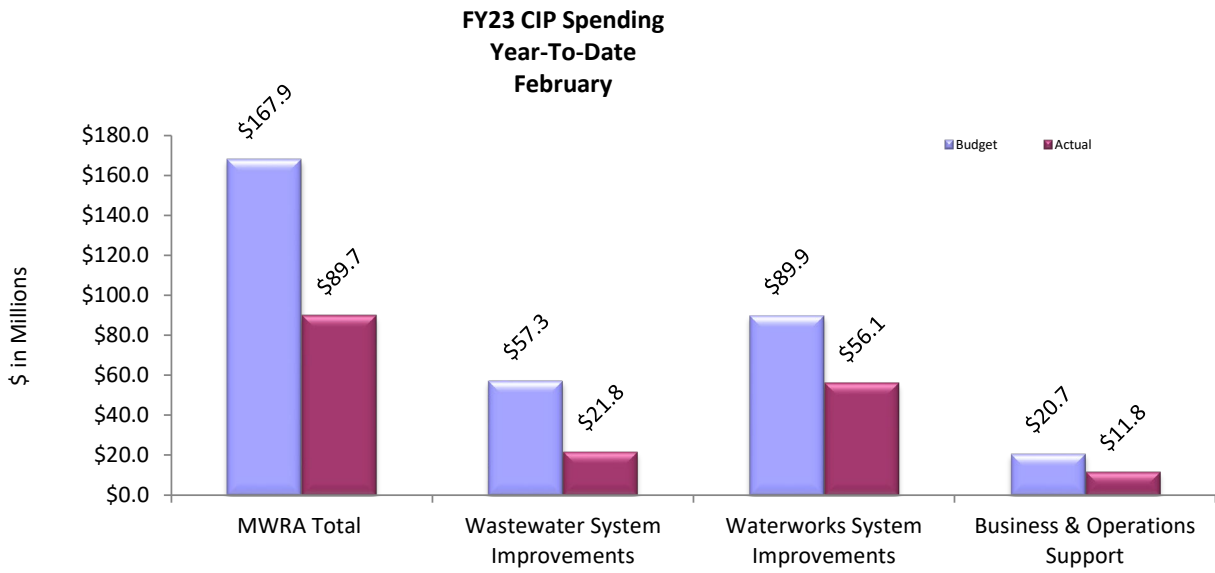
**Revenue & Income**

Revenues of \$579.3 million were \$13.0 million or 2.3% greater than estimate. Other User Charges were \$4.7 million higher primarily due to water usage by the City of Cambridge. Investment Income was \$7.4 million greater than estimate due to higher than anticipated interest rates (2.71% actual vs 1.10% anticipated). Other Revenue was \$923,000 or 19.1% greater than estimate due to Miscellaneous Revenue of \$400,000, Energy Revenue of \$314,000, and Permit Fees of \$160,000, all primarily due to timing.

**FY23 Capital Improvement Program**

Capital expenditures in Fiscal Year 2023 through January total \$89.7 million, \$78.2 million or 46.6% 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 \$81.9 million, \$48.14 million or 37.0% under planned spending.



Overall, CIP spending reflects the underspending in Wastewater Improvements (\$35.5 million), Waterworks (\$33.7 million) and Business and Operations Support (\$9.0 million). Major variances in Wastewater are primarily due to timing of community grants and loans for the I/I Local Financial Assistance Program, schedule changes for the Deer Island Treatment Plant (Deer Island) Clarifier Rehab Phase 2, contractor behind schedule on Nut Island Odor Control and HVAC Improvements, completion of some design and inspection tasks later than anticipated for the Ward Street and Columbus Park Headworks Upgrades Design/ESDC, schedule changes for Deer Island Roofing Replacement and South System Pump Station Variable Frequency Drive (VFD) Replacement Design/ESDC, and lower than projected task order work on Deer Island As-needed Design contracts.

Waterworks variances are primarily due to timing of community loan distributions for the Water Loan Program, long lead-time for piping material for Waltham Water Pipeline, timing of contractors work for Weston Aqueduct Supply Mains (WASM)/Spot Pond Supply Mains (SPSM) West PRV, schedule changes for Quabbin Maintenance Garage/Wash Bay/Storage Building - Construction and CP-2 Shaft 5 Construction, updated Notice to Proceed for Wachusett Lower Gatehouse Pipe & Boiler Replacement - Construction and timing of purchases for Watershed Land. This was partially offset by contractor progress for Section 89/29 Replacement and CP-1 Norther Extra High (NEH) Improvements, and timing of consultants work for Tunnel Redundancy Preliminary Design and Massachusetts Environmental Policy Act (MEPA) Review, Section 53 and 99 Improvements - Design/CA and NEH Improvements Design – ESDC.

**FY23 Budget and FY23 Actual Variance by Program  
(in millions)**

\$ in Millions	Budget	Actuals	\$ Var.	% Var.
<b>Wastewater System Improvements</b>				
Interception & Pumping	25.2	15.7	(9.4)	-37.5%
Treatment	11.2	0.9	(10.3)	-91.6%
Residuals	0.0	0.0	0.0	0.0%
CSO	1.5	1.4	(0.1)	-4.7%
Other	19.4	3.7	(15.7)	-80.8%
<b>Total Wastewater System Improvements</b>	<b>\$57.3</b>	<b>\$21.8</b>	<b>(\$35.5)</b>	<b>-61.9%</b>
<b>Waterworks System Improvements</b>				
Drinking Water Quality Improvements	2.9	1.3	(1.6)	-54.7%
Transmission	37.7	21.4	(16.4)	-43.4%
Distribution & Pumping	23.4	24.1	0.7	3.0%
Other	25.9	9.4	(16.5)	-63.7%
<b>Total Waterworks System Improvements</b>	<b>\$89.9</b>	<b>\$56.1</b>	<b>(\$33.7)</b>	<b>-37.5%</b>
<b>Business &amp; Operations Support</b>	<b>\$20.7</b>	<b>\$11.8</b>	<b>(\$9.0)</b>	<b>-43.2%</b>
<b>Total MWRA</b>	<b>\$167.9</b>	<b>\$89.7</b>	<b>(\$78.2)</b>	<b>-46.6%</b>

*Totals may not add due to rounding*

**FY23 Spending by Program:**

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

**Other Waterworks:** Net underspending of \$16.5 million

- \$15.1 million for Local Financial Assistance due to timing of community loan distributions.
- \$1.3 million for the Carroll Water Treatment Plant Supervisory Control and Data Acquisition (SCADA) Upgrades construction due to timing of work and long lead time for materials.
- \$0.6 million for Electrical Distribution Upgrades at Southborough due to timing of work.
- This underspending was partially offset by overspending of \$0.6 million for New Roofs at Water Pump Stations – Construction due to timing of work.

**Waterworks Transmission:** Net underspending of \$16.4 million

- \$9.5 million for Waltham Water Pipeline due to long lead time for piping material.
- \$2.0 million for WASM/Spot Pond Supply Main Pressure Reducing Valves Improvements due to timing of contractor work.
- \$1.1 million for Maintenance Garage/Wash Bay/Storage Building - Construction due to schedule change.
- \$1.1 million for CP-2 Shaft 5 Construction due to updated schedule.
- \$1.0 million for Wachusett Lower Gatehouse Pipe & Boiler Replacement - Construction due to updated Notice to Proceed.
- \$0.7 million for Watershed Land due to timing of purchases.

- \$0.5 million for Wachusett Lower Gatehouse Windows & Doors due to long lead time for windows.
- This underspending was partially offset by overspending of \$1.0 million for Tunnel Redundancy Preliminary Design & MEPA Review due to timing of consultant work.

**Other Wastewater:** Net underspending of \$15.7 million

- \$15.7 million for Community I/I due to timing of community distributions of grants and loans.

**Wastewater Treatment:** Net underspending of \$10.3 million

- \$4.5 million for Clarifier Rehab Phase 2 Construction due to schedule change.
- \$1.3 million for Deer Island Roofing Replacement due to schedule change.
- \$1.2 million for South System Pump Station VFD Design/ESDC due to updated construction schedule.
- \$0.7 million for As-needed Design due to lower than projected task order work.

**Interception & Pumping:** Net underspending of \$9.4 million

- \$4.1 million for Nut Island Odor Control & HVAC Improvements Phase 2 – Construction due to contractor behind schedule.
- \$2.4 million for Ward Street & Columbus Park Headworks Upgrades - Design/CA due to completion of some design and inspection tasks later than anticipated.

**Business & Operations Support:** Net underspending of \$9.0 million

- \$1.3 million for FY19-23 Vehicle Purchases due to timing of purchases and supply chain issues.
- \$3.3 million for Cabling, \$0.8 million for Oracle Database Appliance, and \$0.6 million for MAXIMO Interface Enhancements due to timing of work.
- \$0.9 million for Security Equipment & Installation due to timing of security initiatives.

**Drinking Water Quality Improvements:** Net underspending of \$1.6 million

- \$0.9 million for Carroll Chemical Feed System Improvements – Construction due to timing of work.
- \$0.5 million for Carroll Technical Assistance for lower than projected task order work.
- \$0.3 million for Marlborough Pumping Station Construction due to timing of work.

**Water Distribution and Pumping:** Net overspending of \$0.7 million

- \$2.0 million for Section 89/29 Replacement – Construction due to contractor progress.
- \$0.9 million for CP-1 NEH Improvements due to contractor progress.
- \$0.6 million for Section 53 and 99 Improvements - Design/CA due to timing of consultant work.
- \$0.5 million NEH Improvements Design – ESDC due to timing of consultant work.
- This overspending was partially offset by underspending of \$1.0 million for CP3-Sections 23, 24, 47 Rehabilitation due to timing of work, \$0.8 million for Cathodic Protection Shafts N & W due to scope changes, and \$0.7 million for Section 56 Replacement/Saugus River - Design/CA due to permitting delays.

**Combined Sewer Overflow:** Net underspending of \$0.1 million

- \$0.7 million for Chelsea 008 Pipe Replacement due to schedule change and long lead time for materials partially offset by \$0.8 million for unplanned Fort Point Channel Sewer Separation work.

**Construction Fund Balance**

The construction fund balance was \$110.6 million as of the end of February. Commercial Paper/Revolving Loan available capacity was \$110 million.

**ATTACHMENTS:**

Attachment 1 – Variance Summary February 2023

Attachment 2 – Current Expense Variance Explanations

Attachment 3 – Capital Improvement Program Variance Explanations

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

ATTACHMENT 1  
FY23 Actuals vs. FY23 Budget

	Feb 2023 Year-to-Date				
	Period 8 YTD Budget	Period 8 YTD Actual	Period 8 YTD Variance	%	FY23 Approved
<b>EXPENSES</b>					
WAGES AND SALARIES	\$ 76,519,257	\$ 68,435,026	\$ (8,084,231)	-10.6%	\$ 118,980,689
OVERTIME	3,631,969	3,353,024	(278,945)	-7.7%	5,337,896
FRINGE BENEFITS	16,097,370	15,390,848	(706,522)	-4.4%	23,961,641
WORKERS' COMPENSATION	1,679,834	1,333,342	(346,492)	-20.6%	2,519,751
CHEMICALS	10,044,770	11,794,478	1,749,708	17.4%	14,994,036
ENERGY AND UTILITIES	20,660,428	22,075,723	1,415,295	6.9%	30,896,365
MAINTENANCE	21,970,854	23,862,496	1,891,642	8.6%	33,241,023
TRAINING AND MEETINGS	290,116	162,864	(127,252)	-43.9%	492,197
PROFESSIONAL SERVICES	5,211,289	4,714,584	(496,705)	-9.5%	8,197,575
OTHER MATERIALS	3,170,012	3,285,196	115,184	3.6%	6,728,862
OTHER SERVICES	18,827,954	17,749,141	(1,078,813)	-5.7%	28,372,237
<b>TOTAL DIRECT EXPENSES</b>	<b>\$ 178,103,853</b>	<b>\$ 172,156,722</b>	<b>\$ (5,947,131)</b>	<b>-3.3%</b>	<b>\$ 273,722,272</b>
INSURANCE	\$ 2,635,771	\$ 2,625,825	\$ (9,946)	-0.4%	\$ 3,916,002
WATERSHED/PILOT	21,033,011	19,415,176	(1,617,835)	-7.7%	28,890,762
HEEC PAYMENT	4,185,894	4,392,029	206,135	4.9%	6,225,566
MITIGATION	1,168,256	1,168,255	(1)	0.0%	1,735,694
ADDITIONS TO RESERVES	1,627,805	1,627,805	-	0.0%	2,418,453
RETIREMENT FUND	12,555,203	12,555,203	-	0.0%	12,555,203
POST EMPLOYEE BENEFITS	-	-	-	---	4,754,061
<b>TOTAL INDIRECT EXPENSES</b>	<b>\$ 43,205,940</b>	<b>\$ 41,784,293</b>	<b>\$ (1,421,647)</b>	<b>-3.3%</b>	<b>\$ 60,495,741</b>
STATE REVOLVING FUND	\$ 58,951,545	\$ 59,347,700	\$ 396,155	0.7%	\$ 96,342,495
SENIOR DEBT	201,074,318	197,407,649	(3,666,669)	-1.8%	302,169,940
DEBT SERVICE ASSISTANCE	(1,182,494)	(1,182,494)	-	0.0%	(1,182,494)
CURRENT REVENUE/CAPITAL	-	-	-	---	18,200,000
SUBORDINATE MWRA DEBT	50,305,410	50,305,410	-	0.0%	75,491,975
LOCAL WATER PIPELINE CP	-	-	-	---	6,233,882
CAPITAL LEASE	2,165,329	2,165,329	-	0.0%	3,217,060
VARIABLE DEBT	-	(2,718,801)	(2,718,801)	---	-
DEFEASANCE ACCOUNT	-	5,989,316	5,989,316	---	-
DEBT PREPAYMENT	-	-	-	---	5,500,000
<b>TOTAL CAPITAL FINANCE EXPENSE</b>	<b>\$ 311,314,108</b>	<b>\$ 311,314,108</b>	<b>\$ -</b>	<b>0.0%</b>	<b>\$ 505,972,858</b>
<b>TOTAL EXPENSES</b>	<b>\$ 532,623,901</b>	<b>\$ 525,255,123</b>	<b>\$ (7,368,778)</b>	<b>-1.4%</b>	<b>\$ 840,190,871</b>
<b>REVENUE &amp; INCOME</b>					
RATE REVENUE	\$ 548,320,770	\$ 548,320,770	\$ -	0.0%	\$ 814,648,000
OTHER USER CHARGES	6,871,239	11,538,820	4,667,581	67.9%	9,836,507
OTHER REVENUE	4,838,578	5,761,926	923,348	19.1%	6,139,104
RATE STABILIZATION	659,615	659,615	-	0.0%	980,000
INVESTMENT INCOME	5,556,222	12,976,099	7,419,877	133.5%	8,587,260
<b>TOTAL REVENUE &amp; INCOME</b>	<b>\$ 566,246,424</b>	<b>\$ 579,257,229</b>	<b>\$ 13,010,806</b>	<b>2.3%</b>	<b>\$ 840,190,871</b>

**ATTACHMENT 2**  
**Current Expense Variance Explanations**

Total MWRA	FY23 Budget YTD February	FY23 Actuals February	FY23 YTD Actual vs. FY23 Budget		Explanations
			\$	%	
<b>Direct Expenses</b>					
Wages & Salaries	76,519,257	68,435,026	(8,084,231)	-10.6%	Wages and Salaries are under budget by \$8.1 million. Year to date, there have been 112 fewer average FTEs (1,055 versus 1,167 budget), lower average new hire salaries versus retirees, the timing of backfilling vacant positions.
Overtime	3,631,969	3,353,024	(278,945)	-7.7%	Overtime expenses were less than budget by \$279,000 or 7.7%. Lower spending mainly in Field Operations of \$405,000 primarily for planned overtime (due to vacancies), emergency overtime being under budget and minimal bad weather conditions, and Engineering & Construction of \$73,000, are partially offset by higher spending at Deer Island of \$228,000 for shift coverage due to vacancies for DITP Operations positions.
Fringe Benefits	16,097,370	15,390,848	(706,522)	-4.4%	Fringe Benefit spending was lower than budget by \$707,000 or 4.4%. Lower than budget in <b>Health Insurance</b> of \$496,000, 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. Also, <b>Paid Family Medical Leave</b> of \$64,000, <b>Tuition Reimbursement</b> of \$41,000, and <b>Unemployment Insurance</b> of \$35,000 were less than budget.
Worker's Compensation	1,679,834	1,333,342	(346,492)	-20.6%	Worker's Compensation expenses were lower than budget by \$346,000 or 20.6%. The lower expenses were due to favorable variances in <b>Compensation Payments</b> of \$293,000, <b>Medical Payments</b> of \$33,000, and <b>Administrative Expenses</b> of \$21,000. Due to uncertainties of when spending will happen, the budget is spread evenly throughout the year.
Chemicals	10,044,770	11,794,478	1,749,708	17.4%	Chemicals were greater than budget by \$1.7 million or 17.4%. Higher than budget spending on <b>Sodium Hypochlorite</b> of \$961,000 driven by DITP of \$768,000 due to additional usage for disinfection and odor control due to lower flows and higher pricing, \$92,000 in Water Operations mostly due to higher contract price, and \$89,000 in Wastewater Operations primarily at Nut Island Headworks, <b>Ferric Chloride</b> of \$412,000 driven by DITP to keep the orthophosphate levels in the digesters at the desired target level and higher pricing, <b>Hydrogen Peroxide</b> of \$178,000 driven by DITP to reduce elevated Hydrogen Sulfide (H2S) levels for pretreatment and odor control and provide maintenance safely, <b>Carbon Dioxide</b> of \$150,000 primarily due to increased contract price, <b>Activated Carbon</b> of \$106,000 driven by Wastewater Operations of \$59,000 and DITP of \$43,000 due to timing of replacements, partially offset by <b>Sodium Bisulfite</b> of \$111,000 primarily in Wastewater Operations. DITP flows are 11.1% lower than the budget and CWTP preliminary flows are 4.8% greater than the budget through February. 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.



**ATTACHMENT 2**  
**Current Expense Variance Explanations**

Total MWRA	FY23 Budget YTD February	FY23 Actuals February	FY23 YTD Actual vs. FY23 Budget		Explanations
			\$	%	
Utilities	20,660,428	22,075,723	1,415,295	6.9%	Utilities were greater than budget by \$1.4 million or 6.9%. Overspending in <b>Electricity</b> of \$1.5 million primarily at DITP of \$1.1 million driven by higher real time pricing as well as higher usage and peak demand charges. Electricity in Field Operations was greater than budget by \$420,000 due to T&D and Generation costs were greater than budget.
Maintenance	21,970,854	23,862,496	1,891,642	8.6%	Maintenance was greater than budget by \$1.9 million or \$8.6% or 2.9%, largely driven by the timing of projects. <i>Maintenance Services</i> are over budget by \$1.2 million due to higher <b>Plant &amp; Machinery Services</b> of \$2.1 million due to timing of some service contracts, the Norumbega Tank Cleaning award being greater than budgeted, and cleaning of surfaces and equipment at the Cottage Farm CSO facility that was unbudgeted, <b>Computer Software Licenses</b> of \$368,000 due to timing (and includes Windows Exchange renewal and the multi-factor authentication software support renewal that was greater than budgeted). These are partially offset by lower <b>Building &amp; Grounds Services</b> of \$690,000 due to timing and includes the Eastern Ave Traffic Light and Shaft 8 Retaining Wall work and lower <b>Computer Services</b> of \$331,000 and <b>Electrical Services</b> of \$252,000 also due to timing. <i>Maintenance Materials</i> are over budget by \$710,000 driven by <b>Warehouse Inventory</b> of \$509,000, higher <b>Computer Materials</b> of \$186,000, timing for <b>Special Equipment Materials</b> of \$121,000 and <b>HVAC Materials</b> of \$88,000, partially offset by <b>Electrical Materials</b> of \$134,000 and <b>Pipeline Materials</b> of \$104,000 also due to timing.
Training & Meetings	290,116	162,864	(127,252)	-43.9%	Training & Meetings was lower than budget by \$127,000 or 43.9% is primarily due to timing driven by MIS (\$101,000), Water Redundancy (\$16,000), DITP (\$12,000), Water Redundancy (\$16,000), Engineering & Construction (\$10,000), and Procurement (\$8,000), partially offset by higher spending in Field Operations \$44,000.
Professional Services	5,211,289	4,714,584	(496,705)	-9.5%	Professional Services were less than budget by \$497,000 or 9.5% driven by lower <b>Computer Systems Consultant</b> of \$148,000, <b>Other Services</b> of \$137,000, <b>Lab &amp; Testing and Analysis</b> of \$109,000, and <b>Engineering Services</b> of \$78,000 primarily due to timing, partially offset by higher <b>Legal Services</b> of \$52,000, also due to timing.
Other Materials	3,170,012	3,285,196	115,184	3.6%	Other Materials were greater than budget by \$115,000 or 3.6% driven by <b>Vehicle Purchase/Replacements</b> of \$445,000 due to timing of purchases and <b>Computer Hardware</b> of \$239,000 also due to timing and additional hardware purchases. This overspending is partially offset by <b>Vehicle Expense</b> of \$279,000 primarily due to delay in installation of electrical vehicle chargers, <b>Equipment Furniture</b> of \$100,000 and <b>Computer Software</b> of \$86,000 due to timing.
Other Services	18,827,954	17,749,141	(1,078,813)	-5.7%	Other Services were lower than budget by \$1.1 million or 5.7% driven by <b>Sludge Pelletization</b> of \$176,000 and <b>Grit &amp; Screenings Removal</b> \$78,000 due to lower quantities, <b>Telecommunications</b> of \$479,000 due to less than anticipated costs, <b>Space/Lease Rentals</b> \$193,000 primarily for Rock Core Storage and shelving & furniture due to timing, <b>Memberships/Dues/Subscriptions</b> of \$30,000 primarily due to timing. Also, lower <b>Police Details</b> of \$37,000 was due to less than anticipated as-needed details.
<b>Total Direct Expenses</b>	<b>178,103,853</b>	<b>172,156,722</b>	<b>(5,947,131)</b>	<b>-3.3%</b>	

**ATTACHMENT 2**  
**Current Expense Variance Explanations**

Total MWRA	FY23 Budget YTD February	FY23 Actuals February	FY23 YTD Actual vs. FY23 Budget		Explanations
			\$	%	
<b>Indirect Expenses</b>					
Insurance	2,635,771	2,625,825	(9,946)	-0.4%	Higher Premiums of \$36,000 than budgeted and lower Payments/Claims of \$46,000 than budgeted.
Watershed/PILOT	21,033,011	19,415,176	(1,617,835)	-7.7%	Lower Watershed Reimbursement of \$1.6 million favorable variance to budget driven by lower spending on Wages & Salaries, Fringe Benefits and Wages & Salaries, partially offset by higher spending on Maintenance and Equipment due to timing, and Utilities and Fuel.
HEEC Payment	4,185,894	4,392,029	206,135	4.9%	HEEC Revenue Requirement of \$107,000, HEEC True Up of \$93,000, and O&M Charge of \$6,000.
Mitigation	1,168,256	1,168,255	(1)	0.0%	
Addition to Reserves	1,627,805	1,627,805	-	0.0%	
Pension Expense	12,555,203	12,555,203	-	0.0%	
Post Employee Benefits	-	-	-		
<b>Total Indirect Expenses</b>	<b>43,205,940</b>	<b>41,784,293</b>	<b>(1,421,647)</b>	<b>-3.3%</b>	
<b>Debt Service</b>					
Debt Service	311,314,108	317,303,425	5,989,317	1.9%	Debt Service matches the budget after the transfer of 6.0 million to the Defeasance account, driven by lower Senior Debt spending of \$3.7 million as a result of the refunding and new money transactions, lower than budgeted variable interest expense of \$2.7 million, partially offset by higher SRF spending of \$0.4 million due to timing.
Debt Service Assistance	-	(5,989,316)	(5,989,316)		
<b>Total Debt Service Expenses</b>	<b>311,314,108</b>	<b>311,314,109</b>	<b>1</b>	<b>0.0%</b>	
<b>Total Expenses</b>	<b>532,623,901</b>	<b>525,255,124</b>	<b>(7,368,776)</b>	<b>-1.4%</b>	

**ATTACHMENT 2  
Current Expense Variance Explanations**

Total MWRA	FY23 Budget YTD February	FY23 Actuals February	FY23 YTD Actual vs. FY23 Budget		Explanations
			\$	%	
<b>Revenue &amp; Income</b>					
Rate Revenue	548,320,770	548,320,770	-	0.0%	
Other User Charges	6,871,240	11,538,821	4,667,581	67.9%	Water usage by the City of Cambridge.
Other Revenue	4,838,579	5,761,926	923,347	19.1%	Other Revenue was \$923,000 or 19.1% over budget due to <b>Miscellaneous Revenue</b> of \$400,000, <b>Energy Revenue</b> of \$314,000, <b>Permit Fees</b> of \$160,000, and <b>Energy Rebates</b> of \$59,000 primarily due to timing.
Rate Stabilization	659,615	659,615	-	0.0%	HEEC Reserve.
Investment Income	5,556,222	12,976,099	7,419,877	133.5%	Investment Income is over budget due to higher than budgeted interest rates (2.71% actual vs 1.10% budget).
<b>Total Revenue</b>	<b>566,246,426</b>	<b>579,257,231</b>	<b>13,010,805</b>	<b>2.3%</b>	
<b>Net Revenue in Excess of Expenses</b>	<b>33,622,525</b>	<b>54,002,107</b>	<b>20,379,581</b>		

**ATTACHMENT 3  
FY23 CIP Year-to-Date Variance Report (\$000s)**

	FY23 Budget YTD February	FY23 Actuals YTD February	YTD Actuals vs. Budget		Explanations
			\$	%	
<b>Wastewater</b>					
Interception & Pumping (I&P)	\$25,159	\$15,720	(\$9,440)	-37.5%	<u>Underspending</u> Nut Island Odor Control & HVAC Improvements Phase 2 - Construction and CA/REI: \$4.1M (contractor behind schedule) Ward Street & Columbus Park Headworks Upgrades - Design/CA: \$2.4M (completed some design and inspection tasks later than anticipated) Wastewater Meter System Equipment Replacement: \$324k (timing of final work)
Treatment	\$11,198	\$945	(\$10,253)	-91.6%	<u>Underspending</u> Primary & Secondary Clarifier Rehab Phase 2 Construction: \$4.5M, DITP Roofing Replacement: \$1.3M, and Deer Island Dystor Membrane Replacements: \$500k (updated schedules) South System Pump Station VFD Replacement Design/ESDC: \$1.2M (construction schedule change) As-Needed Design: \$702k (lower than projected task order work) Screw Pumps Replacement Phase 1 - Construction: \$599k (delivery of pumps longer than anticipated)
Residuals	\$0	\$0			
CSO	\$1,483	\$1,414	(\$69)	-4.7%	<u>Underspending</u> Chelsea 008 Pipe Replacement: \$700k (updated schedule and long lead time for materials) <u>Overspending</u> Fort Point Channel Sewer Separation: \$750k (unplanned community managed work)
Other Wastewater	\$19,426	\$3,733	(\$15,693)	-80.8%	<u>Underspending</u> I/I Local Financial Assistance: \$15.7M (timing of community distributions of grants and loans)
<b>Total Wastewater</b>	<b>\$57,267</b>	<b>\$21,811</b>	<b>(\$35,456)</b>	<b>-61.9%</b>	

**ATTACHMENT 3  
FY23 CIP Year-to-Date Variance Report (\$000s)**

	FY23 Budget YTD February	FY23 Actuals YTD February	YTD Actuals vs. Budget		Explanations
			\$	%	
<b>Waterworks</b>					
Drinking Water Quality Improvements	\$2,877	\$1,305	(\$1,572)	-54.7%	<u>Underspending</u> CWTP Chemical Feed System Improvements - Construction: \$902k, and Marlboro Pump Station Construction: \$273k (timing of work) CWTP Technical Assistance: \$462k (lower than projected task order work)
Transmission	\$37,747	\$21,366	(\$16,381)	-43.4%	<u>Underspending</u> Waltham Water Pipeline - Construction and REI: \$9.5M (long lead time for piping material) WASM/SPSM West Pressure Reducing Valves - Construction: \$2.0M (timing of contractor's work) Quabbin Maintenance Garage/Wash Bay/Storage Building - Construction: \$1.1M, and CP-2 Shaft 5 Construction: \$1.1M (schedule changes) Wachusett Lower Gatehouse Pipe & Boiler Replacement - Construction: \$1.0M (updated Notice to Proceed) Watershed Land: \$662k (timing of purchases) Wachusett Lower Gatehouse Windows & Doors: \$482k (long lead time for windows) <u>Offset Overspending</u> Tunnel Redundancy Preliminary Design & MEPA Review: \$1.0M (timing of consultant work)
Distribution & Pumping	\$23,388	\$24,085	\$697	3.0%	<u>Overspending</u> Section 89/29 Replacement - Construction: \$2.0M and CP-1 NEH Improvements: \$883k (contractors progress) Section 53 and 99 Improvements - Design/CA: \$609k, NEH Improvements Design - ESDC: \$510k, and Sections 25, 75, 24, 47, 59 & 60 - Design/CA: \$334k (timing of consultants work) <u>Offset Underspending</u> CP3-Sections 23, 24, 47 Rehabilitation: \$959k (timing of work) Cathodic Protection Shafts N & W: \$800k (scope changes) Section 56 Replacement/Saugus River - Design/CA: \$663k (permitting delays)

**ATTACHMENT 3  
FY23 CIP Year-to-Date Variance Report (\$000s)**

	FY23 Budget YTD February	FY23 Actuals YTD February	YTD Actuals vs. Budget		Explanations
			\$	%	
Other Waterworks	\$25,866	\$9,379	(\$16,486)	-63.7%	<u>Underspending</u> Local Water Pipeline Financial Assistance Program: \$15.1M (timing of community distributions) CWTP SCADA Upgrades: \$1.3M (timing of work and long lead time for materials) Electrical Distribution Upgrades at Southborough: 647k (timing of work) <u>Offset Overspending</u> New Roofs at Water Pump Stations - Construction: \$621k (timing of work)
<b>Total Waterworks</b>	<b>\$89,878</b>	<b>\$56,135</b>	<b>(\$33,743)</b>	<b>-37.5%</b>	

**ATTACHMENT 3  
FY23 CIP Year-to-Date Variance Report (\$000s)**

	FY23 Budget YTD February	FY23 Actuals YTD February	YTD Actuals vs. Budget		Explanations
			\$	%	
<b>Business &amp; Operations Support</b>					
<b>Total Business &amp; Operations Support</b>	\$20,716	\$11,763	(\$8,953)	-43.2%	<u>Underspending</u> Cabling: \$3.3M, Oracle Database Appliance: \$775k, and MAXIMO Interface Enhancements: \$605k (timing of work) FY19-23 Vehicle Purchases: \$1.3M (timing of purchases and supply chain issues) MSSP/SIEM: \$940k (scope reduction) Security Equipment & Installation: \$914k (timing of security initiatives)
<b>Total MWRA</b>	\$167,861	\$89,709	(\$78,151)	-46.6%	

**Attachment 4**  
**FY23 Budget vs. FY23 Projection**

TOTAL MWRA	FY23 Budget	FY23 Projection	Change FY23 Budget vs FY23 Projection	
			\$	%
<b>EXPENSES</b>				
WAGES AND SALARIES	\$ 118,980,689	\$ 107,083,089	\$ (11,897,600)	-10.0%
OVERTIME	5,337,896	5,437,896	100,000	1.9%
FRINGE BENEFITS	23,961,641	23,242,792	(718,849)	-3.0%
WORKERS' COMPENSATION	2,519,751	2,141,788	(377,963)	-15.0%
CHEMICALS	14,994,036	18,335,315	3,341,279	22.3%
ENERGY AND UTILITIES	30,896,365	35,376,697	4,480,332	14.5%
MAINTENANCE	33,241,022	32,741,022	(500,000)	-1.5%
TRAINING AND MEETINGS	492,197	369,148	(123,049)	-25.0%
PROFESSIONAL SERVICES	8,197,575	8,033,624	(163,952)	-2.0%
OTHER MATERIALS	6,728,862	6,228,862	(500,000)	-7.4%
OTHER SERVICES	28,372,237	28,172,237	(200,000)	-0.7%
<b>TOTAL DIRECT EXPENSES</b>	<b>\$ 273,722,272</b>	<b>\$ 267,162,470</b>	<b>\$ (6,559,802)</b>	<b>-2.4%</b>
INSURANCE	\$ 3,916,002	\$ 3,962,994	46,992	1.2%
WATERSHED/PILOT	28,890,762	27,867,171	(1,023,591)	-3.5%
HEEC PAYMENT	6,225,566	6,798,522	572,956	9.2%
MITIGATION	1,735,694	1,735,694	-	0.0%
ADDITIONS TO RESERVES	2,418,452	2,418,452	-	0.0%
RETIREMENT FUND	12,555,203	12,555,203	-	0.0%
POSTEMPLOYMENT BENEFITS	4,754,061	4,754,061	-	0.0%
<b>TOTAL INDIRECT EXPENSES</b>	<b>\$ 60,495,741</b>	<b>\$ 60,092,097</b>	<b>\$ (403,643)</b>	<b>-0.7%</b>
STATE REVOLVING FUND	\$ 96,342,495	\$ 88,499,360	(7,843,135)	-8.1%
SENIOR DEBT	302,169,940	297,519,940	(4,650,000)	-1.5%
SUBORDINATE DEBT	75,491,975	73,222,379	(2,269,596)	-3.0%
LOCAL WATER PIPELINE CP	6,233,882	5,384,397	(849,485)	-13.6%
CURRENT REVENUE/CAPITAL	18,200,000	18,200,000	-	0.0%
CAPITAL LEASE	3,217,060	3,217,060	-	0.0%
DEBT PREPAYMENT	5,500,000	5,500,000	-	0.0%
DEBT SERVICE ASSISTANCE	(1,182,494)	(1,182,494)	-	0.0%
<b>TOTAL DEBT SERVICE</b>	<b>\$ 505,972,858</b>	<b>\$ 490,360,642</b>	<b>\$ (15,612,216)</b>	<b>-3.1%</b>
<b>TOTAL EXPENSES</b>	<b>\$ 840,190,871</b>	<b>\$ 817,615,209</b>	<b>\$ (22,575,661)</b>	<b>-2.7%</b>
<b>REVENUE &amp; INCOME</b>				
RATE REVENUE	\$ 814,648,000	\$ 814,648,000	-	0.00%
OTHER USER CHARGES	9,836,508	14,548,590	4,712,082	47.9%
OTHER REVENUE	6,139,104	6,983,303	844,199	13.8%
RATE STABILIZATION	980,000	980,000	-	0.0%
INVESTMENT INCOME	8,587,259	20,276,259	11,689,000	136.1%
<b>TOTAL REVENUE &amp; INCOME</b>	<b>\$ 840,190,871</b>	<b>\$ 857,436,152</b>	<b>\$ 17,245,281</b>	<b>2.1%</b>

**VARIANCE:**

**\$ (39,820,943) \$ (39,820,942)**



**STAFF SUMMARY**

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** March 15, 2023  
**SUBJECT:** Retiree Cost of Living Increase




---

**COMMITTEE:** Administration, Finance & Audit

X VOTE  
\_\_\_\_ INFORMATION

Matthew R. Horan, Deputy Director, Finance/Treasurer  
Preparer/Title



Thomas J. Durkin  
Director of Finance

---

**RECOMMENDATION:**

Pursuant to Chapter 269 of the Acts of 2022, to approve the MWRA Employees' Retirement Board's vote of February 23, 2023, to accept an additional 2.0% Cost of Living Adjustment to the bring the total adjustment to 5.0% for fiscal year 2023.

**DISCUSSION:**

Each year, Massachusetts Retirement Systems are allowed to grant a cost of living adjustment (COLA) up to 3% on an established base which vary from \$12,000 to \$18,000 depending on the system. As a result of the impact of the high inflation levels experienced over the last several years, the Legislature approved Chapter 269 of the Acts of 2022. On November 16, 2022, Governor Baker signed a new law which allows local retirement systems a onetime exemption to increase the COLA for Fiscal Year 2023 by 2.0% for a maximum of 5.0%. The law requires that, in addition to the approval of the retirement system, the increased COLA requires local approval, which in MWRA's case is the Board of Directors. The MWRA Retirement Board approved a 3.0% COLA for Fiscal Year 2023 on February 23, 2022.

At its February 28, 2023 meeting, the MWRA Retirement Board voted to grant an additional 2.0% COLA bringing the fiscal year 2023 increase to 5.0%. The COLA increase is retroactive to July 1, 2022 and only applies to individuals who were retired as of that date. When the 2.0% is applied to the COLA base of \$17,000, each retiree will receive \$340 per year or approximately \$28 per month. Since the approval of the legislation in November 2022, 15 retirement systems have received both approvals, and 13 other systems are in the process of receiving local approval for the increase.

While the 3.0% COLA increase was factored into the Retirement System's actuarial valuation, the onetime additional 2.0% allowed under Chapter 269 of the Acts of 2022 was not. The additional benefit is estimated by the actuary to increase the unfunded liability by approximately \$2.6 million

from \$84.7 million to \$87.4 million. There is no change to the actuarial assumed rate of return (6.9%) or the date to full funding (2030).

**BUDGET/FISCAL IMPACT:**

The impacts of costs associated with this increase will be included in the Retirement Systems next actuarial study which will determine the annual funding requirement. The FY24 proposed budget includes \$16.0 million in funding for the Retirement System.

## STAFF SUMMARY

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** March 15, 2023  
**SUBJECT:** MWRA Internet Website Replacement  
Upanup Studios, Inc.  
Contract A634




---

**COMMITTEE:** Administration, Finance and Audit

       INFORMATION  
  X   VOTE

Ria Convery, Special Assistant  
Renata Thomas, Business Relationship Manager  
Paula Weadick, Director, MIS  
Preparer/Title

  
Michele S. Gillen  
Director, Administration

---

### RECOMMENDATION:

To approve the recommendation of the Consultant Selection Committee to award Contract A634 to Upanup Studios, Inc., for development, maintenance and support of a new website, and to authorize the Executive Director, on behalf of the Authority, to execute said contract in an amount not to exceed \$168,720.00 for a term of 48 months from the Notice to Proceed.

Further, to authorize the Executive Director, on behalf of the Authority, to approve and execute up to two one-year extensions for ongoing maintenance and support, with the first one-year extension at a price of \$17,280.00 and the second one-year extension at a price of \$18,260.00, if the Executive Director determines that one or both extensions are in the best interest of the Authority.

### DISCUSSION:

MWRA's website, mwra.com, was created in the mid-1990s by in-house staff. Since that time, it has served as an important tool for communicating with the public and the media on drinking water quality, and public and environmental health issues. It is also widely used by students of all ages for research on these topics. In addition, it serves as a portal for procurements, permits, and community water and wastewater data.

Advances in technologies have made it necessary to update the site for both the end users and the staff managing the site. New tools such as translation services, automatic screen resizing for phones and other mobile devices, and a more up-to-date design will make it more inviting for visitors. Modern content updating tools and cloud storage will make it easier for staff to update and maintain the site, track visitor usage, and weed out outdated information.

The scope of work of Contract A634 includes the complete redesign and build of the mwra.com website on a cloud-based platform, the implementation of a new web content management solution to simplify the maintenance of the website's content, the migration of all of the content on the current website to the new website, a warranty period, and three years of website maintenance and

support. In addition, firms were asked to provide pricing for a fourth and fifth year of maintenance should the Authority exercise any options to extend the Contract for continued maintenance.

## Procurement Process

On November 12, 2022, MWRA issued a one-step Request for Qualifications Statements and Proposals (RFQ/P) that was publicly advertised in the Boston Herald, Banner Publications, El Mundo, and on the MWRA Supplier Portal. In addition, notice of the RFQ/P was sent directly to firms that had previously responded to similar RFQ/Ps.

The RFQ/P included the following evaluation criteria and points: Cost (25 points); Qualifications and Key Personnel (20 points); Technical Approach (20); Capacity, Organization and Management Approach (20); Experience/Past Performance on Similar Non-Authority and Authority Projects (15 points).

On December 14, 2022, MWRA received eight compliant proposals, as shown in the table below. The eight proposals were reviewed against the scope of services by the Selection Committee on January 19, 2023.

	Implementation Costs	Three Years Maintenance	Year 4 Optional One-Year Maintenance	Year 5 Optional One-Year Maintenance	Total with Five Years Maintenance
Infojini, Inc.	\$75,000.00	\$23,400.00	\$9,000.00	\$9,000.00	\$116,400.00
Exemplifi LLC	\$72,000.00	\$54,000.00	\$18,000.00	\$18,000.00	\$162,000.00
Upanup Studios, Inc.	\$117,140.00	\$51,580.00	\$17,280.00	18,260.00	\$204,260.00
Promet Solutions Corporation (dba Promet Source/Promet)	\$244,031.00	\$38,430.00	\$13,230.00	\$13,230.00	\$308,921.00
Astriata, LLC	\$149,760.00	\$111,150.00	\$34,200.00	\$34,200.00	\$329,310.00
Interpersonal Frequency LLC	\$183,000.00	\$224,773.25	\$82,538.66	\$86,665.60	\$576,977.51
Portland Webworks, Inc.	\$576,000.00	\$117,225.00	\$40,050.00	\$40,050.00	\$773,325.00
V3iT Consulting, Inc.	\$393,368.00	\$267,000.00	\$99,000.00	\$104,000.00	\$863,368.00

Based on the criteria, three firms were invited to an interview and to provide a demonstration: Promet Solutions, Interpersonal Frequency, and Upanup Studios.

The remaining firms were not invited for the following reasons. V3iT did not appear to fully understand the scope, proposing a phone app and not speaking to website implementation. Astriata proposed an on-premises deployment with a proprietary content management solution that would add cost and maintenance overhead requirements. Further, Exemplifi’s proposal did not discuss translation services or a plan to migrate MWRA’s existing data, and provided only one example of a website redesign in its proposal. Infojini proposed using Wordpress as the content management solution, which appeared more complicated to use as compared with the content management solution proposed by Upanup Studios. Finally, Portland Webworks had the highest cost, which was more than double the next highest viable proposer.

The selection committee held interviews and demonstrations with the invited firms on February 3, 2023, and met again on February 10, 2023, to discuss final rankings. The final results are as follows:

<b>Firm</b>	<b>Points</b>	<b>Rank</b>	<b>Final Ranking</b>
Upanup Studios, Inc.	409	5	1
Interpersonal Frequency LLC	359	13	2
Promet Solutions Corp. (d/b/a Promet Source)	330	20	3
Portland Webworks, Inc.	339	22	4
Infojini, Inc.	336	23	5
Exemplifi LLC	311	29	6
Astriata, LLC	302	26	7
V3iT Consulting Inc.	155	40	8

Upanup Studios provided the most comprehensive and well-thought-out proposal, and gave the best demonstration of the three finalists. Upanup Studios staff have a strong technical foundation, understanding of MWRA’s requirements, and provided assurance that they would be able to handle a project of this size and scope. Further, they have past experience designing websites for utility companies and a strong project team that is all well established in the industry and appear to work seamlessly with one another. Upanup Studios received high praise from all the companies providing references, and its fee proposal is 65% lower in a five-year, overall cost comparison with Interpersonal Frequency and 33% lower than Promet Solutions.

Interpersonal Frequency provided a well-written proposal and performed equally well in its demonstration. Its initial implementation cost fell between the other two finalists, but when factoring in the implementation cost plus a potential for five years of maintenance, its bid was much higher than the other two finalists. Further, its maintenance fees appeared high for the services it provides.

Promet Solution’s proposal was comprehensive, but its initial implementation costs were the highest of the three firms. In addition, Promet Solution’s demonstration was not as strong as that of the other firms, and the Selection Committee were left with concerns regarding its staff’s ability to handle the scope of this project.

Based on final rankings and the reasons set forth above, the Selection Committee unanimously recommends award of this contract to Upanup Studios, Inc. in an amount not to exceed \$168,720.00.

**BUDGET/FISCAL IMPACT:**

There are sufficient funds available for this contract award in the MIS FY2023 Current Expense Budget. Appropriate funding will be requested in future CEBs.

**MBE/WBE PARTICIPATION:**

Upanup Studios, Inc. is not a certified Massachusetts Minority- or Women-owned business.