



MASSACHUSETTS WATER RESOURCES AUTHORITY

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

Frederick A. Laskey
Executive Director

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PERSONNEL & COMPENSATION COMMITTEE MEETING

to be held on

Wednesday, January 16, 2019

Chair: J. Wolowicz
Vice-Chair: K. Cotter
Committee Members:
J. Carroll
P. Flanagan
J. Foti
A. Pappastergion
H. Vitale
J. Walsh

Location: 100 First Avenue, 2nd Floor
Charlestown Navy Yard
Boston, MA 02129

Time: 10:00 a.m.

AGENDA

A. Approvals

1. PCR Amendments – January 2019

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the

Personnel and Compensation Committee

December 19, 2018

A meeting of the Personnel and Compensation Committee was held on December 19, 2018 at the Authority headquarters in Charlestown. Committee Member Foti presided. Present from the Board were Messrs. Carroll, Pappastergion, Peña, Vitale and Walsh. Among those present from the Authority staff were Frederick Laskey, Carolyn Francisco Murphy, David Coppes, Carolyn Fiore, Michele Gillen, Andrea Murphy and Kristin MacDougall. The meeting was called to order at 11:14 a.m.

Approvals

* PCR Amendments – December, 2018

Staff made a verbal presentation. There were brief questions and answers.

The Committee recommended approval. (ref. P&C A.1.)

* Appointment of Budget Director, Finance Division

The Committee recommended approval. (ref. P&C A.2.)

* Appointment of Chief Engineer

The Committee recommended approval. (ref. P&C A.3.)

* Appointment of Assistant Director of Engineering, Engineering & Construction

The Committee recommended approval. (ref. P&C A.4.)

* Appointment of Manager of Design, Tunnel Redundancy

There was brief discussion and questions and answers.

The Committee recommended approval. (ref. P&C A.5.)

* Appointment of Manager, Geotechnical and Tunneling, Tunnel Redundancy

The Committee recommended approval. (ref. P&C A.6.)

The meeting adjourned at 11:18 a.m.

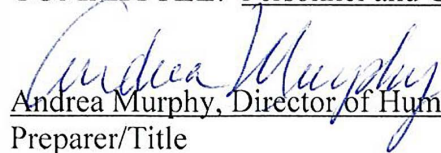
* Committee recommendation approved by the Board on December 19, 2018

STAFF SUMMARY

TO: Board of Director
FROM: Frederick A Laskey, Executive Director
DATE: January 16, 2019
SUBJECT: January PCR Amendments



COMMITTEE: Personnel and Compensation


Andrea Murphy, Director of Human Resources
Preparer/Title

 INFORMATION

 X VOTE


Michele S. Gillen
Director, Administration

RECOMMENDATION:

To approve an amendment 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 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.

January PCR Amendment

The one PCR amendment is for a position in the Operations Division changing the title to provide additional resources for management of water engineering projects.

The amendment is:

Operations Division Organizational Change

1. Title change to one vacant position in the Engineering and Construction Department, Operations Division from Staff Engineer, Unit 9, Grade 19, to Project Manager, Unit 9, Grade 25 to provide additional resources for management of water engineering projects.

The amendment requires Board approval after review by the Personnel and Compensation Committee.

BUDGET/FISCAL IMPACT:

The annualized budget impact of this PCR amendment will range in a savings of \$3,661 to a cost of \$25,887. The actual cost will depend on the salary rate for the new incumbents. Staff will ensure that the cost increase associated with these PCR amendments will not result in spending over the approved FY19 Wages and Salaries budget.

ATTACHMENTS:

Old Job Description
New Job Description

MASSACHUSETTS WATER RESOURCES AUTHORITY
 POSITION CONTROL REGISTER AMENDMENTS
 FISCAL YEAR 2019

PCR AMENDMENTS REQUIRING BOARD APPROVAL - January 16, 2019

Number	Current		V/F	Type	Current Title	UN	GR	Amended Title	UN	GR	Current/Budget		Estimated		Estimated Annual		Reason For Amendment
	PCR #										Salary		New Salary	\$ Impact			
B13	552510		V	T.G	Staff Engineer	9	19	Project Manager	9	25	\$81,461	\$77,800	\$107,348	-\$3,661	\$25,887		To provide additional resources for management of water engineering projects.
BOARD TOTAL =						:	TOTAL ESTIMATED COSTS:						-\$3,661	-\$25,887			

**MWRA
POSITION DESCRIPTION**

OLD

POSITION: Staff Engineer

PCR#:

DIVISION: Operations

DEPARTMENT: Engineering & Construction, Planning, Operations Engineering, Capital Engineering Deer Island, Metro Process Control

BASIC PURPOSE:

Participates in the development, execution, and management of various electrical engineering, engineering or construction engineering and maintenance projects. Provides engineering or electrical engineering expertise and data analysis for the planning, design, and construction of projects for wastewater and waterworks systems and facilities.

SUPERVISION RECEIVED:

Works under the general supervision of senior staff.

SUPERVISION EXERCISED:

None.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Works on tasks related to the evaluation, planning, design, electrical modification / replacement or construction of facilities or equipment for wastewater treatment plants, wastewater pumping stations, CSO facilities, headworks facilities, collection system components, water treatment facilities, water pumping stations, distribution and transmission lines, and support buildings and equipment.
- Participates in the preparation of concept and preliminary design reports, designs, and cost estimates. Participates in the development, implementation and monitoring of construction and service contracts, plans and specifications for proposed electrical modifications / replacements, permit applications and permits. Participates in shop drawing reviews.
- Utilizes Authority databases to gather and summarize facility and system operational data and assists senior engineering staff with evaluation and presentation of operational data.

- Participates in the development of calculations, design documents and the gathering of information for inclusion in engineering reports, construction activities, proposed electrical modifications / replacements, technical or planning studies, and system and facility evaluations.
- Participates in the engineering resolution and recommendations to electrical engineering problems.
- Participates in overseeing the work of professional engineering consultants, including electrical engineering consultants, as well as construction firms for quality and responsiveness of work products, budgets and schedules, and conformance to contract terms.
- Participates in the inspection of construction, electrical or maintenance work for conformance to plans and specifications, and makes minor revisions to meet local conditions encountered in field; plans sequence of work with contractors on jobs and submits progress reports. Acts as a Resident Engineer on minor construction projects.
- Requires participation in emergency response to any/all MWRA emergencies if assigned to Operations Engineering or Metro Process Control.
- Participates in contract administration tasks.

SECONDARY DUTIES:

- Drafts internal or external memoranda, correspondence, reports, and specifications.
- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A bachelors' degree in electrical engineering, engineering or related field required; and
- (B) One (1) to two (2) years of design, construction or electrical engineering experience preferred; or
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Familiarity with computer software packages such as MS Word, Excel, and AutoCad.

(B) Demonstrated written and oral communication skills.

SPECIAL REQUIREMENTS:

Valid Mass Class D Drivers license for Operations Engineering and Construction Departments

TOOLS AND EQUIPMENT USED:

Office equipment as normally associated with the use of telephone, personal computer including word processing and other software, copy and fax machine.

PHYSICAL DEMANDS:

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is regularly required to use hands to finger, handle, feel or operate objects, tools or controls and reach with hands and arms. The employee frequently is required to sit and talk or hear. The employee is occasionally required to walk; stand; climb or balance; stoop, kneel, crouch, or crawl; taste or smell.

The employee must frequently lift and/or move up to 10 pounds and occasionally lift and/or move up to 50 pounds. Specific vision abilities required by this job include close vision, distance vision, depth perception, peripheral vision and the ability to adjust focus.

WORK ENVIRONMENT:

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job.

While performing the duties of this job, the employee occasionally works in outside weather conditions. The employee occasionally works near moving mechanical parts, and is occasionally exposed to wet and/or humid conditions and vibration. The employee occasionally works in high precarious places and is occasionally exposed to fumes or airborne particles, toxic or caustic chemicals and risk of electrical shock.

The noise level in the work environment is usually loud in field settings and moderately quiet in an office setting.

February 2018

**MWRA
POSITION DESCRIPTION**



POSITION: Project Manager

DIVISION: Operations

DEPARTMENT: Engineering and Construction

BASIC PURPOSE:

Manages professional engineering and design projects related to the rehabilitation and capital improvement of waterworks and wastewater facilities and infrastructure.

SUPERVISION RECEIVED:

Works under the general supervision of a Program Manager or Sr. Program Manager / Engineering and Construction.

SUPERVISION EXERCISED:

Exercises close supervision over a small staff of professional employees.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Manages the planning and design phases of assigned rehabilitation and capital engineering projects including detailed plans, work schedules, technical assistance, progress and evaluation.
- Supervises and performs professional engineering work of substantial difficulty and importance, including the preparation of reports and contract plans and specifications, requiring the exercising of independent engineering judgment.
- Manages all phases of consultant selection and supervision of professional engineering consultant contracts including the development of scope of services, plans and specifications, costs estimates, work schedules, negotiations and preparation of contracts award recommendations. Ensures compliance with contract budgets, schedules, and terms.
- Supervises and manages junior professional staff, including assignment of tasks and evaluation of performance. Provides technical assistance to staff in the development and performance of projects

including designs for waterworks and wastewater projects.

- Initiates new projects and prepares capital or current expense budget requests as required.
- Coordinates projects with communities, external public interest groups, government agencies, and other MWRA departments. Provides technical information and assistance. May address professional and community groups and initiate outreach projects.
- Drafts documents to secure grants and permits from various federal, state and local agencies.
- Provides construction administration services during construction, including review of shop drawings, review of proposed change orders, provide interpretations and clarifications on contract documents, attend monthly progress meetings, receive and review draft redlined drawings, record drawings, and detail records and all other services necessary to support the Construction Department.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Completion of a four (4) year college program in civil engineering or related field; and
- (B) Five (5) to seven (7) years experience in facilities planning, design, construction, maintenance and operations of waterworks and wastewater systems and facilities of which two (2) years must be in a supervisory capacity; or
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Demonstrated ability to work effectively as part of an engineering team and also to function independently, with minimal supervision.
- (B) Knowledge of local, state and federal regulations as applicable to the planning, design and construction of pump stations, interceptors, and water lines.
- (C) Knowledge of Massachusetts bidding laws including M.G.L. Chapter 30 and Chapter 149

construction bidding regulations.

(D) Familiarity with computer software packages such as Word and Excel

(E) Excellent interpersonal, managerial, oral and written communication skills are required.

SPECIAL REQUIREMENTS:

A valid Massachusetts Motor Vehicle Operators License.
Registered Professional Engineer in Massachusetts is preferred.

TOOLS AND EQUIPMENT USED:

Office equipment as normally associated with the use of telephone, personal computer including word processing and other software, copy and fax machine.

PHYSICAL DEMANDS:

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is regularly required to sit and to use hands to finger, handle, feel or operate objects, tools or controls. The employee frequently is required to talk or hear. The employee is occasionally required to stand, walk, and reach with hands and arms.

The employee must occasionally lift and/or move up to 10 pounds. No specific visual abilities are required by this job.

WORK ENVIRONMENT:

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job.

While performing the duties of this job, the employee is not exposed to any unusual environmental conditions.

The noise level in the work environment is usually loud in field settings and moderately quiet in an office setting.

January 2019



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ADMINISTRATION, FINANCE & AUDIT COMMITTEE MEETING

to be held on

Wednesday, January 16, 2019

Chair: H. Vitale
Vice-Chair: J. Foti
Committee Members:
J. Carroll
K. Cotter
A. Pappastergion
B. Peña
J. Walsh

Location: 100 First Avenue, 2nd Floor
Charlestown Navy Yard
Boston, MA 02129

Time: Immediately following Personnel Committee

AGENDA

A. Information

1. Delegated Authority Report – December 2018
2. FY2019 Financial Update and Summary as of December 2018
3. Update on the 2018 Water and Wastewater Master Plan

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the

Administration, Finance and Audit Committee

December 19, 2018

A meeting of the Administration, Finance and Audit Committee was held on December 19, 2018 at the Authority headquarters in Charlestown. Committee Chair Vitale presided. Present from the Board were Messrs. Carroll, Foti, Pappastergion, Peña and Walsh. Among those present from the Authority staff were Frederick Laskey, Carolyn Francisco Murphy, David Coppes, Carolyn Fiore, Thomas Durkin, Michele Gillen, Bethany Card, Theodore Otis, Douglas Rice, Corinne Barrett, John Colbert, Michael Cole, Andrew Hildick-Smith, Kathryn White, Russell Murray, Paula Weadick and Kristin MacDougall. The meeting was called to order at 11:19 a.m.

Information

Delegated Authority Report – November 2018

Staff made a brief presentation. There were questions and answers.

Recent Inquiries Regarding Sewer System Expansion

Staff provided a verbal update on recent requests to connect to the MWRA sewer system. There was general discussion and questions and answers.

Change Order Requests on Active Construction Contracts

Staff made a brief presentation about the approval status of change order requests on active construction contract since FY2018.

FY19 Financial Update and Summary as of November 2018

Staff provided a verbal update on FY2019 financial results and variance highlights through November 2018. There was general discussion and questions and answers.

Approvals

*** Transmittal of the FY2020 Proposed Capital Improvement Program to the MWRA**

Advisory Board

The Committee recommended approval. (ref. AF&A B.1.)

Contract Awards

*** Security Guard Services for Various MWRA Facilities: Universal Protection Services**

LLC, d/b/a Allied Universal Services, Contract EXE-041

There was brief discussion and questions and answers. (Mr. Carroll left the meeting during discussion.)

The Committee recommended approval. (ref. AF&A C.1.)

Contract Amendments/Change Orders

*** Managed Security Services, NWN Corporation, Contract 7499, Amendment 1**

There was brief discussion and questions and answers.

The Committee recommended approval. (ref. AF&A D.1.)

The meeting adjourned at 11:58 a.m.

* Committee recommendation approved by the Board on December 19, 2018

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: January 9, 2019
SUBJECT: Delegated Authority Report – December 2018




COMMITTEE: Administration, Finance & Audit

INFORMATION
 VOTE


Michele S. Gillen

Director, Administration

Linda D'Addario, Admin. Systems Coordinator
Barbara Aylward, Administrator A & F
Preparer/Title


Douglas J. Rice

Director of Procurement

RECOMMENDATION:

For information only. Attached is a listing of actions taken by the Executive Director under delegated authority for the period December 1 – 31, 2018.

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.

BACKGROUND:

The Board of Directors' Management Policies and Procedures, as amended by the Board's vote on February 21, 2018, delegate authority to the Executive Director to approve the following:

Construction Contract Awards:

Up to \$1 million if the award is to the lowest bidder.

Change Orders:

Up to 25% of the original contract amount or \$250,000, 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 \$100,000 and one year with a firm; or up to \$50,000 and one year with an individual.

Non-Professional Service Contract Awards:

Up to \$250,000 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 \$1 million if the award is to the lowest bidder.

Amendments:

Up to 25% of the original contract amount or \$250,000, 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 DECEMBER 1 - 31, 2018

NO.	DATE OF AWARD	TITLE AND EXPLANATION	CONTRACT	AMEND/CO	COMPANY	FINANCIAL IMPACT
C-1.	12/05/18	WACHUSETT AQUEDUCT PUMPING STATION CONSTRUCTION FURNISH AND INSTALL 3,000 LINEAR FEET OF #14 COPPER WIRE IN THE EXISTING UNDERGROUND CONDUIT FROM THE NORTHBOROUGH VALVE VAULT TO THE VERIZON CONTROL PANEL DUE TO AN UNFORESEEN CONDITION; REMOVE AND DISPOSE OF THE EXISTING COPPER WIRE LOCATED IN THE UNDERGROUND CONDUIT; FURNISH AND INSTALL A TEMPERATURE SENSOR IN THE GEOTHERMAL PUMP CHAMBER DUE TO A DESIGN OMISSION.	7157	52	BHD/BEC 2015, A JOINT VENTURE	\$51,493.00
C-2.	12/05/18	INSTALLATION OF ENERGY-EFFICIENT LED INTERIOR AND SITE LIGHTING AT THE UNION PARK DETENTION AND TREATMENT FACILITY AWARD OF ENERGY EFFICIENCY CONTRACT TO EVERSOURCE PREQUALIFIED VENDOR FOR THE INSTALLATION OF ENERGY-EFFICIENT LED INTERIOR AND SITE LIGHTING AT THE UNION PARK DETENTION AND TREATMENT FACILITY FOR A TERM OF 150 CALENDAR DAYS. REBATE TOTALING \$32,183 WILL BE RECEIVED FROM EVERSOURCE, WHICH WILL BE PAID DIRECTLY TO THE CONTRACTOR, RESULTING IN A FINAL COST TO MWRA AND BWSC OF \$67,810, FOR A PROJECT PAYBACK PERIOD OF 3.5 YEARS.	OP-384	AWARD	HORIZON SOLUTIONS LLC	\$67,810.00
C-3.	12/12/18	GROUNDSKEEPING SERVICES - METROPOLITAN BOSTON FINAL BALANCING CHANGE ORDER TO DELETE THE FOLLOWING BID ITEMS: GROUNDSKEEPING SERVICES AT LORING ROAD AND AS-NEEDED GROUNDSKEEPING SERVICES.	OP-315	1	C & W FACILITY SERVICES, INC.	(\$69,435.88)
C-4.	12/12/18	SOUTHERN EXTRA HIGH PIPELINE - SECTION 111 (DEDHAM NORTH) REMOVE 35-FEET OF 8-INCH VITRIFIED CLAY SEWER PIPE; FURNISH AND INSTALL 35-FEET OF 8-INCH POLY VINYL CHLORIDE PIPE AND A NEW INVERT; REPAIR TWO CRACKS IN THE EXISTING DEDHAM-WESTWOOD WATER DISTRICT MAIN DAMAGED DURING BLASTING.	7504	3	P. GIOIOSO AND SONS, INC.	\$43,621.75
C-5.	12/12/18	CHELSEA CREEK HEADWORKS UPGRADE FURNISH AND INSTALL POSITIVE DISPLACEMENT FUEL OIL PUMPING SYSTEMS AND A TEMPORARY 225KVA TRANSFORMER AND DISCONNECT SWITCH, DUE TO A DESIGN CHANGE.	7161	23	BHD/BEC 2015, A JOINT VENTURE	\$70,125.00
C-6.	12/12/18	NORTHERN INTERMEDIATE HIGH SECTION 110 AND 112 - STONEHAM AND WAKEFIELD INCREASE THE FUEL AND LIQUID ASPHALT COMMODITY ALLOWANCE; PAINT CROSSWALKS AT INTERSECTION AND INSTALL ASPHALT SIDEWALK; PAINT A SOLID DOUBLE YELLOW CENTER LINE TRAFFIC MARKING IN LIEU OF THE SPECIFIED SINGLE YELLOW LINE, DUE TO THE TOWN'S ADOPTION OF NEW TRAFFIC STANDARDS.	7478	14	ALBANESE D&S, INC.	\$74,393.41
C-7.	12/12/18	NORTHERN INTERMEDIATE HIGH SECTION 110 - STONEHAM INCREASE ALLOWANCE FOR TOWN OF STONEHAM FIRE DEPARTMENT SERVICES IN CONNECTION WITH BLASTING OPERATIONS.	7067	4	ALBANESE D&S, INC.	\$150,000.00
C-8.	12/14/18	SECTION 36/NEW 11B INTERCONNECTION/WATERTOWN SECTION/WALTHAM CONNECTION DESIGN CA/REI SERVICES DELETE SCOPE FOR DESIGN, CONSTRUCTION ADMINISTRATION AND RESIDENT ENGINEERING/INSPECTION SERVICES, PRELIMINARY DESIGN: ROUTING STUDY, FIELD TESTING PROGRAM FOR CONSTRUCTION CONTRACT 7457 WALTHAM CONNECTION; RESIDENT ENGINEERING/INSPECTION SERVICES FOR CONSTRUCTION CONTRACT 7448 - SECTION 36/W11C/S9-A; TECHNICAL ASSISTANCE ALLOWANCE FORM CONTRACT 6540 - SECTION 36/NEW 11B INTERCONNECTION/WATERTOWN SECTION/WALTHAM CONNECTION AND EXTEND CONTRACT TERM BY 2 MONTHS FROM JANUARY 1, 2017 TO MARCH 1, 2017.	6540	2	GREEN INTERNATIONAL AFFILIATES, INC.	(\$1,036,208.27)

PURCHASING DELEGATED AUTHORITY ITEMS DECEMBER 1 - 31, 2018

NO.	DATE OF AWARD	TITLE AND EXPLANATION	CONTRACT	AMENDMENT	COMPANY	FINANCIAL IMPACT
P-1	12/05/18	PURCHASE OF ONE PLATE HEAT EXCHANGER AND ONE REPLACEMENT PLATE PACK AWARD OF PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR ONE PLATE HEAT EXCHANGER AND ONE HEAT EXCHANGER PLATE PACK FOR THE CENTRIFUGE FACILITY AT DEER ISLAND.	WRA-4582Q		PROCESS SOLUTIONS	\$25,975.00
P-2	12/05/18	PURCHASE OF TWO 24-INCH VERTICAL RESILIENT SEAT GATE VALVES AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR TWO 24-INCH VERTICAL RESILIENT SEAT GATE VALVES FOR THE CHELSEA FACILITY.	WRA-4583Q		F.W. WEBB COMPANY	\$29,080.00
P-3	12/05/18	PURCHASE OF TWO 24-INCH HORIZONTAL RESILIENT SEAT GATE VALVES AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR TWO 24-INCH HORIZONTAL RESILIENT SEAT GATE VALVES FOR THE WATER PIPELINE UNIT TO KEEP IN STOCK.	WRA-4580Q		BILLERICA WINWATER WORKS CO.	\$29,910.00
P-4	12/05/18	MAINTENANCE AND SUPPORT FOR MAXIMO SOFTWARE AWARD OF A ONE-YEAR PURCHASE ORDER UNDER STATE CONTRACT ITS55 FOR MAXIMO SOFTWARE MAINTENANCE AND SUPPORT.			IBM CORPORATION	\$293,092.52
P-5	12/10/18	PURCHASE OF A ONE-YEAR CONTRACT FOR BACTERIAL SPECIES IDENTIFICATION FOR DRINKING WATER SAMPLES AWARD OF A ONE-YEAR PURCHASE ORDER FOR BACTERIAL SPECIES IDENTIFICATION FOR DRINKING WATER SAMPLES FOR THE DEPARTMENT OF LABORATORY SERVICES.	WRA-4595Q		CHARLES RIVER LABORATORIES, INC.	\$25,740.00
P-6	12/18/18	MAINTENANCE AND SUPPORT OF PBX EQUIPMENT AWARD OF A ONE-YEAR PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR MWRA'S TELEPHONE SYSTEM EQUIPMENT MAINTENANCE AND SUPPORT	WRA-4597Q		METROPOLITAN TELEPHONE CO, INC.	\$34,839.80
P-7	12/18/18	PURCHASE OF ONE PUMP ROTATING ASSEMBLY AWARD OF A SOLE SOURCE PURCHASE ORDER FOR A REPLACEMENT PUMP ROTATING ASSEMBLY FOR THE QUINCY PUMP STATION. THE COST OF REBUILDING THE ASSEMBLY WAS \$44,000.			GRUNFOS WATER UTILITY, INC.	\$58,052.50
P-8	12/18/18	PURCHASE OF SIXTY HEWLETT PACKARD ELITEDESK DESKTOPS AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR SIXTY HEWLETT PACKARD ELITEDESK DESKTOP COMPUTERS FOR THE SCADA GROUP.	WRA-4587Q		HUB TECHNICAL SERVICES, LLC	\$67,365.60
P-9	12/18/18	PURCHASE OF REPLACEMENT PARTS FOR THE ACTIVATED SLUDGE PUMPS AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR REPLACEMENT PARTS FOR THE ACTIVATED SLUDGE PUMPS AT THE DEER ISLAND TREATMENT PLANT.	WRA-4581		CORROSION PRODUCTS AND EQUIPMENT, INC.	\$86,088.00
P-10	12/18/18	SUPPLY AND DELIVERY OF HYDROGEN SULFIDE CONTROL CHEMICALS AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE SUPPLY AND DELIVERY OF HYDROGEN SULFIDE CONTROL CHEMICALS FOR THE FRAMINGHAM SEWER AND FRAMINGHAM EXTENSION RELIEF SEWER.	WRA-4601		EVOQUA WATER TECHNOLOGIES, LLC	\$145,740.00

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: January 16, 2019
SUBJECT: FY19 Financial Update and Summary Through December 2018

COMMITTEE: Administration, Finance & Audit

James Halloran, Budget Director
Michael Cole, Budget Manager
Preparer/Title



INFORMATION
 VOTE


Thomas J. Durkin
Director, Finance

RECOMMENDATION:

For information only. This staff summary provides the financial results and variance highlights for Fiscal Year 2019 through December 2018, comparing actual spending to the budget.

DISCUSSION:

The total Year-to-Date variance for the FY19 CEB is \$8.0 million, due to lower direct expenses of \$3.7 million, indirect expenses of \$0.4 million, and debt service costs of \$4.0 million; and higher revenue of \$1.4 million.

FY19 Current Expense Budget

The CEB expense variances through December 2018 by major budget category were:

- Net Lower Direct Expenses of \$3.7 million, or 3.1% under budget. Spending was lower for Wages & Salaries, Maintenance, Professional Services, Other Materials, Fringe Benefits, and Training & Meetings. This is offset by higher spending on Utilities, Other Services, Overtime, Chemicals, and Worker's Compensation.
- Lower Indirect Expenses of \$0.4 million, or 1.5%, due to lower expenses for the low voltage switchgear upgrades related to the HEEC cable and lower Watershed reimbursements due to a FY2018 year-end over accrual.
- Lower Debt spending of \$4.0 million, or 1.7% due to favorable short-term interest rates, and favorable impact of lower than estimated borrowing cost for the State Revolving Fund.

FY19 Budget and FY19 Actual Year-to-Date Variance by Expenditure Category
(in millions)

	FY19 Budget YTD	FY19 Actual YTD	\$ Variance	% Variance
Direct Expenses	\$117.4	\$113.7	-\$3.7	-3.1%
Indirect Expenses	\$23.7	\$23.3	-\$0.4	-1.5%
Capital Financing	\$232.9	\$228.9	-\$4.0	-1.7%
Total	\$374.0	\$366.0	-\$8.0	-2.1%

Totals may not add due to rounding

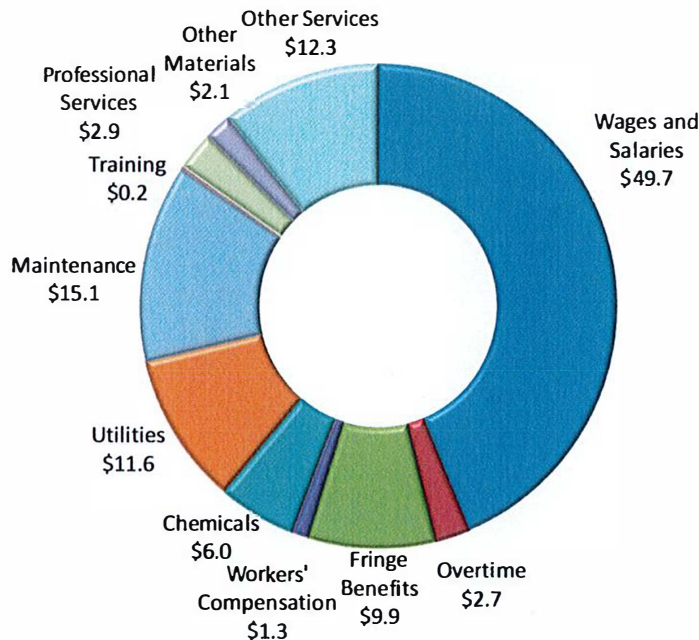
Total Revenues of \$386.1 million were \$1.4 million, or 0.4% over budget. The majority of the variance is pertaining to the favorable short-term rates for investment income.

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

Direct Expenses

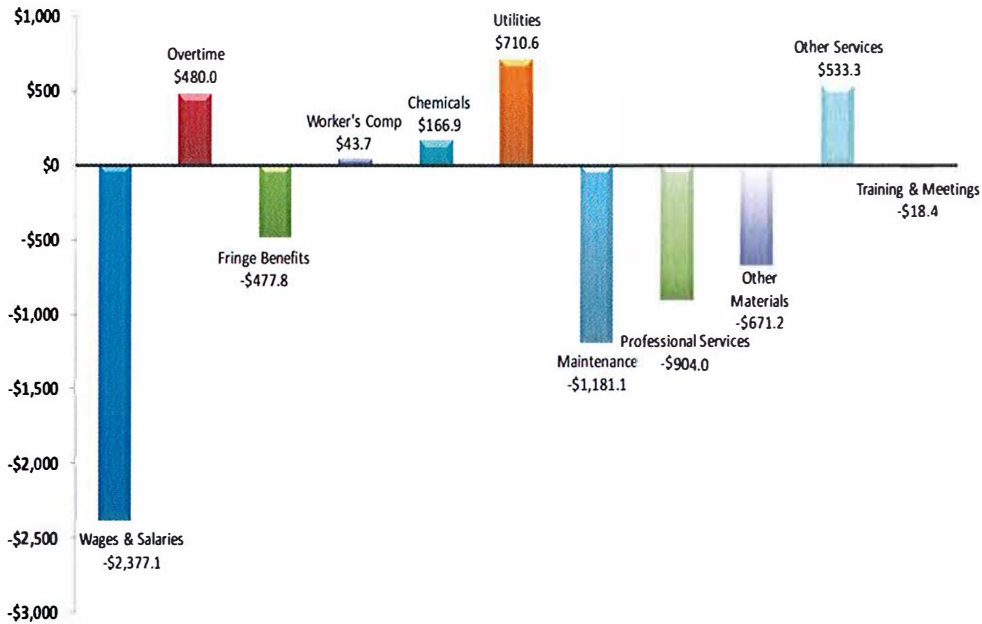
Year-to-date direct expenses totaled \$113.7 million, which was \$3.7 million or 3.1% less than budgeted.

FY19 Year-to-Date Direct Expenses
(in millions)



Lower than budgeted spending for Wages & Salaries, Maintenance, Professional Services, Other Materials, Fringe Benefits, and Training & Meetings; was partially offset by higher spending for Utilities, Other Services, Overtime, Chemicals, and Worker's Compensation.

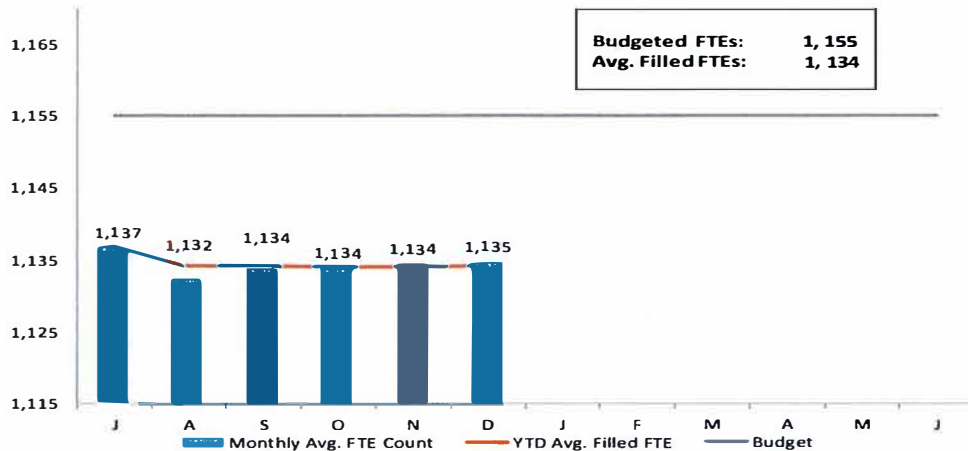
**FY19 Year-to-Date Direct Expense Variance
(in thousands)**



Wages and Salaries

Wages and Salaries are under budget by \$2.4 million, or 4.6%. Year to date, there have been 21 fewer average FTEs (1,134 versus 1,155 budget) and lower average salaries for new hires versus retirees. The timing of backfilling vacant positions, and lower leave balance accruals also contributed to Regular Pay being under budget.

FY19 MWRA Full Time Equivalent (FTE) Position Trend



Maintenance

Maintenance was under budget by \$1.2 million or 7.3%, of which \$0.9 million is attributable to FOD and \$0.2 million is attributable to DITP. Approximately \$0.6 million of the underspending in FOD is due to the timing delays for projects that will be completed later in FY20 than budgeted, and \$0.2 million is due to the shift of two projects from the CEB to the CIP after reassessing the scope and costs. Underspending at DITP is primarily due to the timing delays in FY20 for numerous smaller/planned projects and purchases that will be completed later in FY20 than budgeted.

Professional Services

Professional Services were under budget by \$0.9 million or 23.6%. The overall underspending year-to-date is due to Engineering Services in Operations; Other Professional Services in Human Resources, Finance, and Law; Legal Services in Law and Human Resources; Computer System Consultants in MIS; and Lab Testing & Analysis in EnQual Wastewater and Lab Services.

Other Materials

Other Materials were under budget by \$0.7 million or 24.2%, largely driven by the timing of purchases related to Computer Hardware and Equipment/Furniture. The PC replacement project was planned to have begun in November but has been delayed. This is offset by overspending for Postage, Lab and Testing Supplies in Department of Lab Services, and Work Clothes in Operations.

Fringe Benefits

Fringe Benefit spending was lower than budget by \$0.5 million or 4.6%. This is primarily driven by lower Health Insurance costs of \$0.5 million (due to fewer employees and retirees participating in health insurance plans), the change to the ratio of employee contribution for past employees versus new hires that contribute at a higher percentage, and change from family to individual plans which are less costly.

Training & Meetings

Training & Meetings expenses were higher than budgeted by \$18,000 or 7.6%, due timing of use/reimbursement within the Operations and MIS departments.

Utilities

Utilities were overspent by \$0.7 million or 6.5%. Electricity overspending of \$0.6 million is primarily at Deer Island and Field Operations. In addition, Diesel Fuel was overspent by \$0.1 million in Wastewater Operations.

Other Services

Other Services were over budget by \$0.5 million or 4.5%. The main area of overspending was for Sludge Pelletization (\$0.7 million) due to higher year-to-date quantities and Grit & Screenings Removal (\$0.1 million). This overage was offset by lower spending in Other Services (\$0.1 million) for a number of services and includes the timing of Technical Assistance for Lead issues, the timing of remediation projects managed by Real Property/Environmental Management, Telephones (\$0.1 million for telephone and data lines in MIS and FOD), and Memberships/Dues/Subscriptions (\$0.1 million) in Operations due to timing.

Overtime

Overtime expenses were higher than budget by \$0.5 million or 21.8%. The over spending for the fiscal year was mainly in Wastewater Operations due to the wet weather events.

Chemicals

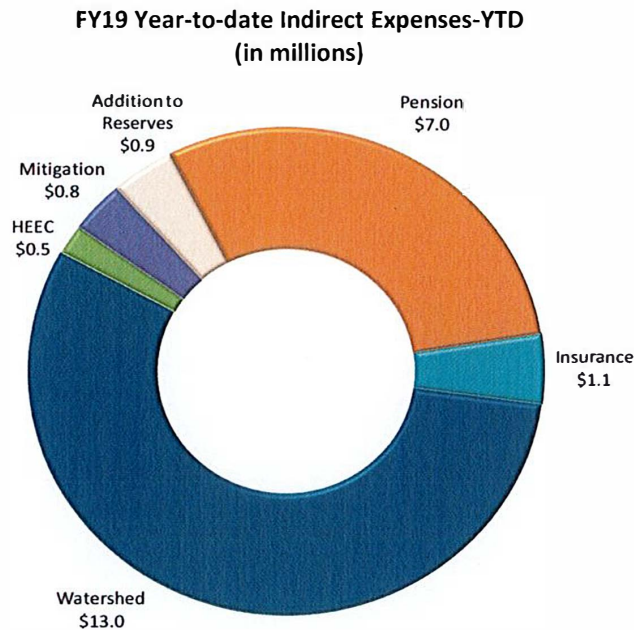
Chemicals were higher than budget by \$0.2 million or 2.9%. The majority of the variance for Chemicals was the result of higher Sodium Hypochlorite usage at the Carroll Water Treatment Plant due to higher usage of Wachusett Reservoir water versus the higher quality water from the Quabbin Reservoir, which required higher dosages to disinfect the water, and higher usage at Deer Island and Wastewater Ops due to wet weather; higher Activated Carbon at Nut Island Headworks and Braintree/Weymouth Intermediate Pump Station; higher Sodium Bisulfite usage at Deer Island and in Wastewater Ops; and higher Hydrogen Peroxide use at Deer Island.

Worker's Compensation

Worker's Compensation expenses were higher than budget by \$44,000 or 3.6%. The higher expenses were primarily due to higher compensation payments and net reserves changes (\$158,000), which are offset by lower medical payments and net reserve changes (\$78,000) and administrative expenses of (\$37,000).

Indirect Expenses

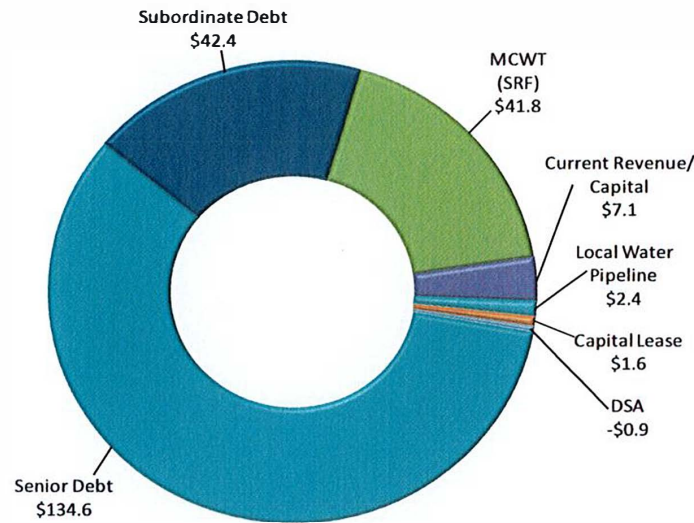
Year-to-date Indirect Expenses totaled \$23.3 million, which is \$0.4 million or 1.5% under budget. There are variances within the lines that comprise Indirect Expenses, including lower HEEC cable costs and Watershed costs. HEEC charges are under budget by \$0.2 million for the low voltage switchgear upgrades. Watershed costs are lower than budget by \$0.2 million due to an over-accrual at the end of FY18 on Watershed operating expenses - Staff typically needs to close the fiscal year prior to receiving the final invoice from DCR, so an estimated amount is accrued based on recent history.



Capital Financing

Capital Financing expenses include the principal and interest payments for fixed 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, and the Chelsea facility lease payment.

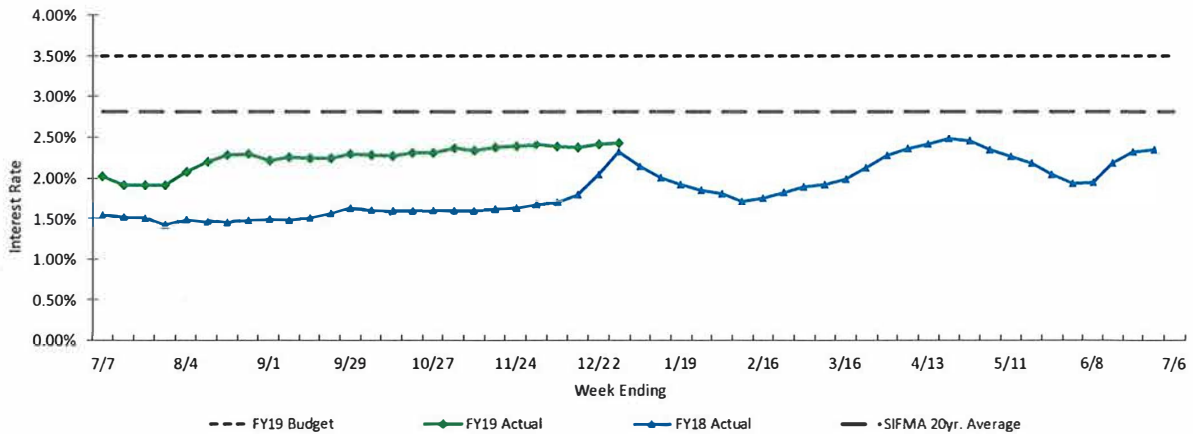
**Year-to-date FY19 Capital Finance
(in millions)**



Year-to-date Capital Financing expenses for FY19 totaled \$228.9 million, which was under budget by \$4.0 million or 1.7%. The variance is primarily attributed to favorable short-term variable rates.

The graph below reflects the FY19 actual variable rate trend by week year-to-date against the FY19 Budget.

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



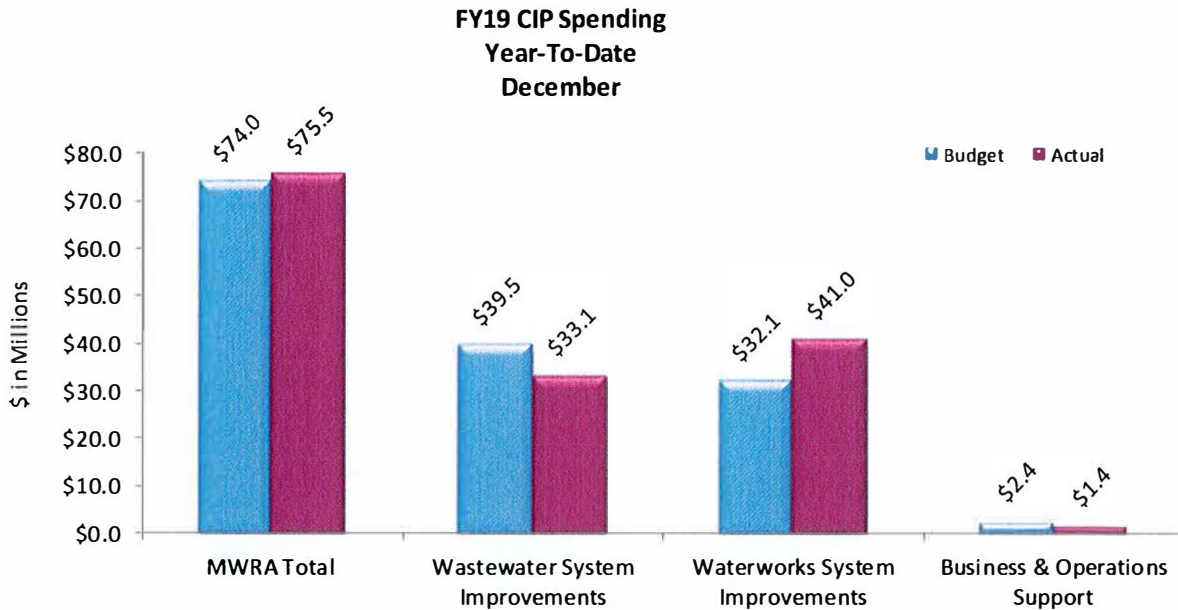
Revenue & Income

Year-to-date Revenues of \$386.1 million were over budget by \$1.4 million or 0.4%. Investment income was over budget by \$1 million due to favorable returns on investment income (average short-term rates were higher than budgeted: 2.29% vs. 1.75%). In addition, there were favorable variances on the income from the disposal of equipment (\$0.3 million), Miscellaneous Revenue (\$0.2 million), and for emergency water supplied to Burlington (\$0.1 million). However, Energy Revenue was lower than budget by \$0.2 million due to lower Demand Response payments and Renewable Portfolio credits.

FY19 Capital Improvement Program

Capital expenditures in Fiscal Year 2019 through December total \$75.5 million, \$1.5 million or 2.0% over budget.

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 Pipeline loan program, and the community managed Combined Sewer Overflow (CSOs) projects, capital spending totaled \$50.3 million, \$11.4 million or 18.4% under budget.



Overall CIP spending reflects the overspending of \$8.8 million in Waterworks Improvements, and underspending of \$6.4 million in Wastewater Improvements, and \$1.0 million in Business and Operations Support. Major variances in Waterworks are primarily due to greater than anticipated community requests for loans and contractor progress on the Northern Intermediate High (NIH) Section 89 & 29 Construction Phases 2 and 1C, Southern Extra High Section 111 Construction 2, Wachusett Aqueduct Pump Station, timing of watershed land purchases, partially offset by delay in notice to proceed for Southern Extra High (SEH) Section 111 Construction 3 and Bellevue Tank 2/Turkey Hill Painting contract awarded less than budget.

Wastewater variances are primarily due to construction delays for the Chelsea Creek Headworks Upgrades for Channel 1 work and odor control equipment delivery, Somerville Marginal In-System Storage project due to delay in Somerville construction award, Winthrop Terminal Facility VFD Replacement due to motor commissioning testing issue, Alewife Brook Pump Station Rehabilitation due to timing of final work, partially offset by greater than anticipated community requests for grants and loans for the I/I Local Financial Assistance Program, contractor progress for the Gravity Thickener Rehabilitation contract, and work scheduled for FY18 that was completed in FY19 for the Reading Extension Sewer contract.

FY19 Budget and FY19 Actual Year-to-Date Variance by Program
(in millions)

\$ in Millions	Budget	Actuals	\$ Var.	% Var.
Wastewater System Improvements				
Interception & Pumping	23.3	15.1	(8.2)	-35.2%
Treatment	4.0	4.3	0.3	6.7%
Residuals	0.7	0.4	(0.2)	-31.2%
CSO	2.0	0.7	(1.3)	-67.1%
Other	9.5	12.6	3.1	32.8%
Total Wastewater System Improvements	\$39.5	\$33.1	(\$6.4)	-16.1%
Waterworks System Improvements				
Drinking Water Quality Improvements	0.9	0.4	(0.4)	-50.5%
Transmission	6.8	6.6	(0.2)	-2.4%
Distribution & Pumping	18.9	20.1	1.2	6.3%
Other	5.5	13.8	8.3	149.1%
Total Waterworks System Improvements	\$32.1	\$41.0	\$8.8	27.5%
Business & Operations Support	\$2.4	\$1.4	(\$1.0)	-41.4%
Total MWRA	\$74.0	\$75.5	\$1.5	2.0%

Totals may not add due to rounding

FY19 Year-to-date Spending by Program:

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

Other Waterworks: Net overspending of \$8.3 million

- \$9.7 million for the Local Water System Assistance Program due to greater than anticipated loan requests, partially offset by \$1.1 million for Bellevue 2 and Turkey Hill Painting/Improvements contract being awarded less than budget and \$0.3 million for a delay in the notice to proceed of the Cosgrove Intake Roof Repair contract.

Interception & Pumping: Net underspending of \$8.2 million

- \$7.3 million for Chelsea Creek Upgrades Construction due to delays for Channel 1 work and odor control equipment delivery.
- \$0.6 million for Alewife Brook Pump Station construction due to timing of final work.
- \$0.3 million for Nut Island Odor Control and HVAC Design due to delay in completion of design documents.
- \$0.2 million for Wastewater Metering Planning/Study/Design due to additional time needed to obtain temporary meter data.
- \$0.2 million for Remote Headworks and Deer Island Shaft Study due to delay in notice to proceed.
- This underspending was partially offset by overspending of \$0.4 million for the Reading Extension Sewer and \$0.3 million for Prison Point Piping Rehabilitation for work scheduled for FY18 that was completed in FY19.

Other Wastewater: Net overspending of \$3.1 million

- \$3.1 million for Community I/I due to greater than budgeted requests for grants and loans.

Water Distribution and Pumping: Net overspending of \$1.2 million

- Overspending of \$1.3 million for NIH Section 89 & 29 Phase 2 Construction, \$0.4 million for Phase 1C Construction, and \$0.5 million for Southern Extra High Section 111 Construction 2, and \$0.2 million for Section 56 Pipe Demolition due to contractor progress, and \$0.3 million for NIH Section 89 & 29 Replacement Design, and \$0.1 million for Section 50 & 57 Water and Sections 21/20/19 Sewer Design due to consultant progress of work.
- This overspending was partially offset by underspending of \$1.3 million for SEH Construction 3 due to delay in notice to proceed, \$0.3 million for Section 23, 24, 47 Final Design CA/RI due to pending City of Newton MOA for pipe replacement and delayed utility relocation, \$0.2 million for Peabody Pipeline Design/ESDC due to project being terminated, and \$0.2 million for Section 14 Water Main Relocation (Malden) due to timing of final work.

Combined Sewer Overflow: Net underspending of \$1.3 million

- \$1.4 million for Somerville Marginal In-System Storage due to the delay of the City of Somerville construction award.

Business & Operations Support: Net underspending of \$1.0 million

- \$0.6 million for As-Needed Technical Assistance due to timing of task order work, \$0.2 million for the Maximo Upgrade due to timing of final work, \$0.2 million for timing of vehicle purchases.

Drinking Water Quality Improvements: Net underspending of \$0.4 million

- \$0.3 million for timing of task order work and \$0.2 million for the Marlborough Maintenance Facility due to work scheduled in FY19 completed in FY18.

Wastewater Treatment: Net overspending of \$0.3 million

- \$1.6 million for Gravity Thickener Rehabilitation due to contractor progress, partially offset by underspending of \$0.7 million for Winthrop Terminal Facility VFD Replacement Construction due to motor commissioning testing problem, \$0.4 million for Clinton Roof Rehabilitation due to the delayed notice to proceed, and \$0.3 million for Radio Repeater System Upgrade 1 due to the delayed award.

Waterworks Transmission: Net underspending of \$0.2 million

- \$0.7 million for Maintenance Garage/Wash Bay/Storage Building for schedule delay, \$0.3 million for WASM 3 MEPA/Design/CA/RI for test pit work that was delayed, and \$0.2 million for Commonwealth Avenue Pumping Station Design Construction Administration/Resident Inspection due to CA/RI delay pending award of construction.
- This underspending was partially offset by overspending of \$0.5 million for Wachusett Aqueduct Pump Station construction due to contractor progress, \$0.5 million for timing of Watershed Land purchases, and \$0.4 million for Rosemary Brook Building Repair for FY18 work invoiced in FY19.

Residuals: Net underspending of \$0.2 million

- Underspending of \$0.3 million for Electrical and Mechanical Improvements due to delay in award due to updated scope of work, partially offset by \$0.1 million for Sludge Tank & Silo Coating due to work scheduled for FY18 completed in FY19.

Construction Fund Balance

The construction fund balance was \$48.2 million as of the end of December. Commercial Paper/Revolving Loan availability was \$222 million to fund construction projects.

ATTACHMENTS:

Attachment 1 – Variance Summary December 2018

Attachment 2 – Current Expense Variance Explanations

Attachment 3 – Capital Improvement Program Variance Explanations

ATTACHMENT 1
FY19 Actuals vs. FY19 Budget

	December 2018 Year-to-Date				
	Period 6 YTD Budget	Period 6 YTD Actual	Period 6 YTD Variance	%	FY19 Approved
EXPENSES					
WAGES AND SALARIES	\$ 52,094,007	\$ 49,716,949	\$ (2,377,058)	-4.6%	\$ 107,032,021
OVERTIME	2,205,845	2,685,806	479,961	21.8%	4,447,554
FRINGE BENEFITS	10,369,901	9,892,084	(477,817)	-4.6%	21,173,571
WORKERS' COMPENSATION	1,211,304	1,254,969	43,665	3.6%	2,422,609
CHEMICALS	5,816,694	5,983,550	166,856	2.9%	10,830,452
ENERGY AND UTILITIES	10,874,230	11,584,790	710,560	6.5%	22,868,632
MAINTENANCE	16,265,719	15,084,605	(1,181,114)	-7.3%	32,258,727
TRAINING AND MEETINGS	241,438	223,068	(18,370)	-7.6%	455,770
PROFESSIONAL SERVICES	3,828,674	2,924,626	(904,048)	-23.6%	7,675,976
OTHER MATERIALS	2,778,570	2,107,325	(671,245)	-24.2%	7,381,098
OTHER SERVICES	11,734,508	12,267,812	533,304	4.5%	23,065,411
TOTAL DIRECT EXPENSES	\$ 117,420,890	\$ 113,725,584	\$ (3,695,307)	-3.1%	\$ 239,611,821
INSURANCE	\$ 1,049,529	\$ 1,086,413	\$ 36,884	3.5%	\$ 2,099,064
WATERSHED/PILOT	13,203,213	13,049,242	(153,971)	-1.2%	26,406,427
HEEC PAYMENT	693,412	453,175	(240,237)	-34.6%	1,386,832
MITIGATION	807,131	807,131	-	0.0%	1,614,262
ADDITIONS TO RESERVES	940,901	940,901	-	0.0%	1,881,797
RETIREMENT FUND	7,000,000	7,000,000	-	0.0%	7,000,000
POST EMPLOYEE BENEFITS	-	-	-	---	5,574,152
TOTAL INDIRECT EXPENSES	\$ 23,694,186	\$ 23,336,862	\$ (357,326)	-1.5%	\$ 45,962,534
STATE REVOLVING FUND	\$ 42,093,788	\$ 41,754,371	\$ (339,417)	-0.8%	\$ 89,380,363
SENIOR DEBT	134,566,990	134,566,990	-	0.0%	272,633,982
CORD FUND	-	-	-	---	-
DEBT SERVICE ASSISTANCE	(944,726)	(944,726)	-	0.0%	(944,726)
CURRENT REVENUE/CAPITAL	7,099,996	7,099,996	-	0.0%	14,199,991
SUBORDINATE MWRA DEBT	46,087,268	46,087,268	-	0.0%	92,032,292
LOCAL WATER PIPELINE CP	2,375,198	2,375,198	-	0.0%	4,750,396
CAPITAL LEASE	1,608,530	1,608,530	-	0.0%	3,217,060
DEBT PREPAYMENT	-	-	-	---	7,100,000
VARIABLE DEBT	-	(3,647,734)	(3,647,734)	---	-
HEEC CABLE CAPACITY RESERV	-	-	-	---	-
DEFEASANCE ACCOUNT	-	-	-	---	-
TOTAL DEBT SERVICE	\$ 232,887,044	\$ 228,899,893	\$ (3,987,151)	-1.7%	\$ 482,369,358
TOTAL EXPENSES	\$ 374,002,120	\$ 365,962,339	\$ (8,039,784)	-2.1%	\$ 767,943,713
REVENUE & INCOME					
RATE REVENUE	\$ 369,521,100	\$ 369,521,100	\$ -	0.0%	\$ 739,042,200
OTHER USER CHARGES	4,441,475	4,504,813	63,338	1.4%	9,328,768
OTHER REVENUE	4,135,752	4,464,637	328,885	8.0%	6,013,635
RATE STABILIZATION	-	-	-	---	-
INVESTMENT INCOME	6,608,255	7,638,341	1,030,086	15.6%	13,559,110
TOTAL REVENUE & INCOME	\$ 384,706,582	\$ 386,128,891	\$ 1,422,309	0.4%	\$ 767,943,713

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY19 Budget YTD December	FY19 Actuals YTD December	FY19 YTD Actual vs. FY19 Budget		Explanations
			\$	%	
Direct Expenses					
Wages & Salaries	52,094,007	49,716,949	(2,377,058)	-4.6%	Wages and Salaries are under budget by \$2.4 million. Year to date, there have been 21 fewer average FTEs (1,134 versus 1,155 budget), lower average new hire salaries versus retirees, the timing of backfilling vacant positions, and lower leave balance accruals contributed to Regular Pay being under budget.
Overtime	2,205,845	2,685,806	479,961	21.8%	Higher spending mainly in Wastewater Operations of \$336,000 for wet weather events.
Fringe Benefits	10,369,901	9,892,084	(477,817)	-4.6%	Lower than budget mainly in Health Insurance of \$457,000, due to fewer than budgeted participants in health insurance plans, increased contribution by external new hires vs. lower contribution rates of staff retiring, and the shift from family to individual plans which are less expensive.
Worker's Compensation	1,211,304	1,254,969	43,664	3.6%	The higher expenses were due to Compensation payments and reserves of \$158,000, offset by lower Medical payments and reserves of \$78,000, and Administrative Expenses of \$37,000. Due to the uncertainties of when spending will happen, the budget is spread evenly through out the year.

**ATTACHMENT 2
Current Expense Variance Explanations**

Total MWRA	FY19 Budget YTD December	FY19 Actuals YTD December	FY19 YTD Actual vs. FY19 Budget		Explanations
			\$	%	
Chemicals	5,816,694	5,983,550	166,856	2.9%	Overspending for Sodium Hypochlorite of \$219,000; at CWTP due to rainy fiscal year, we have been using more water from Wachusett Reservoir vs. the higher quality water from Quabbin Reservoir, which has required higher dosing to disinfect the water, and DITP & Wastewater Ops due to wet weather; Activated Carbon of \$158,000 for the unbudgeted replacement of carbon at Nut Island Headworks and Braintree Weymouth IPS for odor control; Sodium Bisulfite of \$96,000 at DITP and Wastewater Ops. This is offset by underspending in Soda Ash of \$167,000 at CWTP and Clinton; and Hydrogen Peroxide of \$127,000 at DITP. DITP flows are 16.2% higher than the budget and CWTP flows are 3% less than the budget through December. It is important to note that Chemicals variances are also based on deliveries which in general reflect the usage patterns. However, the timing of deliveries is an important factor.
Utilities	10,874,230	11,584,790	710,560	6.5%	Overspending in Electricity of \$616,000 primarily at DITP and Field Operations; Diesel Fuel of \$126,000 in Wastewater Ops and at DI due to timing of deliveries.

**ATTACHMENT 2
Current Expense Variance Explanations**

Total MWRA	FY19 Budget YTD December	FY19 Actuals YTD December	FY19 YTD Actual vs. FY19 Budget		Explanations
			\$	%	
Maintenance	16,265,719	15,084,605	(1,181,114)	-7.3%	<p>Services were underspent by \$1.03 million and Materials were underspent by \$154,000.</p> <p>Underspending in Building & Grounds Services of \$715,000 is driven by FOD (\$696,000); Specialized Equipment Services of \$197,000 is driven by Emergency Preparedness (\$92,000) and Deer Island (\$89,000); and Pipeline Services of \$132,000 driven by Metro Maintenance for the timing of manhole rehab work (\$167,000).</p> <p>Overspending in Electrical Services of \$88,000 is driven by the timing of electrical service contract in FOD (\$75,000).</p>
Training & Meetings	241,438	223,068	(18,370)	-7.6%	Overspending in Operations at DI and in MIS.
Professional Services	3,828,674	2,924,626	(904,048)	-23.6%	<p>Underspending in Engineering Services of \$289,000 in Operations primarily at Reservoir Ops for timing of dam asset maintenance plans and DITP for timing of biosolids exemptions included in MDAR Regulation 330 CMR 31.00study of MWRA pellets; Other Professional Services of \$281,000 in HR for Training and the Pay Equity Study, Finance and Law; Legal Services of \$120,000 in Law and HR; Computer System Consultants of \$109,000 in MIS; and Lab & Testing Analysis of \$101,000 in EnQual Wastewater and Lab Services.</p>

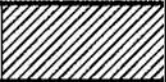
ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY19 Budget YTD December	FY19 Actuals YTD December	FY19 YTD Actual vs. FY19 Budget		Explanations
			\$	%	
Other Materials	2,778,570	2,107,325	(671,244)	-24.2%	Lower than budgeted spending in Computer Hardware of \$522,000 in MIS for timing of the roll out of PC replacements; Equipment/Furniture of \$148,000 in Operations for timing of water quality equipment; and furniture at DITP. This is offset by higher than budgeted spending in Postage of \$63,000 for timing of replenishment of the postage meter in the mailrooms and in Lab & Testing Supplies of \$59,000 in Laboratory Services; and Work Clothes of \$21,000 in Operations
Other Services	11,734,508	12,267,812	533,303	4.5%	Higher than budgeted spending for Sludge Pelletization of \$744,000 due to higher year to date quantities due to struvite control chemical use and higher flows; and Grit & Screenings Removal of \$100,000. This is offset by lower spending for Other Services of \$146,000 for a number of services, including the switch from renting modems to purchasing them for the Contaminant Monitoring System in Water Quality Assurance; remediation projects managed by Real Property/Environmental Management; and timing of Technical Assistance for Lead issues in Planning. Telephone/Data Services of \$146,000 in MIS and FOD; and Membership/Dues/Subscriptions of \$98,000 in Operations due to timing.
Total Direct Expenses	117,420,890	113,725,583	(3,695,307)	-3.1%	

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY19 Budget YTD December	FY19 Actuals YTD December	FY19 YTD Actual vs. FY19 Budget		Explanations
			\$	%	
Indirect Expenses					
Insurance	1,049,529	1,086,413	36,883	3.5%	Higher claims than budgeted of \$65,000, offset by lower premiums of \$28,000.
Watershed/PILOT	13,203,213	13,049,242	(153,971)	-1.2%	Lower Watershed Reimbursement of \$154,000 million due to over accrual at the end of FY18 as compared to the actual amount paid in the first quarter of FY19.
HEEC Payment	693,412	453,175	(240,238)	-34.6%	Lower than budgeted spending on special projects related to the HEEC cable.
Mitigation	807,131	807,131	-	0.0%	
Addition to Reserves	940,901	940,901	-	0.0%	
Pension Expense	7,000,000	7,000,000	-	0.0%	
Post Employee Benefits	-	-	-		
Total Indirect Expenses	23,694,187	23,336,861	(357,326)	-1.5%	
Debt Service					
Debt Service	233,831,770	229,844,619	(3,987,151)	-1.7%	\$3.6 million for lower than budgeted variable rate, and a combination of lower cost of borrowing and assumed versus actual borrowing terms for SRF funds.
Debt Service Assistance	(944,726)	(944,726)	-	0.0%	
Total Debt Service Expenses	232,887,044	228,899,893	(3,987,151)	-1.7%	
Total Expenses					
Total Expenses	374,002,121	365,962,337	(8,039,784)	-2.1%	
Revenue & Income					
Rate Revenue	369,521,100	369,521,100	-	0.0%	
Other User Charges	4,441,475	4,504,813	63,338	1.4%	Higher DITP water costs of \$83,000.

**ATTACHMENT 2
Current Expense Variance Explanations**

Total MWRA	FY19 Budget YTD December	FY19 Actuals YTD December	FY19 YTD Actual vs. FY19 Budget		Explanations
			\$	%	
Other Revenue	4,135,752	4,464,637	328,885	8.0%	\$288,000 for disposal of surplus materials, Miscellaneous Revenue of \$176,000 primarily associated with worker's compensation reimbursement for older claims; \$115,000 for emergency water supplied to Burlington and \$37,000 unanticipated Cambridge water usage. This is offset by lower energy revenue received of \$196,000.
Investment Income	6,608,255	7,638,341	1,030,086	15.6%	Investment Income is over budget mostly due to short term rates higher than budget (2.29% vs.1.75% budget).
Total Revenue	384,706,582	386,128,891	1,422,309	0.4%	
Net Revenue in Excess of Expenses	10,704,461	20,166,554	9,462,093		

**ATTACHMENT 3
FY19 CIP Year-to-Date Variance Report (000's)**

	FY19 Budget YTD December	FY19 Actuals YTD December	YTD Actuals vs. Budget		Explanations
			\$	%	
Wastewater					
Interception & Pumping (I&P)	\$23,330	\$15,126	(\$8,205)	-35.2%	<u>Underspending</u> Chelsea Creek Headworks Upgrades - Construction and REI: \$7.4M (due to timing of odor control equipment delivery and delay in commissioning channel I) Alewife Brook Pump Station Rehab - Construction: \$619k (due to timing of final work) Nut Island Odor Control & HVAC Design/CA/REI: \$327k (delay in completion of design documents) Wastewater Meter System Planning/Study/Design: \$243k (due to additional time for acquisition of metering data) Remote Headworks & Deer Island Shaft Study: \$185k (schedule shift) Wastewater Central Monitoring Equipment/Hardware: \$100k (timing of purchases) Miscellaneous contracts totaling \$163k. <u>Offset Overspending</u> Interceptor Renewal 1, Reading Extension Sewer - Construction: \$446k, and Prison Point Pipeline Rehabilitation - Design/CA/RI: \$262k (work scheduled for FY18 performed in FY19) Alewife Brook Pump Station Final Design/CA/REI: \$124k (greater than anticipated RE services)
Treatment	\$4,035	\$4,306	\$270	6.7%	<u>Overspending</u> Gravity Thickener Rehab: \$1.6M (contractor progress) <u>Offset Underspending</u> WTF VFD Replacement - Construction: \$722k (due to motor commissioning testing problem) Clinton Roofing Rehabilitation: \$370k (schedule shift) Radio Repeater System Upgrades - Phase 1: \$250k (award delayed and was less than budgeted)
Residuals	\$653	\$449	(\$204)	-31.2%	<u>Underspending</u> Electrical Improvements \$179k and Mechanical Improvements \$150K: (scope of work incorporated into Electrical, Mechanical, & Drum Replacements contract) <u>Offset Overspending</u> Sludge Tank & Silo Coating: \$125k (due to work scheduled for FY18 completed in FY19)

**ATTACHMENT 3
FY19 CIP Year-to-Date Variance Report (000's)**

	FY19 Budget YTD December	FY19 Actuals YTD December	YTD Actuals vs. Budget		Explanations
			\$	%	
CSO	\$1,997	\$657	(\$1,340)	-67.1%	<u>Underspending</u> Somerville Marginal In-System Storage: \$1.4M (shift in Somerville design and construction schedule) Offset Overspending CSO Performance Assessment: \$103k (timing of executed task orders)
Other Wastewater	\$9,490	\$12,601	\$3,110	32.8%	<u>Overspending</u> I/I Local Financial Assistance: \$3.1M (greater than budgeted requests for grants and loans)
Total Wastewater	\$39,506	\$33,139	(\$6,367)	-16.1%	


**ATTACHMENT 3
FY19 CIP Year-to-Date Variance Report (000's)**

	FY19 Budget YTD December	FY19 Actuals YTD December	YTD Actuals vs. Budget		Explanations
			\$	%	
Waterworks					
Drinking Water Quality Improvements	\$883	\$437	(\$446)	-50.5%	<u>Underspending</u> Technical Assistance: \$312k (due to timing of task order work) Miscellaneous contracts totaling \$134k
Transmission	\$6,759	\$6,595	(\$163)	-2.4%	<u>Underspending</u> Maintenance Garage/Wash Bay/Storage Building: \$675k (schedule shift) WASM 3 - MEPA/Design/CA/RI: \$282k (test pits work delayed) Commonwealth Avenue Pump Station Improvements - Design/CA/RI: \$232k (CA & RI services delayed pending award of construction contract) Wachusett Aqueduct Pump Station - Design/ESDC/RI: \$220k (ESDC & RI task orders pending reallocation) <u>Offset Overspending</u> Wachusett Aqueduct Pump Station - Construction: \$482k (due to project progress) Watershed Land Acquisition: \$475k (timing of land purchases) Rosemary Brook Siphon Building Repair: \$386k (timing of final payment)
Distribution & Pumping	\$18,936	\$20,130	\$1,194	6.3%	<u>Overspending</u> NIH Section 89/29 Redundancy Phase 1B and 1C and Phase 2 : \$1.9M, Section 89/29 Replacement - Design: \$297k, Section 56 Pipe Demolition - Construction: \$190k, SEH Redundancy Pipeline Section 111 - Construction 2: \$501k, and Section 89 & 29 Redundancy - Design: \$138k (all due to project progress) Miscellaneous contracts totaling \$149k. <u>Offset Underspending</u> SEH Redundancy Pipeline Section 111 - Construction 3: \$1.3M (due to delay in notice to proceed) New Connecting Mains CP3 (Sect 23,24,47) - Final Design/CA/RI: \$293k (pending City of Newton MOA for pipe replacement and delayed utility relocation) Peabody Pipeline Design/ESDC/REI: \$208k (contract terminated) Section 14 Water Pipe Relocation (Malden): \$180k (work scheduled for FY19 performed in FY18)
Other Waterworks	\$5,544	\$13,807	\$8,264	-	<u>Overspending</u> Local Water Pipeline Financial Assistance Program: \$9.7M (greater than budgeted requests for loans) <u>Offset Underspending</u> Bellevue II & Turkey Hill Water Tanks Repainting: \$1.1M (award less than budgeted) Cosgrove Intake Roof Replacement: \$320k (schedule shift)

**ATTACHMENT 3
FY19 CIP Year-to-Date Variance Report (000's)**

	FY19 Budget YTD December	FY19 Actuals YTD December	YTD Actuals vs. Budget		Explanations
			\$	%	
Total Waterworks	\$32,121	\$40,969	\$8,848	27.5%	
Business & Operations Support					
Total Business & Operations Support	\$2,418	\$1,416	(\$1,001)	-41.4%	<u>Underspending</u> As-Needed Technical Assistance: \$639k (due to timing of task order work) MIS Projects: \$290k (mostly due to timing of final MAXIMO upgrade work)
Total MWRA	\$74,045	\$75,524	\$1,479	2.0%	


STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: January 16, 2019
SUBJECT: Update on the 2018 MWRA Water and Wastewater Master Plan

COMMITTEE: Administration, Finance & Audit

INFORMATION
 VOTE

Carolyn M. Fiore, Deputy Chief Operating Officer
Stephen Estes-Smargiassi, Director, Planning and Sustainability
Lise Marx, Sr. Program Manager, Planning
Carl H. Leone, P.E. Sr. Program Manager, Planning
Preparer/Title


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

MWRA's water and wastewater systems have an asset value of approximately \$13 billion, split about evenly between the two systems (\$6 to \$7 billion in replacement asset value each). Since its creation (FY86-FY18), the MWRA has invested \$8.3 billion in building new assets and rehabilitating existing ones. MWRA initiated 40-year Master Planning for these systems as a means to identify and prioritize anticipated future water and wastewater investments over a multi-decade horizon. Development of the Master Plan is a collaborative process involving Planning, Operations, Engineering, and Finance staff. This staff summary provides the Board with an update on the development of the 2018 Master Plan, which is a comprehensive update of the 2013 Master Plan. Staff will give a PowerPoint presentation.

RECOMMENDATION:

For information only.

BACKGROUND:

MWRA has initiated a program to update its water and wastewater Master Plan approximately every five years to reflect changing water and wastewater system needs, updated asset conditions, evolving regulatory requirements, required adaptations to climate change and the need to mitigate greenhouse gases, population or system expansion trends, revised or new priorities and other appropriate considerations. The draft 2018 Master Plan was used as a reference to help guide development of the Capital Improvement Program (CIP) spending cap for FY19-23. The Master Plan is intended to be a companion document to the CIP to facilitate staff and Advisory Board recommendations, and allow for comparison of future investment needs between different parts of the water and wastewater systems. The development of the CIP and all system spending is evaluated against the backdrop of rates management.

This update of the Master Plan was developed by MWRA staff during 2017 and 2018, and again takes a 40-year look at potential capital expenditures. The Master Plan lists projects already programmed in the FY19 CIP (approximately \$2.23 billion water and \$1.53 billion wastewater)

and projects recommended for consideration in future CIPs (approximately \$0.35 billion water and \$1.64 billion wastewater). One focus of the Master Plan is on projects proposed to require capital spending during the next two 5-year CIP cap cycles (FY19-23 and FY24-28). For the current cap period, the Master Plan reflects higher priority projects having been incorporated into the CIP during the FY19 budget process. Master Plan recommendations for the FY24-28 time period will be re-evaluated along with existing projects as that cap period approaches. The Master Plan also projects capital spending for an additional 10-year period (FY29-38) and a 20-year period (FY39-58) beyond that. Over the 40-year period, the 2018 Master Plan identifies approximately \$2.58 billion in water system needs and approximately \$3.17 billion in wastewater needs, a total of \$5.75 billion in projected expenditures. A summary table of project costs, by asset type, is provided as Attachment A.

The Master Plan provides a detailed listing, explanation, and prioritization of MWRA's short and long-term water and wastewater projects that impact capital needs over a 40-year period. The Business Plan is a concise listing of MWRA's goals and the objectives and strategies developed to meet the goals over a short (5-year) timeframe. An update on the Business Plan was provided to the Board in October 2018.

Since five year updates for the Water and Wastewater System Master Plans were initiated in 2006, it is clear that master planning efforts have been valuable to MWRA and certain key themes have emerged. On the water side, the 2006 Plan reflected the completion of the MetroWest Tunnel and the Carroll Water Treatment Plant; then began the look ahead towards the future design and construction of UV treatment and the remaining system redundancy. In 2018, distribution system redundancy projects moved closer to completion and a more developed plan for Metropolitan Tunnels redundancy has replaced placeholder values. UV treatment is now in place at both the Carroll and Brutsch water treatment plants. The plan's focus has moved towards continued asset protection for pipelines and facilities.

On the wastewater side, the 2006 Plan identified the increasing needs of Deer Island's asset protection that now represents over half of all wastewater project costs programmed in the CIP. The 2006 Plan identified the need to develop rehabilitation plans for residuals facilities and the headworks. Project schedules and costs have now been programmed in the CIP and headworks upgrades are underway. In 2006, only 15 of 35 CSO Control Plan projects were complete; with an additional \$460 million in future spending programmed in the CIP. Today, the last element of the \$900 million CSO Control Plan, the \$2.5 million 3-year CSO Control Performance Assessment, is underway and will be completed in 2020. The initial interceptor renewal methodology that prioritized future projects based on risk and consequence of failure was developed as part of the 2006 Master Plan. Scheduling of interceptor renewal projects was stretched out to allow other critical expenditures to move forward while constructability and permitting issues are assessed. Major investment in interceptor renewal is now recommended over the next 25 years. For long-term regulatory changes, MWRA continues the initial 2006 theme of monitoring emerging contaminants and environmental issues with no significant near-term spending anticipated.

Efforts to protect coastal facilities from sea level rise moved from planning into construction, and continuing improvements in green energy production and energy efficiency have reduced MWRA's greenhouse gas footprint by 32% between 2006-2016. During the plan period, these efforts will continue; most notably with the combined heat and power project on Deer Island improving MWRA's use of digester gas to produce additional green power.

Staff are finalizing the document and will be briefing the Advisory Board, the Water Supply Citizens Advisory Committee, and the Wastewater Advisory Committee over the next several weeks.

DISCUSSION:

Summary of the 2018 Water System Master Plan

MWRA's water system includes its source reservoirs, treatment facilities, transmission lines, and distribution system facilities and pipelines; the system (excluding the source reservoirs) has an estimated replacement asset value of approximately \$6.7 billion. Total water system needs identified for the FY2019-58 Master Plan timeframe are approximately \$2.6 billion (in current dollars), including all projects currently in the CIP and those recommended for consideration in future CIPs. Approximately 69% of the total water system need addresses major remaining system redundancy costs including interim and long-term Metropolitan Tunnel Redundancy costs, WASM 3 work and remaining water distribution system storage and pipeline redundancy projects. The remaining 31% includes ongoing asset protection projects for valves, pipelines, pump stations, storage facilities, dams, and treatment facilities. Also included are costs for continuing watershed land acquisition, and replacement and optimization of other smaller yet critical assets such as radio and SCADA equipment, lab equipment and facilities, and metering equipment.

The water system needs assessment is based on the following major assumptions and findings:

- The 300-mgd safe yield of MWRA's water system is sufficient to meet future demand for water both within the service area and additional demand outside the service area.
- Modeling efforts indicate that climate change is not expected to have significant impacts on reservoir yield; in fact, safe yield may increase slightly. Changes in climate may encourage surrounding communities to turn to MWRA for portions of their supply as droughts become more frequent or severe.
- No design and construction funds are included to address the impacts on MWRA's water system of potential changes in federal or state regulations. Staff continue to track potential changes to the Federal Lead and Copper Rule which may cause MWRA to reevaluate corrosion control.
- Water supply redundancy and new storage projects provide for system reliability, operational flexibility, and enhanced security. Planning for redundancy for key elements of both the transmission and distribution systems was a focus of both the 2006 and 2013 Water System Master Plans and continues to be a point of emphasis. Projects to address Metropolitan Tunnel Redundancy have now been incorporated into the CIP as have interim projects to address immediate risk reduction needs in the existing tunnel system prior to the implementation of tunnel redundancy. As a placeholder, the Master Plan includes \$65 million in future funding for repair or rehabilitation needs for the existing Metropolitan Tunnels once the new tunnels are in service. This value will be refined as the redundancy work is completed and a full inspection and assessment can be done. The Master Plan programs these costs in the FY39-58 planning period. Work on redundancy for the Northern Intermediate High and Southern Extra High service areas has progressed significantly during the past five years as well. Approximately \$15 million in new project costs are recommended to enhance redundancy in the Northern Extra High system moving forward.

- Master Plan recommendations include inspections of the Cosgrove Tunnel periodically over the 40-year Master Plan period. The inspection of the Quabbin Tunnel is in the FY19 CIP and is scheduled to begin in FY24. At this time, no funds are included for rehabilitation or repair of those tunnels. However, if inspections of any of the tunnels were to indicate more significant problems, future costs would need to be added.
- The Master Plan again emphasizes the need to continue the systematic cleaning and lining of remaining MWRA-owned, older unlined cast-iron mains to address potential water quality degradation concerns and related health risks. This effort addresses MWRA customer expectations and EPA's anticipated direction for distribution system regulation and reduces pipeline corrosion and leakage. Metropolitan system pipeline expenditures identified in the CIP or recommended in the Master Plan are approximately \$321 million (excludes WASM 3 pipe costs). Additionally, the current CIP includes approximately \$56 million for an expanded cathodic protection program for the metropolitan system.
- The Master Plan recommends a pipeline study in FY25 to help MWRA assess the ongoing need for rehabilitation beyond currently planned work. The study will look at any pipe remaining to be rehabilitated (mostly constructed since 1950), expected replacement cycles for lined pipes, and assess information on corrosion and other factors.
- The Master Plan recommends continuing to systematically address the long-term need to protect and eventually replace other water system assets, including equipment, valves, pump stations, storage facilities, treatment and transmission system buildings and equipment (not including tunnels or piping), dams, and support systems. Including what is already in the CIP as well as recommended asset protection projects, the overall water system master plan total for this category is approximately \$361 million between FY19-58.
- Financial assistance to support member community water system rehabilitation projects to help maintain high quality water is recommended to continue but must be evaluated against competing MWRA CIP needs. Even with the substantial progress made over the last 20 years via MWRA's community water loans, approximately 1,800 miles (27%) of community-owned water mains remain unlined. The Master Plan recommends two additional water loan program phases FY29-48 (each at \$250 million in loans over 10 years) to extend the current program approved through FY30. Since there is no grant component to water financial assistance; the impact to MWRA's CIP is minor compared to the sewer grant/loan program.

Summary of the 2018 Wastewater System Master Plan

The scale and scope of MWRA's wastewater system operation – encompassing collections, pumping, CSO, treatment, effluent discharge, and beneficial reuse of residuals – presents challenges in maintenance, rehabilitation, and replacement. The wastewater infrastructure has an estimated replacement asset value of approximately \$6.8 billion. Deer Island alone has approximately 70,000 pieces of equipment and instrumentation components. Regular maintenance and replacement cycles have become standard plant operating practice, but will become increasingly costly as the plant ages. Total wastewater needs identified for the FY2019-58 Master Plan timeframe are \$3.17 billion (in current dollars), including \$1.53 billion already programmed in the FY19 CIP and \$1.64 billion recommended for consideration in future CIPs. More than 94%, \$2.99 billion of the \$3.17 billion needs estimated for all wastewater projects are rehabilitation or replacement of existing infrastructure assets that are at the end of their useful life. The remaining \$180 million in needs are for projects to optimize existing systems or add capacity, technology

upgrades and new equipment to support automated facility operation, condition assessments, and wastewater modeling.

The wastewater system needs assessment is based on the following major assumptions and findings:

- No new communities are expected to join the wastewater system. Future population and employment growth in the service area is projected to modestly increase. These population and growth increases could result in a projected increase of up to 27 mgd of sanitary wastewater flow through 2040. This potential increase represents a 10% increase over the current 270 mgd average dry day flow (last 20 years). MWRA's continued commitment to invest in community infiltration, inflow, and combined stormwater reductions is expected to offset the increase in new sanitary flows.
- Wastewater quality parameters are not projected to change significantly. The need for capital projects to address wastewater quality will most likely be based on revised NPDES permit limits.
- No significant design and construction funds are included for potential long-term regulatory changes that may impact MWRA based on current Deer Island NPDES permit discussions and the 2017 Clinton permit. Future regulatory issues that may have cost implications for MWRA include more stringent limits on nutrients, conventional pollutants, or emerging contaminants; more stringent biosolids reuse criteria; rapid public notification of CSO discharges (location and volume); a higher level of CSO control; more stringent focus on reduction or elimination of sanitary sewer overflows (SSOs); and expansion of MWRA's role in local stormwater permitting and initiatives for promoting green infrastructure.
- Storm surge, together with anticipated sea level rise resulting from the changing climate, will affect a number of MWRA and communities' coastal collection systems and wastewater facilities. Sea level rise was accounted for during the design and construction of the Deer Island Wastewater Treatment Plant. As climate change projections evolve, projected infrastructure impacts, and identification of appropriate projects to counter negative impacts will become a more critical theme of future MWRA Master Plans. The 2018 Master Plan assumes any significant flood mitigation efforts will be undertaken as each MWRA facility is rehabilitated or upgraded, and that simpler measures will be implemented as maintenance efforts. Rehabilitation projects at the Alewife Brook Pumping Station and the Chelsea Creek headworks have already incorporated anticipated changes in sea level into the design criteria, and other coastal facilities have had flood mitigation measures implemented. Future coastal projects may need to be targeted so that increases in tidal and storm surge inflow do not impact MWRA's ability to provide reliable wastewater collection and treatment.
- Significant asset protection investment at Deer Island will continue, as well as green energy production and energy optimization, with \$660 million programmed in the FY19 CIP over the next 10 years. Three of the most expensive Deer Island projects include:
 - The combined heat and power project to optimize use of methane gas and overall energy efficiency (\$90 million);
 - Rehabilitation of primary and secondary clarifiers (\$134 million); and,
 - A series of odor control and HVAC equipment replacement projects (\$85 million).

- The Pelletizing Plant in Quincy will require large-scale equipment replacement which is included in the FY19 CIP at \$100 million over the next 15 years.
- The cross-harbor tunnels are assumed to be in good condition. A \$1.3 million cross-harbor tunnel shaft study and follow-up \$9.7 million shaft rehabilitation project are programmed in the FY19 CIP during FY19-27. A \$5 million tunnel inspection and condition assessment project is also programmed in the CIP during FY24-28. The condition of the cross-harbor tunnels and potential need for future investment is a significant unknown for MWRA until the inspection/condition assessment project is complete. Included as a Master Plan recommendation is a \$50 million placeholder for future inspection/cleaning/repair of the tunnels in the out years of the planning period (FY46-50).
- Headworks facilities require significant reinvestment that is programmed in the CIP (estimated at over \$240 million over the next 10 years). The Chelsea Creek Headworks Upgrade is well into construction and will be followed by the Columbus Park and Ward Street Headworks Upgrades. Improvements programmed in the CIP for the Nut Island Headworks include odor control, HVAC, mechanical, and electrical system upgrades. Upgrade projects at the headworks must be implemented while systems remain on-line, posing operational challenges.
- MWRA's 20 pump stations and CSO facilities, while generally in good condition, are aging and some are in need of rehabilitation or upgrade. The Master Plan reinvestment strategy for these facilities estimates a \$163 million need over the next 10 years, only 45% of which is currently programmed in the FY19 CIP.
- No significant additional CSO capital costs are included (other than maintenance of existing facilities) beyond the \$2.5 million (through FY21) to complete the 3-year CSO Control Performance Assessment. If regulatory action were to mandate a higher level of CSO control, additional capital needs would be required.
- The average age of MWRA's 226-mile sewer system is approximately 70 years old, with approximately 39% of the sewers more than 100 years old. Overall, the collection system is in reasonably good condition, given its age. MWRA's interceptor renewal program targets the approximate 13 miles (6% of gravity sewers) that have significant physical defects. The sections requiring repair are prioritized based on risk and consequence of failure and are regularly monitored through internal TV inspection. In addition to the gravity sewers and structures, MWRA also maintains 29 miles of force mains, siphons, and CSO/emergency outfalls. The Master Plan reinvestment strategy for all sewer pipelines estimates a \$168 million need over the next 10 years, of which 70% is currently programmed in the FY19 CIP.
- Wastewater metering and supervisory control and data acquisition (SCADA) systems will continue to require upgrades based on assumed useful life/obsolescence of the electronic equipment. Much of this equipment is expected to require replacement every 10 to 20 years (programmed in the FY19 CIP at \$22 million for the next 10 years).
- Financial assistance to support member community projects for sewer system rehabilitation and infiltration/inflow reduction is planned to continue but must be evaluated against competing MWRA CIP needs. Continued investment in rehabilitation of member community sewer systems is key in minimizing the potential for regional wastewater flow increases, which could require additional future transmission and treatment capacity. The Master Plan carries recommended funds for additional community financial assistance beginning in FY24. Staff will continue to work cooperatively with the Advisory Board to identify potential improvements for community financial assistance programs.

Green Power Production and Energy Efficiency

MWRA is an energy intensive organization due primarily to the power needed to transport and treat wastewater, and to a lesser extent, treat and distribute drinking water. MWRA has seen a net reduction of 19.5 percent (about 38 million KWh) in electricity purchases between 2006 and 2017, partly due to increases in renewable electricity production and energy efficiency improvements made throughout the MWRA system. To further reduce greenhouse gas emissions and increase energy efficiency, MWRA will continue to implement cost effective alternative energy projects and continue to incorporate energy efficiency into rehabilitation of facilities, new construction projects and equipment replacement. During FY18, green electric power from MWRA's solar, hydro, wind and digester gas powered generators produced and used on site, or produced and sold to the grid represented about 28 percent of electric power use by all MWRA facilities. At Deer Island, 26 percent of all electric use was generated on site by green power, and if the heat value of the digester gases is included, 62 percent of all power needs were met from green sources. It is anticipated that once the upgraded combined heat and power project is implemented, 65 to 70 percent of electricity needs and up to 90 percent of total power needs at Deer Island will be met by green energy.

Next Steps

Remaining work on the Master Plan includes:

- Presentation to the MWRA Advisory Board;
- Presentation to a joint meeting of the Water System Citizens Advisory Committee and the Wastewater Advisory Committee;
- Finalization of the Master Plan document; and,
- Posting the final version of the 2018 Master Plan on MWRA's website in early 2019.

ATTACHMENT:

Attachment A – 2018 Master Plan Project Cost Summary

2018 MWRA MASTER PLAN PROJECT COST SUMMARY (\$ in thousands)

Asset	FY19-23	FY24-28	FY29-38	FY39-58	SUBTOTAL FY19-58
Water Treatment and Land Acquisition Programmed in FY19 CIP	13,016	18,204	28,500	0	59,720
Future Recommended - Water Treatment and Land Acquisition	0	3,596	15,000	45,000	63,596
Transmission System and Dams Programmed in FY19 CIP	95,455	576,243	826,278	52,862	1,551,838
Future Recommended - Transmission System and Dams	4,050	7,600	10,850	70,500	93,000
Metropolitan System, Lab, SCADA, Metering, Energy and Info Management Programmed in FY19 CIP	235,769	321,531	60,454	0	617,754
Future Recommended - Metropolitan System, Lab, SCADA, Metering, Energy and Info Management	3,575	7,600	33,700	150,400	195,275
SUBTOTAL - Water Projects Programmed in FY19 CIP	345,240	915,978	915,232	52,862	2,229,312
SUBTOTAL - Future Recommended Water Projects	7,625	18,796	59,550	265,900	351,871
TOTAL WATER PROJECTS	352,865	934,774	974,782	318,762	2,581,183
Wastewater Treatment and Residuals Programmed in FY19 CIP	324,596	423,977	68,801	0	817,374
Future Recommended - Wastewater Treatment and Residuals	7,400	49,000	140,750	596,000	793,150
Headworks, Tunnels, Pump Stations, CSO Facilities, Sewers, SCADA and Metering Programmed in FY19 CIP	195,396	287,545	35,215	0	519,156
Future Recommended - Headworks, Tunnels, Pump Stations, CSO Facilities, Sewers, SCADA and Metering	3,000	142,900	204,000	342,400	692,300
Community Financial Assistance Programmed in FY19 CIP	123,200	129,100	-40,500	-13,300	198,400
Future Recommended - Community Financial Assistance	0	106,100	48,000	-4,100	150,000
SUBTOTAL - Wastewater Projects Programmed in FY19 CIP	644,192	840,622	63,416	-13,300	1,534,930
SUBTOTAL - Future Recommended Wastewater Projects	10,400	298,000	392,750	984,300	1,685,450
TOTAL WASTEWATER PROJECTS	654,592	1,138,622	456,166	921,000	3,170,380
TOTAL - Projects Programmed in FY19 CIP	989,432	1,756,500	978,548	39,562	3,764,242
TOTAL - Future Recommended Projects	18,025	316,796	452,300	1,200,200	1,987,321
TOTAL PROJECTS	1,007,457	2,073,296	1,430,948	1,239,762	5,751,563



MASSACHUSETTS WATER RESOURCES AUTHORITY

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

Frederick A. Laskey
Executive Director

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Fax: (617) 788-4899
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WASTEWATER POLICY & OVERSIGHT COMMITTEE MEETING

to be held on

Wednesday, January 16, 2019

Chair: P. Flanagan
Vice-Chair: J. Walsh
Committee Members:
J. Carroll
J. Foti
A. Pappastergion
B. Peña
H. Vitale

Location: 100 First Avenue, 2nd Floor
Charlestown Navy Yard
Boston, MA 02129

Time: Immediately Following AF&A Committee

AGENDA

A. Contract Awards

1. Modeling of Massachusetts Bay Water Quality: Deltares, USA, Inc., Contract 7412

B. Contract Amendments/Change Orders

1. Operations and Maintenance of the Fore River Pelletizing Plant: New England Fertilizer Company, Contract S345, Amendment 2

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the

Wastewater Policy and Oversight Committee

December 19, 2018

A meeting of the Wastewater Policy and Oversight Committee was held on December 19, 2018 at the Authority headquarters in Charlestown. Committee Vice Chair Walsh presided. Present from the Board were Messrs. Carroll, Foti, Pappastergion, Peña and Vitale. Among those present from the Authority staff were Frederick Laskey, Carolyn Francisco Murphy, David Coppes, Carolyn Fiore, Stephen Cullen, Mark Johnson, David Duest, Richard Adams and Kristin MacDougall. The meeting was called to order at 10:18 a.m.

Information

Update on Construction of the Cross-Harbor Cable

Staff made a presentation on construction progress. (Mr. Carroll returned to the meeting; Messrs. Pappastergion and Foti left and returned to the meeting during the presentation.) There was discussion and questions and answers.

Emerging Contaminants

The Committee recommended that this item be moved to the Board of Directors meeting agenda.

Approvals

*** Approval of Two New Members of the Wastewater Advisory Committee**

The Committee recommended approval. (ref. WW B.1.)

*** Approval of Amendment 2 to Memorandum of Understanding with Massachusetts Department of Fish and Game for Public Access Fishing Pier at Deer Island**

There was brief discussion and questions and answers.

The Committee recommended approval. (ref. WW B.2.)

* Committee recommendation approved by the Board on December 19, 2018

Contract Awards

*** Refurbishment of Secondary Reactor Aerator and Mixer Gearboxes at the Deer Island Treatment Plant: SPX Corporation, Bid WRA-4594**


Staff made a presentation on the project scope and procurement process. There were questions and answers.

The Committee recommended approval. (ref. WW C.1.)

The meeting adjourned at 12:15 p.m.

* Committee recommendation approved by the Board on December 19, 2018

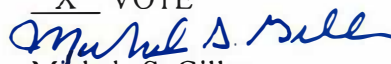
STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: January 16, 2019
SUBJECT: Modeling Massachusetts Bay Water Quality
Deltares USA, Inc.
Contract 7412

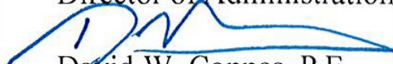
COMMITTEE: Wastewater Policy & Oversight

Carolyn M. Fiore, Deputy COO
Betsy Reilley, Ph.D., Director, Environmental Quality
Dan Codiga, Ph.D., Project Manager
Preparer/Title

 INFORMATION
 X VOTE


Michele S. Gillen

Director of Administration


David W. Coppes, P.E.

Chief Operating Officer

RECOMMENDATION:

To approve the recommendation of the Consultant Selection Committee to award Contract 7412, Modeling Massachusetts Bay Water Quality, to Deltares USA, Inc., and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the amount of \$711,525 for a contract term of 3 years from the Notice to Proceed.

BACKGROUND:

This contract will provide MWRA with services for marine water quality modeling related to the MWRA effluent outfall in Massachusetts Bay. Modeling is required by the National Pollutant Discharge Elimination System (NPDES) permit for the Deer Island Treatment Plant. The permit requires MWRA to:

“...update, maintain, and run the three dimensional hydrodynamic water quality ‘Bays Eutrophication Model’ developed in 1995 by Hydroqual and the USGS, on a routine basis (at least every year), for the purpose of predicting conditions caused by nutrient loading and in order to support decisions about the need for nutrient limits and the appropriate level of any such limit for the discharge...”

The original Massachusetts Bay model was developed in the mid-1990s by Hydroqual, Inc. and the U.S. Geological Survey. For 2000-2005 conditions, the modeling requirements were completed by University of Massachusetts/Boston; and for 2006-2016 conditions they were completed by University of Massachusetts/Dartmouth, under a series of sole source contracts. Under the most recent contract, the per-year cost was approximately \$133,000, of which MWRA paid about \$72,000 (the rest was cost share provided by UMass Dartmouth).

In late 2017, staff developed specifications and initiated a competitive procurement for the modeling. During the spring of 2018, it became apparent that the modeling platform UMass Dartmouth had been using was subject to significant intellectual property and licensing issues, which could not be resolved to the satisfaction of both parties.

MWRA informed the Environmental Protection Agency and the Massachusetts Department of Environmental Protection that model runs would be delayed, and that MWRA would develop a new approach to continue the required modeling. Although the new approach will not run the original HydroQual and USGS model named by the permit, it will use a more recent model configured very similarly. A subsequent DEP letter to MWRA dated July 27, 2018, states that the regulatory agencies are aware of the delays, and consider the new approach for re-establishing annual model runs to be reasonable. EPA has verbally indicated its agreement, as have interested scientists from EPA and DEP's Outfall Monitoring Science Advisory Panel, which advises regulators on technical issues related to MWRA's monitoring and modeling.

This contract is the result of the subsequent competitive procurement.

DISCUSSION:

The Scope of Services for this contract described the key requirements: to develop, calibrate, and verify a new model; use it to simulate and report on 2017-2020 conditions; and deliver the modeling tools with instructions for their use by others, potentially including MWRA staff, for future simulations. It includes a number of differences from past contracts, mainly to take advantage of changes in water quality modeling practices over the past 10-20 years. In the past, modeling was almost entirely limited to specialists and university researchers with access to powerful computing resources, using their own custom models, but this is no longer the case.

The Scope of Services was designed to ensure that at the end of the contract MWRA will have ownership of all aspects of the model (software license, documentation), as well as the ability for it to be run, using MWRA computational resources, in future years without interruption:

- Use of a full-feature commercial modeling platform software product is required. Modeling methods have improved dramatically, and models are being used more broadly. At least three commercial products suitable to MWRA's needs are now available at reasonable cost. This approach ensures MWRA uses a model having capabilities aligned with current industry standards, including straightforward presentation of simulation results.
- The model must be installed and run on MWRA computational resources. Advances to computing power mean the computational resources required for simulations now are relatively modest. Following guidance from MIS, the hardware and processing power for the simulations will be provided by MWRA, and accessed remotely by the consultant.

In addition, the Scope of Services was designed to position MWRA for future modeling after the contract has ended, as done either by a consultant or by MWRA staff, whichever is more beneficial:

- A set of detailed instructions enabling others to run the model is a deliverable.

At the end of the contract, in addition to the model itself, MWRA will have instructions for how to simulate each future year and generate the figures for the annual report on that year.

- An optional task is included, for training of MWRA staff to run the model. This option will be taken during the third year of the contract if MWRA decides it wants its own staff to run the model after the contract is complete. Such an approach may be possible due to the improved user interfaces of commercial models. The contractor will provide to MWRA details of the level of effort and expertise needed to run model simulations. With this information, staff will decide whether to request the optional training. Alternatively, it may be more beneficial to MWRA to continue to contract for the simulations after this contract ends.

Procurement Process

Staff researched commercial modeling platforms, identified three that are suitable, and researched consulting firms familiar with the platforms as potential bidders to notify. MIS staff provided guidance to address computational needs, and software licensing and procurement issues.

On September 24, 2018, MWRA issued a one-step Request for Qualifications Statements/Proposals that was publicly advertised in Goods and Services, the Boston Herald, Banner Publications and El Mundo. In addition, notice was sent directly to 45 individuals from a broad range of consulting firms and universities. Nine firms requested the RFQ/P documents. On November 9, 2018 five proposals were received:

<u>Firms</u>	<u>Cost</u>
<i>Staff Estimate</i>	\$ 512,000
Deltares USA, Inc.	\$ 711,525*
HDR, Inc.	\$ 834,281
Geosyntec Consultants, Inc.	\$ 852,295
RPS Group, Inc.	\$ 899,186*
DHI Water & Environment, Inc.	\$2,099,402

**Amount was adjusted to reflect total cost to MWRA.*

The cost for each proposal received was higher than the staff estimate. This is primarily because proposers budgeted more for developing, calibrating and verifying the new model. Staff overestimated the extent to which these costs would be reduced due to the availability, in reports and publications, of the extensive knowledge acquired from prior modeling. For the selected proposal, the difference is reasonable. Once the new model is completed, the per-year cost for simulations of 2017-2020 conditions in the selected proposal is about \$50,000, similar to that in the staff estimate, and lower than paid by MWRA in the most recent contract (as previously noted).

After reviewing the proposals, the Selection Committee met to discuss, score, and rank them using criteria for Cost (30 points); Qualifications and Key Personnel (25 points); Technical Approach (25 points); Experience, Past Performance on Similar Non-Authority Projects, Past Performance on Authority Projects (15 points); and Capacity/Organization and Management Approach (5

points). The committee judged all proposals responsive and identified strengths and weaknesses of each.

For the Deltares proposal, strengths included highly relevant qualifications and experience of both individual staff and the institution; comprehensive familiarity with the modeling platform and full utilization of its features; project management with balanced senior and junior staff roles; and an appropriate level of effort. The technical approach was considered reasonable and sound. Deltares USA, Inc. had the lowest cost of the five proposals.

For the HDR proposal, strengths included the suitability and practicality of the technical approach; demonstrated success of key personnel and firm on comparable-scope projects; thorough knowledge of Massachusetts Bay water quality; and good performance on past MWRA projects. The level of effort, management approach, and familiarity of personnel with the proposed modeling platform were judged responsive though not as strong as some other proposals.

For the Geosyntec proposal, strengths included key personnel expertise in eutrophication modeling; effective completion of past projects of similar scale; the quality and applicability of the modeling platform; and the structure of the project management plan. The technical approach and level of effort were considered responsive though not as strong as some other proposals.

For the RPS Group proposal, strengths included the experience and responsiveness of the firm on similar past projects, particularly regarding hydrodynamic and fate/transport modeling. The management plan, level of effort, familiarity of personnel with the proposed modeling platform, and technical approach were viewed as responsive though not as strong as some other proposals.

For the DHI proposal, strengths included successful and pertinent experience of key personnel on similar projects; diverse capabilities and configurability of the modeling platform to our specific needs; and extensive staff skills using the proposed modeling platform. The project management plan, level of effort, and costs were responsive though not thought to be as strong as some other proposals.

Based on the final rankings, and for the reasons set forth above, the Selection Committee recommends award of this contract to Deltares USA, Inc. in an amount not to exceed \$711,525.

BUDGET/FISCAL IMPACT:

The FY19 CIP includes sufficient funds for Contract 7412.

MBE/WBE PARTICIPATION:

There are no MBE or WBE participation requirements for this contract due to the limited opportunities for subcontracting.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: January 16, 2019
SUBJECT: Operations and Maintenance of the Fore River Pelletizing Plant
New England Fertilizer Company
Contract S345, Amendment 2



COMMITTEE: Wastewater Policy & Oversight

 INFORMATION

 X VOTE

David F. Duest, Director, Deer Island WWTP
Carl Pawlowski, Manager, Residuals Operations
Preparer/Title



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

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to approve Amendment 2 to Contract S345, Operations and Maintenance of the Fore River Pelletizing Plant with New England Fertilizer Company, increasing the contract by an amount not to exceed \$440,000 above current authorization, with no increase in contract term.

DISCUSSION:

Residuals collected by primary and secondary treatment at Deer Island are processed in the egg-shaped anaerobic digesters. The remaining residuals (sludge), after digestion, are temporarily stored on Deer Island and then pumped seven miles through a pipeline to MWRA's Pelletizing Plant located in the Fore River Shipyard in Quincy (pictured on the right). At this facility, the digested sludge is dewatered in centrifuges and then dried in thermal dryers (as shown in following diagram and Figures 2 and 3 below). The resulting pellets are then beneficially used and marketed as a Class A Exceptional Quality fertilizer.



Figure 1: MWRA's Pelletizing Plant

Existing Solids Process Flow Diagram

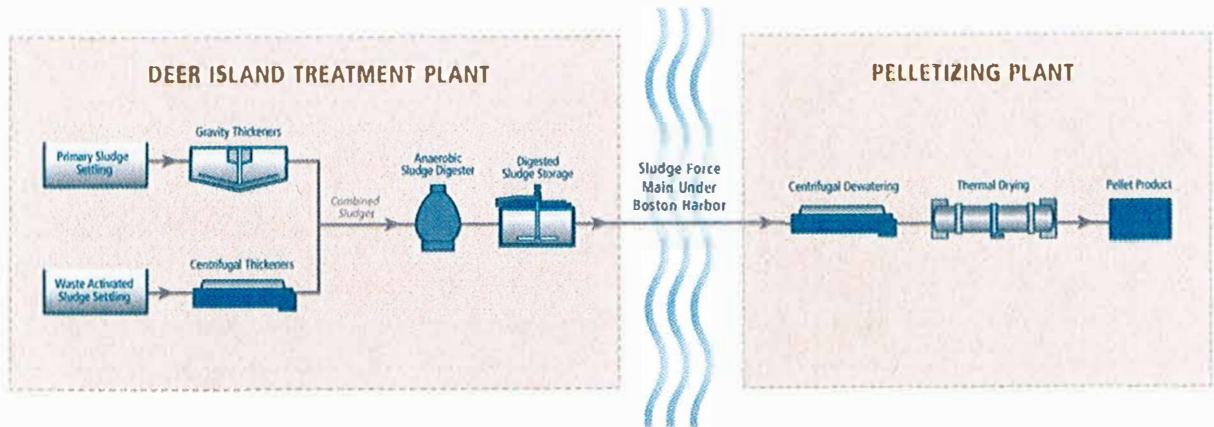


Figure 2: Dewatering Centrifuges



Figure 3: Thermal Dryers

In December 1991, MWRA began operation of the Pelletizing Plant following a competitive procurement process that resulted in MWRA awarding the first operating contract to the New England Fertilizer Company (“NEFCo”). The successor contract, also competitively bid, Contract S345, began in 2001 and ran through the end of 2015. In March 2015, the Board of Directors approved Amendment 1 to Contract S345 for a five-year extension with NEFCo at newly negotiated, reduced rates.

On average, NEFCo converts approximately 105 dry tons per day of digested sludge to fertilizer pellets. NEFCo is also responsible for pellet plant maintenance and is required to return a fully operating plant back to MWRA at the close of the contract. MWRA is responsible for capital improvements up to the commitments stated in Amendment 1, which includes mechanical and electrical improvements, and painting and coating work.

The dried fertilizer pellets are stored in one of nine silos located on the property prior to shipping

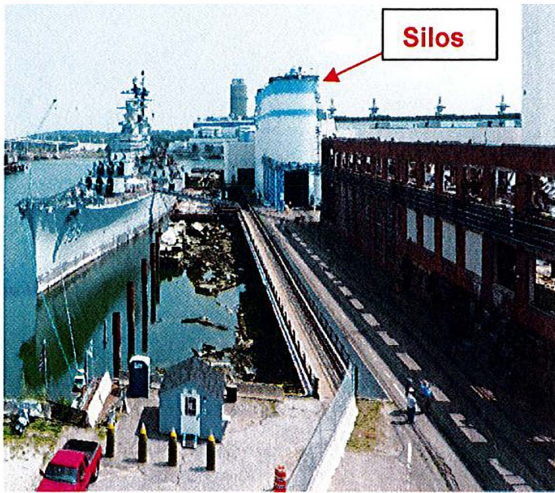


Figure 4: Building 11 showing gray pellet transfer lines on side of building.

out to end-user markets. Five of the nine silos are adjacent to the plant (shown on the photo to the left, with pellet storage silos in blue and white), while four slightly larger silos are located approximately 500 feet away further down the access roadway from the plant. These “remote” silos received pellets from the plant through transfer lines. The transfer lines travelled along a combination of free-standing supports with a majority of the transfer lines mounted on the exterior side wall of Building 11 (see photo to left, gray lines on building). Building 11 was originally owned by MWRA, but is now owned by March Fourth LLC. When the building was sold, the installed transfer lines mounted on Building 11 were protected by easements.

In late 2016, a small section of Building 11’s roof collapsed prompting March Fourth to consider building demolition. March Fourth worked with MWRA to prepare short-term and long-term plans for Building 11.

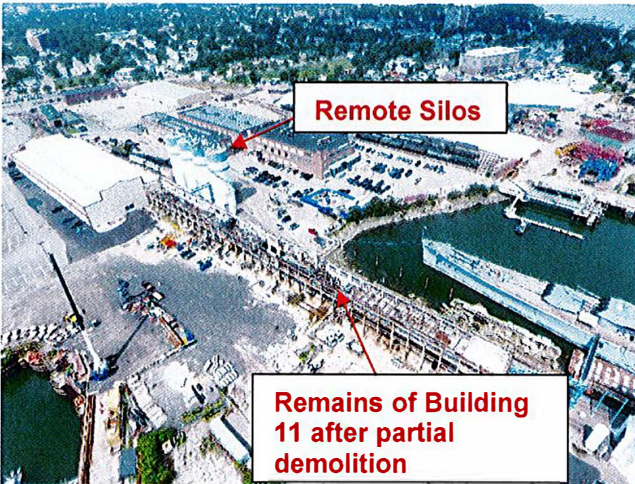


Figure 5: Building 11 after partial demolition.

In the short-term, March Fourth decided to demolish a portion of the building while maintaining one quarter of the building’s structure, retaining the outer support wall that held the pellet transfer pipelines (see Figure 5 at left). This provided time for MWRA to prepare designs to move the transfer lines off of Building 11’s exterior wall. These designs are near complete and procurement for construction services should be advertised in spring 2019. Unfortunately, in August 2018, another section of Building 11’s roof collapsed, this time depositing debris on MWRA’s access roadway to the plant. While no damage or injuries occurred, the City of Quincy Building Inspector ordered the remainder of Building 11 to be

demolished ahead of the schedule. Demolition of Building 11 proceeded in September 2018, cutting off NEFCo’s use of the remote silos (shown to the left in Figure 5). The remote silos account for roughly 45% of the plant’s pellet storage capacity.

NEFCO Claim

NEFCo uses on-site storage to buffer daily production with demand of the fertilizer markets. When demand is high, NEFCo ships most of its product at low cost. For off-peak periods, product is moved, but at higher cost. In the northeast, spring and fall are typically favorable distribution periods corresponding to the best fertilizer application periods. Winter and summer are periods when NEFCo tries to take advantage of on-site storage to accumulate fertilizer for peak distribution periods.

With this loss of storage, NEFCo has been forced to move some product at higher costs. This impacts NEFCo's operating performance and as such NEFCo has submitted a claim for payment of a portion of its higher costs due to the loss of use of the remote silos. The total capacity of the remote silos is 2,100 tons of pellets. Additional charges would be incurred for extra distribution costs of the first 2,100 tons of pellets after the adjacent silos are full. In September 2018, 900 tons of pellets were already in the remote silos leaving 1,200 tons of capacity. NEFCo's claim details the additional costs it has already incurred (\$52,680) for pellets that would have been stored in the remote silos. Given that NEFCo would have completely utilized the remaining 1,200-ton storage capacity in September, there were no additional excess charges according to its claim for the months of October, November and through December 20, 2018.

Staff agree the loss of the remote silos has created a circumstance outside of NEFCo's control and recommend authorization to pay invoices under the claim in Amendment 2. The impact of the claim will remain in effect until the replacement transfer lines are installed. Any charges under this claim will be payable on a monthly basis once actual invoices are supplied and cost differences are verified. MWRA requested that NEFCo prepare an estimate for the total anticipated impact of the loss of the remote silos through the end of its contract term. NEFCo anticipated these uncontrollable circumstance charges would be approximately \$440,000. Under this amendment, MWRA would only pay the actual incremental costs incurred beyond that which would have been stored in the remote silos.

CONTRACT SUMMARY

	<u>Amount</u>	<u>Time</u>	<u>Dated</u>
Original Contract	\$146,925,856.00	175 months	02/14/2001
Amendment 1	\$63,260,721.00	60 months	03/11/2015
Amendment 2	<u>\$440,000.00</u>	<u>0 months</u>	Pending
Adjusted Contract	\$210,626,577.00*		

*Plus escalation and excess quantities and a 15% design and administration payment for capital improvement projects.

BUDGET/FISCAL IMPACT:

The FY19 Current Expense Budget includes \$13,292,288 for Contract S345. Any over-spending anticipated due to the uncontrollable circumstances regarding the lost use of the remote silos will be absorbed within the MWRA current expense budget.

On the capital side, staff will be presenting to the Board in future meetings the award of two capital contracts: Contract 7173, Residuals Pellet Conveyance Piping Relocation (as discussed above) budgeted for \$3,000,000; and Contract 7153, Electrical, and Mechanical Improvements and Drum Replacement, estimated at \$8,435,250. Both projects are funded under the Residuals Capital Improvement Plan with anticipated Awards to be issued in FY19.

MBE/WBE PARTICIPATION:

There were no minimum MBE/WBE participation requirements required for this contract. However, NEFCo proposed 1% MBE and 0.25% WBE participation. These MBE and WBE participation requirements are expected to remain the same.



MASSACHUSETTS WATER RESOURCES AUTHORITY

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

Frederick A. Laskey
Executive Director

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WATER POLICY & OVERSIGHT COMMITTEE MEETING

to be held on

Wednesday, January 16, 2019

Vice-Chair: B. Peña
Committee Members:

J. Carroll
J. Foti
A. Pappastergion
H. Vitale
J. Walsh
J. Wolowicz

Location: 100 First Avenue, 2nd Floor
Charlestown Navy Yard
Boston, MA 02129

Time: Immediately Following Wastewater Committee

AGENDA

A. Information

1. Report of 2018 Water Use Trends and Reservoir Status
2. Lead Service Line Replacement Loan Program Update

B. Approvals

1. Approval of a Contract Between the Massachusetts Water Resources Authority and the Massachusetts Department of Fish and Game for Ongoing Operation of the McLaughlin Fish Hatchery Pipeline and Hydropower Project

C. Contract Awards

1. Painting of Deer Island Steel Water Storage Tank: Atlas Painting and Sheeting Co., Contract 7601
2. Commonwealth Avenue Pumping Station Improvements: WES Construction Corp., Contract 7524

D. Contract Amendments/Change Orders

1. Northern Intermediate High Section 110 – Stoneham: Albanese D&S, Inc., Contract 7067, Change Order 5

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the

Water Policy and Oversight Committee

December 19, 2018

A meeting of the Water Policy and Oversight Committee was held on December 19, 2018 at the Authority headquarters in Charlestown. Committee Vice Chair Peña presided. Present from the Board were Messrs. Carroll, Foti, Pappastergion, Vitale and Walsh. Among those present from the Authority staff were Frederick Laskey, Carolyn Francisco Murphy, David Coppes, Carolyn Fiore, Stephen Cullen, Mark Johnson, Michele Gillen, John Gregoire, Bethany Card, Agustin Serino, John Beckley, John Colbert, Michael Rivard, Patrick Barrett and Kristin MacDougall. The meeting was called to order at 10:33 a.m.

Information

Update on Containment Spill Response Program at Reservoirs

Staff made a presentation about the program. There was brief discussion and questions and answers.

Emergency Water Supply to the Town of Burlington

Staff provided updates on the Town of Burlington's request for a temporary emergency water connection the Town's application to join the MWRA water system.

Contract Awards

* John J. Carroll Water Treatment Plant SCADA System Improvements, Design, Engineering Services During Construction and Resident Engineering Services: Arcadis U.S., Inc., Contract 7581

Staff made a verbal presentation on the project scope, benefits and procurement process. There was discussion and questions and answers.

The Committee recommended approval. (ref. W B.1)

* Committee recommendation approved by the Board on December 19, 2018

* Intermediate High Water Pipeline Improvements, Design and Engineering Services
During Construction: CDM Smith Inc., Contract 6955

Staff made a verbal presentation on the project scope and procurement process.
There was discussion and questions and answers.

The Committee recommended approval. (ref. W B.2)

Contract Amendments/Change Orders

* Northern Intermediate High Redundant Pipeline Design, Construction Administration
and Resident Inspection Services: Stantec Consulting Services, Inc., Contract 6906,
Amendment 3


Staff made a presentation on the project and proposed amendment. There was
discussion and questions and answers.

The Committee recommended approval. (ref. W C.1).

The meeting adjourned at 11:14 a.m.

* Committee recommendation approved by the Board on December 19, 2018


STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: January 16, 2019
SUBJECT: Report on 2018 Water Use Trends and Reservoir Status

COMMITTEE: Water Policy & Oversight

INFORMATION
 VOTE

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


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

After a steady recovery from the 2016/2017 drought, the Quabbin Reservoir storage bounced back throughout 2018, starting from slightly below normal at the beginning of the year to spilling at the end. Overall system withdrawals were higher by 2.2 percent compared to the previous year.

RECOMMENDATION:

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

DISCUSSION:

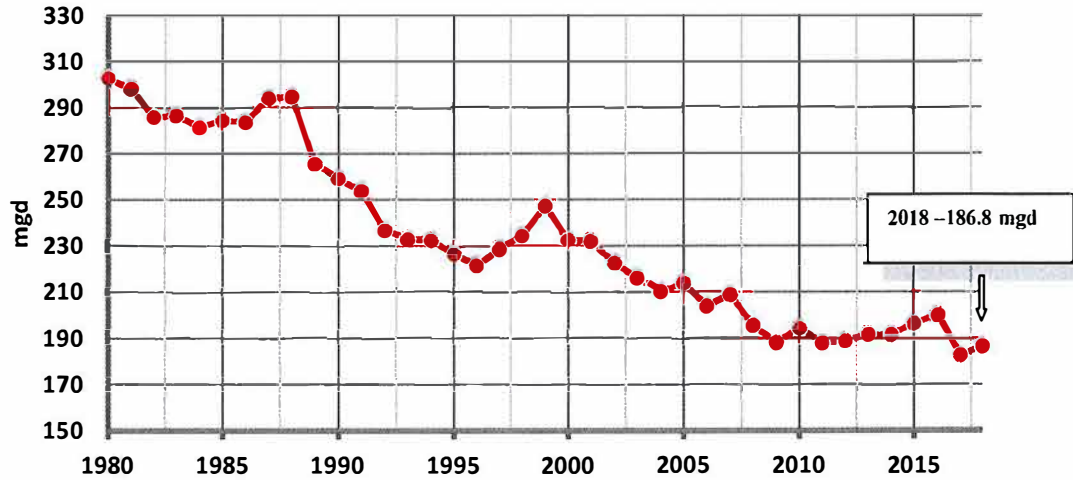
Calendar Year 2018 was a water surplus year. With both a wet spring and a very wet fall, Quabbin Reservoir storage volumes steadily recovered and the reservoir started spilling in mid-October. By the end of the year, it had spilled 10.8 billion gallons and was 100% full. Wachusett Reservoir releases and spills totaled 31.8 billion gallons for the year.

Despite the absence of drought conditions, Calendar Year 2018 water use and reservoir withdrawals were slightly higher than in 2017, likely due to the robust economy.

Water Consumption by MWRA Communities

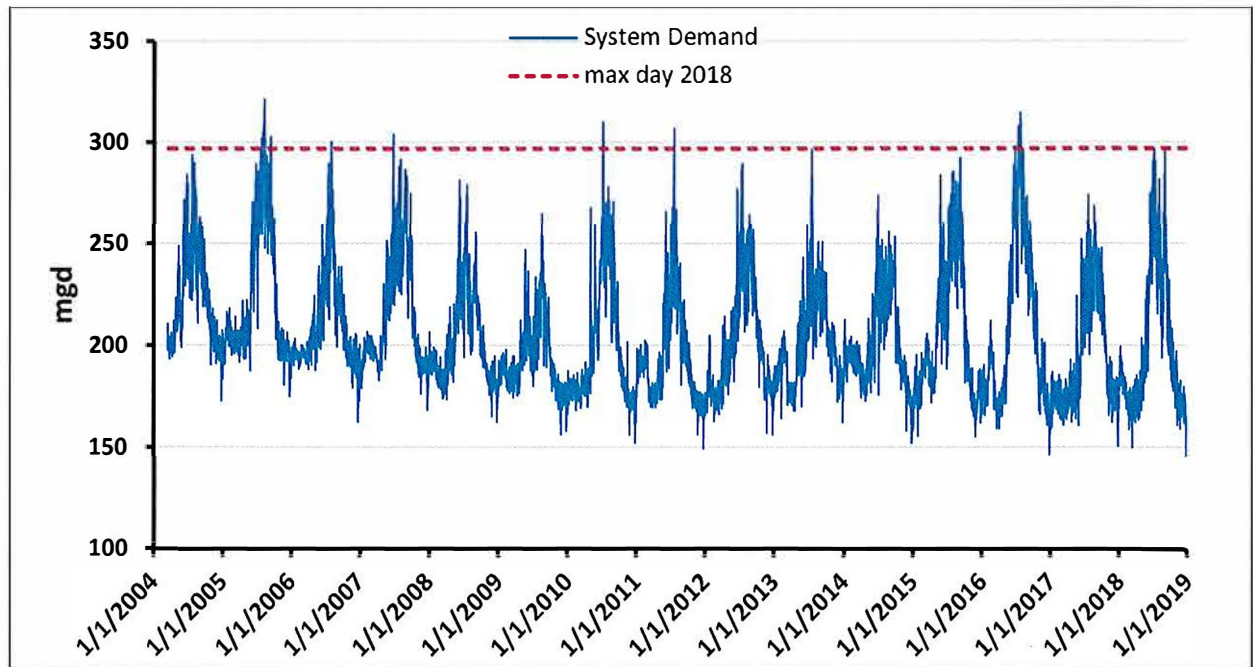
Calendar Year 2018 water consumption by all MWRA communities of 186.8 million gallons per day (mgd) was about 3.9 mgd (2.1 percent) higher than 2017, as shown on Figure 1 on the next page.

Figure 1 – Total Consumption by MWRA Communities (1980 to 2018)



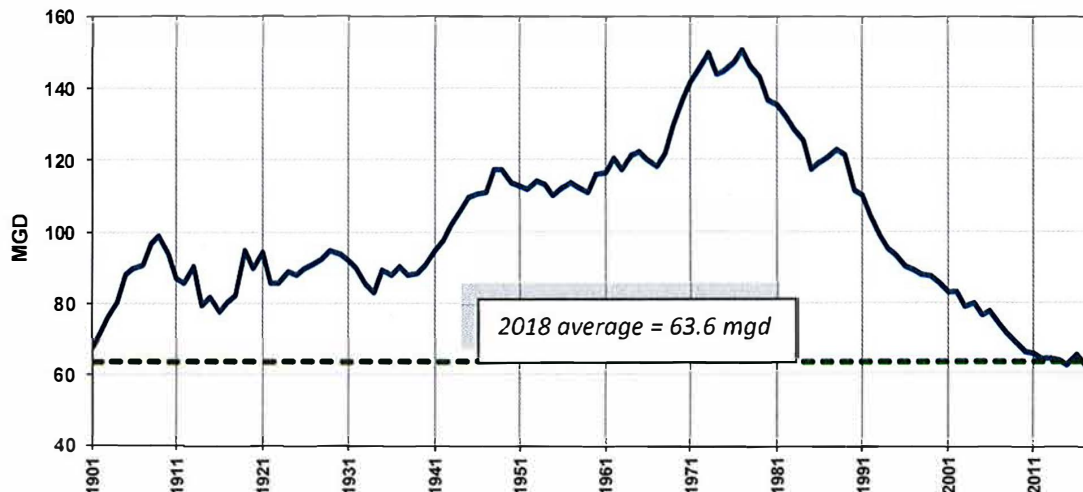
System wide, 2018 had a maximum day demand of 297.5 mgd (8.3 percent higher than 2017) on July 10th. At the opposite extreme, Christmas day had the lowest demand for the year at 146.45 mgd, which was the record for the lowest single day demand since the creation of the MWRA. Figure 2 below shows daily system demand.

Figure 2: Daily System Demand



Demand from MWRA’s largest customer, the Boston Water and Sewer Commission, was 63.6 mgd, which was slightly higher than last year by about 0.9 mgd (1.39 percent). Current Boston demand continues to be lower than demand before 1900, as shown on Figure 3 on the next page.

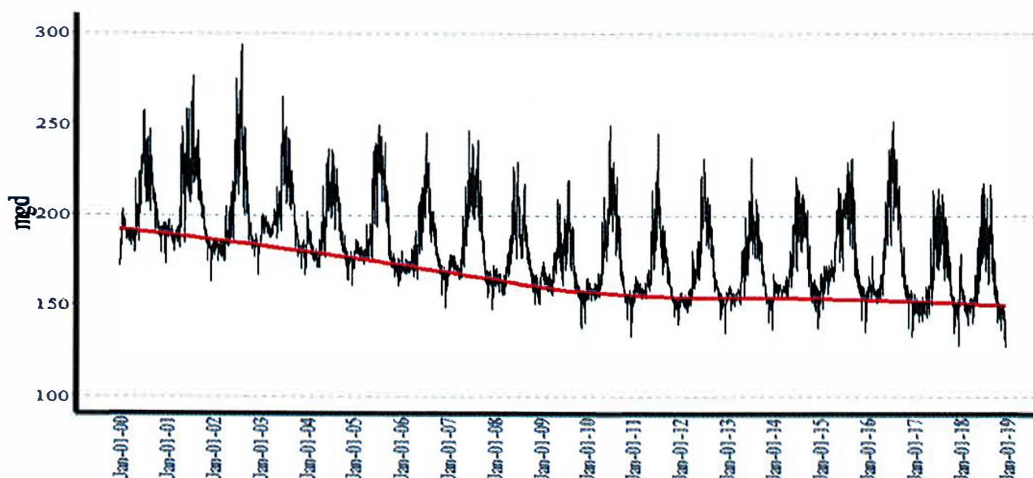
Figure 3: Boston Water Use (1900-2018)



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 of May to September. Indoor water use, shown as the red line on Figure 4 below, has dropped substantially over the past several decades 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 price increases (as well as reduced pipeline leaks). Although decreases before the recession of 2008 ranged from around one to two percent per year, it appears that the rate of decreases has slowed after the recession. This is likely due to efficiency gains being counterbalanced by the improving regional economy and population growth. Staff are also evaluating the potential impacts of the major development projects underway in eastern Massachusetts on regional and local water and sewer infrastructure.

Figure 4: Fully-Supplied Communities Demand (1999 to 2018)¹



1 Certain analyses can only be done 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

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 will reduce outdoor use. Over time, water price also influences seasonal use.

Figures 5 and 6 below show the variation in seasonal water use over time, and both the relatively small impact that seasonal demand has on total water use and the longer-term decline in both base and total use. Figure 5 shows that seasonal use in 2018 was about the same as 2017.

*Figure 5: Fully Supplied Communities' Annual Seasonal Demand
(Labels show demand in mgd)*

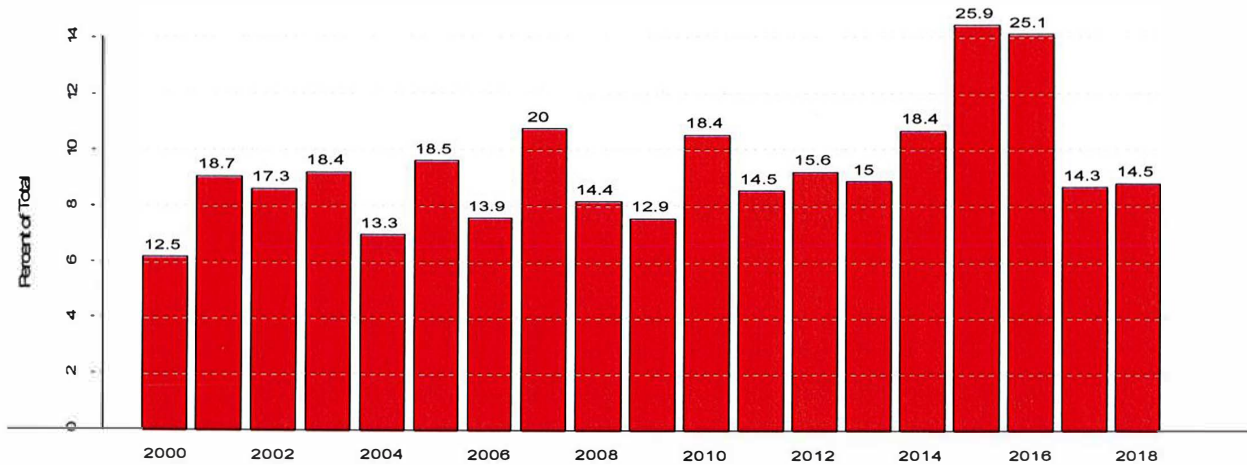
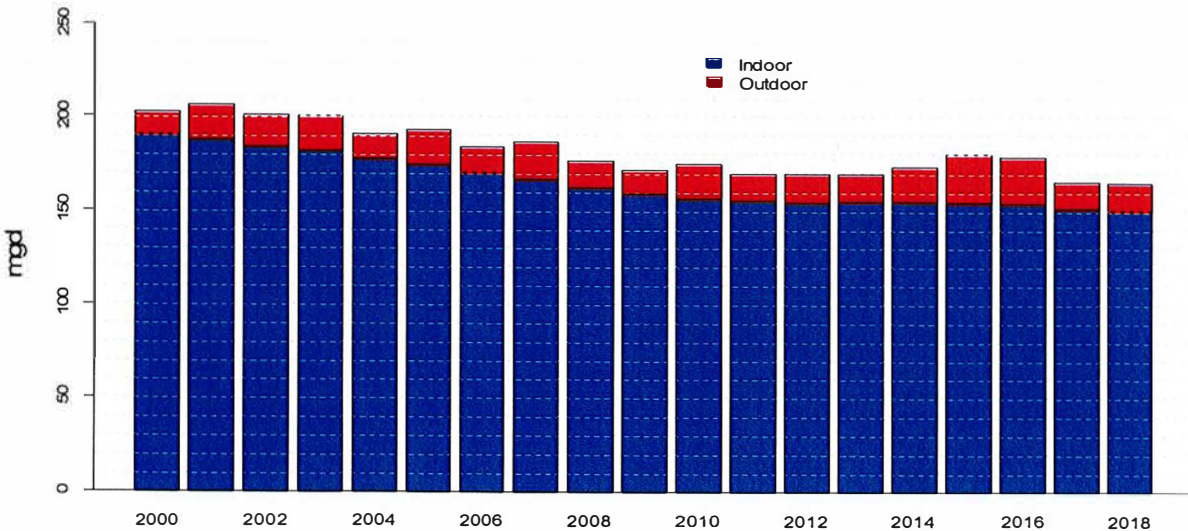


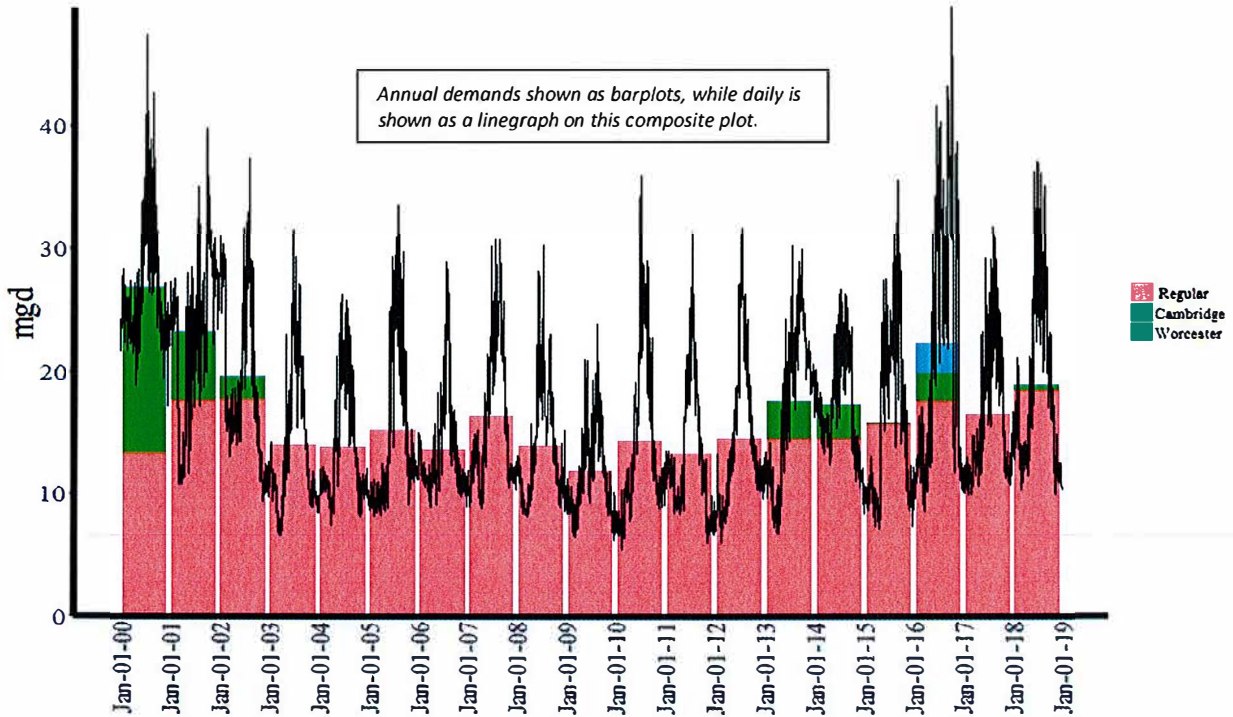
Figure 6: Fully-Supplied Communities Annual Base and Seasonal Demand



Partially Supplied Communities

Despite the lack of drought conditions, demand for the partially supplied communities, shown on Figure 7 below, was up by 2.47 mgd (15%) when compared to 2017.

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



Reservoir Withdrawals and Releases

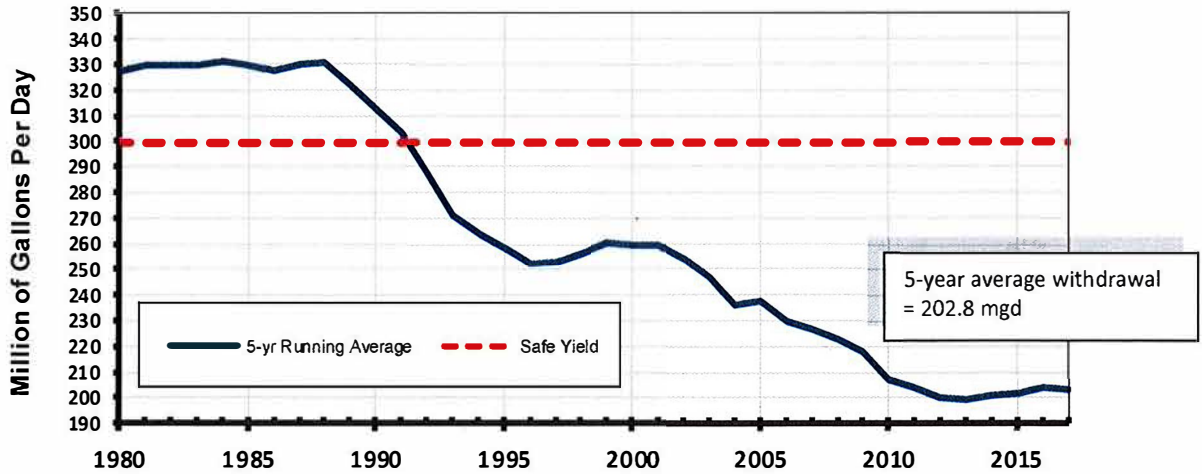
Reservoir withdrawals are the metric used to compare to the 300 mgd safe yield of the watershed/reservoir system². Withdrawals include water sold to MWRA communities, as well as other non-revenue generating uses in the watershed and MWRA system. Total MWRA water withdrawals increased by 2.2 percent in 2018, from 195.64 mgd in 2017 to 199.98 mgd.

The pipeline supplying the McLaughlin Fish Hatchery was in service for the entire year, with an average withdrawal of 6.21 mgd. Without that withdrawal, total reservoir withdrawals in 2018 would have been about 193.8 mgd.

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 slight decrease from 2017. Staff will monitor any changes in water use, to see if the longer-term downward trend resumes.

² 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.

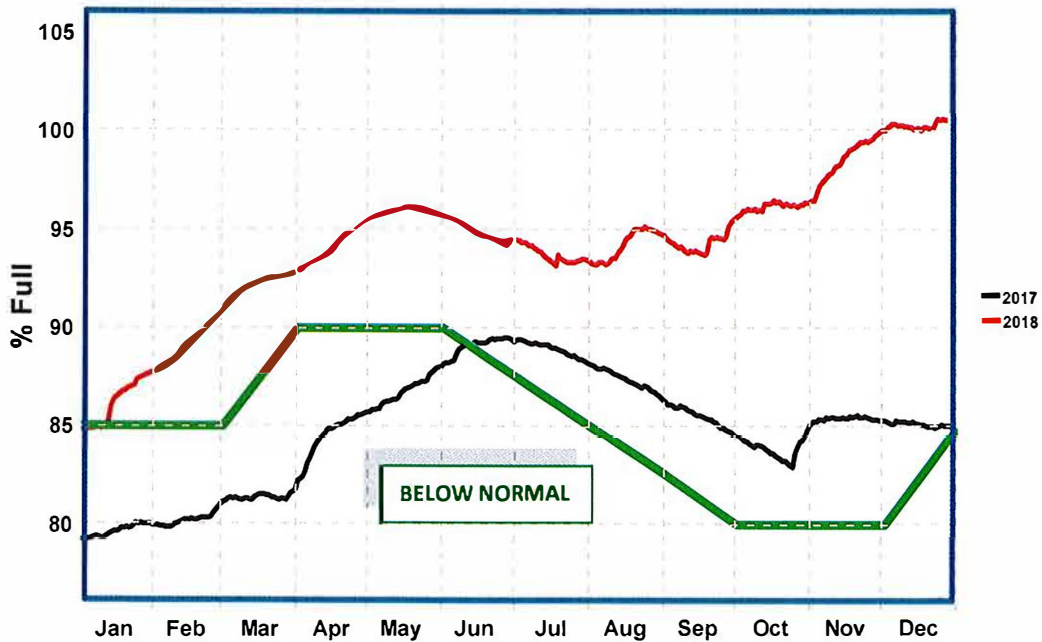
Figure 8: Total Reservoir Withdrawals – Five-Year Running Average 1980 to 2018



Drought Outlook

By the end of September 2018, all the state’s drought-monitoring regions were in normal status. The drought had ended and Quabbin was recovering. Figure 9 below shows a comparison of Quabbin volume levels between 2017 and 2018. The green line on the Figure shows the variation of the limits of normal levels.

Figure 9: Quabbin Reservoir Volumes for 2017 to 2018



Quabbin did begin to spill on October 12, the first time since a brief period of spilling in April and May in 2015. Figure 10 below shows Quabbin spilling at the end of the year. The increase in Quabbin storage is more noteworthy, when considering that to maintain water quality, 35.6 billion gallons of the higher quality Quabbin water was transferred to Wachusett Reservoir during 2018. The transfer was equivalent to about 56% of Wachusett capacity. To maintain Wachusett Reservoir in its normal narrow operating band, MWRA released 16 billion gallons and spilled another 16 billion gallons to the Nashua River, as well as transferred 4.1 billion gallons to Sudbury Reservoir.

Figure 10: Quabbin Reservoir Spilling at the end of 2018



Attachment: Community Water Use Data

ATTACHMENT: Community Water Use Data

Massachusetts Water Resources Authority MWRA Water Supplied (MGD)

Reporting Period: December 2018

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

	Monthly (MGD)			YTD (MGD)			YTD System Share			Prior Year-End Totals	
	Dec		Flow Change	YTD		Flow Change	Flow Share ¹		% Change in YTD Flow Share	Ave. Flow mgd	Flow Share ¹
	2018	2017		2018	2017		2018	2017			
	2018	2017	Flow Change	2018	2017	Flow Change	2018	2017	Flow Share	2017	
Metro-System Customers											
Arlington	3.287	3.356	-2.0%	3.698	3.600	2.7%	2.1%	2.1%	0.5%	3.600	2.1%
Belmont	1.687	1.693	-0.3%	2.045	1.987	4.0%	1.2%	1.1%	1.7%	1.967	1.1%
Boston (BWSC)	56.404	57.225	-1.4%	63.615	62.740	1.4%	36.0%	36.2%	-0.8%	62.740	36.2%
Brookline	4.191	4.001	4.7%	4.974	4.866	2.2%	2.8%	2.8%	0.0%	4.866	2.8%
Canton (P)	1.355	0.824	64.5%	1.456	1.296	12.4%	0.8%	0.7%	9.9%	1.296	0.7%
Chelsea	3.033	3.132	-3.2%	3.365	3.339	0.8%	1.9%	1.9%	-1.4%	3.339	1.9%
Dedham-Westwood W.D. (P)	0.134	0.017	709.1%	0.124	0.107	16.3%	0.07%	0.06%	13.8%	0.107	0.1%
Everett	3.544	3.648	-2.8%	3.777	3.779	-0.0%	2.1%	2.2%	-2.2%	3.779	2.2%
Framingham	5.016	4.941	1.5%	5.756	5.673	1.5%	3.3%	3.3%	-0.7%	5.673	3.3%
Leominster (P)	0.000	0.000	0.0%	0.000	0.000	0.0%	0.0%	0.0%	0.0%	0.000	0.0%
Lexington ²	3.771	3.772	-0.0%	5.122	4.928	3.9%	2.9%	2.8%	1.7%	4.928	2.8%
Lynn (LWSC) (P)	0.382	0.199	91.5%	0.345	0.221	55.8%	0.19%	0.13%	52.4%	0.221	0.13%
Lynnfield W.D.	0.347	0.393	-11.9%	0.546	0.525	3.9%	0.31%	0.30%	1.7%	0.525	0.30%
Malden	4.946	4.870	1.6%	5.146	4.922	4.6%	2.9%	2.8%	2.3%	4.922	2.8%
Marblehead	1.230	1.354	-9.1%	1.755	1.750	0.3%	1.0%	1.0%	-1.9%	1.750	1.0%
Marlborough (P)	3.354	3.519	-4.7%	4.003	4.024	-0.5%	2.3%	2.3%	-2.7%	4.024	2.3%
Medford	4.197	4.334	-3.2%	4.530	4.468	1.4%	2.6%	2.6%	-0.8%	4.468	2.6%
Melrose	1.924	1.805	6.6%	2.028	2.003	1.3%	1.1%	1.2%	-0.9%	2.003	1.2%
Milton	1.855	2.259	-17.9%	2.391	2.445	-2.2%	1.4%	1.4%	-4.3%	2.445	1.4%
Nahant	0.238	0.247	-3.6%	0.312	0.343	-9.2%	0.18%	0.20%	-11.1%	0.343	0.20%
Needham (P)	0.385	0.005	8219.1%	0.962	0.592	62.6%	0.5%	0.3%	59.1%	0.592	0.3%
Newton	7.294	6.895	5.8%	8.668	8.351	3.8%	4.9%	4.8%	1.6%	8.351	4.8%
Northborough (P)	0.841	0.825	2.0%	0.894	0.879	1.8%	0.5%	0.5%	-0.4%	0.879	0.5%
Norwood	2.349	2.336	0.5%	2.701	2.810	-3.9%	1.5%	1.6%	-6.0%	2.810	1.6%
Peabody (P)	0.811	2.970	-72.7%	2.971	2.878	3.2%	1.7%	1.7%	1.0%	2.878	1.7%
Quincy	7.403	7.467	-0.9%	7.981	8.295	-3.8%	4.5%	4.8%	-5.9%	8.295	4.8%
Reading	1.335	1.370	-2.5%	1.615	1.588	1.7%	0.9%	0.9%	-0.5%	1.588	0.9%
Revere	3.376	3.427	-1.5%	3.585	3.585	0.0%	2.0%	2.1%	-2.1%	3.585	2.1%
Saugus	2.487	2.599	-4.3%	2.876	2.777	3.6%	1.6%	1.6%	1.3%	2.777	1.6%
Somerville	5.291	5.250	0.8%	5.744	5.569	3.2%	3.2%	3.2%	0.9%	5.569	3.2%
Southborough	0.604	0.619	-2.4%	0.923	0.908	1.7%	0.5%	0.5%	-0.5%	0.908	0.5%
Stoneham	1.582	1.879	-16.8%	2.057	2.147	-4.2%	1.2%	1.2%	-6.3%	2.147	1.2%
Stoughton (P)	0.046	0.137	-66.3%	0.100	0.112	-10.4%	0.1%	0.1%	-12.4%	0.112	0.1%
Swampscott	1.284	1.196	7.4%	1.473	1.398	5.4%	0.8%	0.8%	3.1%	1.398	0.8%
Wakefield (P)	1.334	1.284	3.9%	1.759	1.475	19.2%	1.0%	0.9%	16.7%	1.475	0.852%
Waltham	5.325	5.225	1.9%	6.556	6.437	1.8%	3.7%	3.7%	-0.4%	6.437	3.7%
Watertown	2.309	2.292	0.7%	2.656	2.555	3.9%	1.5%	1.5%	1.7%	2.555	1.5%
Wellesley (P)	0.394	0.094	318.3%	1.006	1.027	-2.0%	0.6%	0.6%	-4.1%	1.027	0.6%
Weston	0.874	0.860	1.6%	1.645	1.724	-4.6%	0.9%	1.0%	-6.6%	1.724	1.0%
Wilmington (P)	0.036	0.186	-78.2%	0.499	0.348	43.4%	0.28%	0.20%	40.3%	0.348	0.20%
Winchester (P)	0.904	0.502	80.2%	1.180	1.273	-7.3%	0.7%	0.7%	-9.2%	1.273	0.7%
Winthrop	1.238	1.148	7.9%	1.259	1.174	7.2%	0.7%	0.7%	4.9%	1.174	0.7%
Woburn (P)	1.051	1.822	-42.3%	2.806	2.196	27.8%	1.6%	1.3%	25.0%	2.196	1.3%
Subtotal Metro-System	149.430	151.956	-1.7%	176.905	173.091	2.2%	100%	100%		173.091	100%
Chicopee Valley Aqueduct											
Chicopee	4.158	4.636	-10.3%	4.998	5.026	-0.6%	70.3%	70.7%	-0.6%	5.026	70.7%
South Hadley FD #1	0.773	0.799	-3.3%	1.003	1.012	-0.8%	14.1%	14.2%	-0.9%	1.012	14.2%
Wilbraham	0.769	0.784	-1.9%	1.106	1.068	3.6%	15.6%	15.0%	3.6%	1.068	15.0%
Subtotal CVA System	5.699	6.219	-8.4%	7.108	7.106	0.0%	100%	100%		7.106	100%
Other Revenue Supply											
Cambridge (P)	0.000	0.000	0.0%	0.025	0.000	#DIV/0!				0.000	
Clinton ³	1.178	1.225	-3.9%	1.374	1.409	-2.5%				1.409	
Worcester (P)	0.000	0.000	0.0%	0.000	0.000	0.0%				0.000	
Other Revenue Customers⁴	1.524	1.453	4.9%	1.409	1.363	3.4%				1.363	
Subtotal Other Revenue Supply⁵	2.702	2.678	0.9%	2.809	2.772	1.3%				2.772	
Total Water Supplied											
Fully Supplied Metro Communities	138.402	139.592	-0.9%	158.799	156.665	1.4%				156.665	
CVA Communities	5.699	6.219	-8.4%	7.108	7.106	0.0%				7.106	
Partially Supplied Communities	11.028	12.364	-10.8%	18.131	16.427	10.4%				16.427	
Other Revenue Customers	2.702	2.678	0.9%	2.783	2.772	0.4%				2.772	
Total Water Supplied	157.832	160.853	-1.9%	186.821	182.969	2.1%				182.969	

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), D.C.R. Blue Hills Ski Area, Stone Zoo, Deer Island WWTP and Department of Youth Services.

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 user agreements. It does not include water utilized for system maintenance.

(P) Community is partially supplied by MWRA.

Question's regarding water supplied can be directed to David Liston @ (617) 305-5853 or Leo Norton @ (617) 788-2256.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: January 16, 2019
SUBJECT: Lead Service Line Replacement Loan Program Update



COMMITTEE: Water Policy & Oversight

INFORMATION
 VOTE

Carolyn M. Fiore, Deputy Chief Operating Officer
Stephen Estes-Smargiassi, Director, Planning and Sustainability
Carl H. Leone, P. E., Senior Program Manager, Planning
Kristen M. Hall, Project Manager, Planning
Preparer/Title



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

At a recent Board meeting, Mr. Carroll requested a comprehensive update on the Lead Service Line Replacement Loan Program.

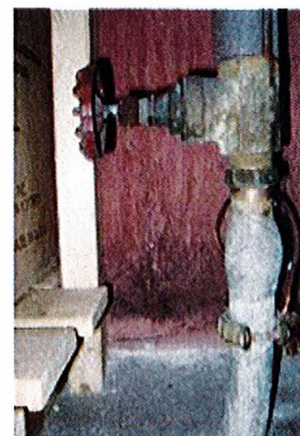
RECOMMENDATION:

For information only. During the first two and one-half years of the Lead Service Line Replacement Loan Program, MWRA has distributed \$10.1 million in loans to nine member communities. Based on construction completed to date (two full projects and portions of four other projects), MWRA's funding has resulted in removal of 1,200 lead water services on public and/or private property (a combination of public-side and private-side lead services, lead goosenecks, and lead fittings at water meters). The regional need for lead service line replacements is significant. Member communities estimate 38,200 lead service lines (full and partial lead services and lead goosenecks) remain in local water distribution systems, representing a \$190 million future need.

DISCUSSION:

MWRA's goal in providing financial assistance to member communities is to improve local water systems, thereby maintaining high water quality as it passes from MWRA's facilities through local pipelines to customers' taps. Replacement of lead service lines improves water quality by reducing the risk that lead can leach into the water consumed in customer's homes.

The presence of a lead service line connecting a home to the main in the street can result in elevated lead levels in tap water, especially if that water sits stagnant for an extended period. MWRA's stable water quality and effective corrosion control treatment reduces the risk that a lead service line will cause elevated lead levels. Measured lead levels in high risk homes have decreased by 80% to 90% since corrosion control was brought on-line in 1996; however, the risk of elevated levels remains as long as lead service lines are in use.



*Lead Water Service
Entering Basement*

In March 2016, the Board approved an enhancement to the Local Water System Assistance Program to make an additional \$100 million in 10-year interest-free loans available to communities solely for efforts to fully replace lead service lines. Under MWRA's Lead Service Line Replacement Loan Program each community can develop its own lead service replacement program, tailored to its local circumstances. The Lead Loan Program budget expenditure estimate is \$5.0 million per year for community distributions.

Similar to the other community financial assistance programs, MWRA's Board of Directors authorizes a total amount of funding available for each program. Those costs, as well as all other capital spending, are included in the annual Capital Improvement Program (CIP). Spending on the CIP is funded with bond proceeds and Current Revenue for Capital deposited into MWRA's Construction Fund. Based on the balance in the Construction Fund and projected spending, staff will seek authorization from the Board to issue bonds to replenish it. This methodology insures MWRA does not borrow funds until they are needed. The approval to issue bonds comes in the form of a Supplemental Resolution, which specifies the total amount to be issued and, once those bonds have been issued, any unutilized authorization expires. MWRA's CIP spending, including the community financial assistance programs, were reviewed by all three Rating Agencies and in general the view was that the projected spending was manageable given historic oversight and the five-year spending cap. To date, all Lead Loans have been funded through Current Revenue for Capital to avoid Private Activity Limitations on the use of tax-exempt bond proceeds.

Update on Community Need for the Lead Loan Program

Attachment A provides a list of the number of lead services and lead goosenecks in member community's local water system. The data was initially summarized from each community's response to a September 2016 DEP survey and has been updated with more current information as available from communities and as local construction projects progress. The current data indicates that about 16,000 lead service lines (some full lead services and some partial lead services) remain in local water distribution systems, representing approximately 3.2% of the total regional 500,000 water service connections. If lead goosenecks are also included, the current data indicates that about 38,200 services lines have a lead component remaining, representing approximately 7.6% of total regional water service lines. Individual community numbers have changed over time (some higher and some lower) as inventories have improved and as communities and property owners complete removals. If all remaining 38,200 services with a lead component are replaced at an average construction cost of \$5,000 per water service; the total cost will be \$190 million.

Update on Community Projects That Have Been Funded

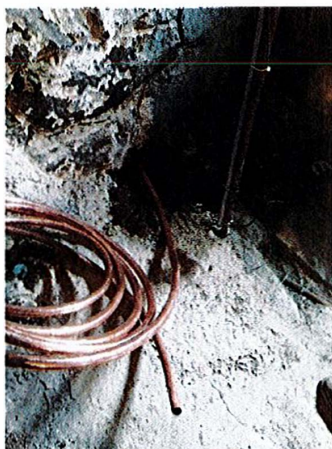
During the first two and one-half years of the program (through December 2018), MWRA has distributed a total of \$10.1 million in Lead Service Line Replacement Loan Program funds to nine of the 45 eligible member water communities¹ as listed below:

- Quincy: \$1.5 million in FY17;

¹ MWRA has a total of 50 water communities (with Dedham/Westwood Water District counted as one). Under MWRA's Local Water System Assistance and Lead Loan Programs, 45 are eligible to apply for 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 emergency only) receive untreated water from the Wachusett Reservoir.

- Winchester: \$500,000 in FY17 and \$500,000 second phase in FY18;
- Newton: \$4.0 million in FY17;
- Marlborough: \$1.0 million in FY18;
- Revere: \$195,000 in FY18;
- Winthrop: \$284,000 in FY18;
- Needham: \$1.0 million in FY18;
- Everett: \$1.0 million in FY19; and,
- Chelsea: \$100,000 in FY19.

Details on individual community projects are presented in Attachment B. Based on construction completed to date, MWRA's 10-year interest-free loans have resulted in removal of 1,200 lead water services on public and/or private property (a combination of public-side and private-side lead services, lead goosenecks, and lead fittings at water meters). The Quincy and Newton projects were substantially complete in December 2018. The remaining projects are at various stages of construction or will begin in spring 2019. Based on the total \$6.6 million in construction costs expended to date (six projects), the construction cost for replacement of lead services (or partial services) has averaged \$5,500 per service. For individual projects, costs have ranged from \$2,800 to \$7,900 per lead service (or partial service) replaced. A second cost metric is the average cost per foot of the 36,900 feet of new copper water services installed - \$160 per foot with individual projects ranging from \$130 to \$310 per foot. The cost of engineering planning, design, and construction services can add significantly to the overall cost of community projects. For instance, Newton's project included \$540,000 in engineering, 20% of the \$2.7 million construction cost. Some communities are covering the engineering costs with local funds outside the MWRA loan.



Replacement of Lead Water Services with Copper Service Pipe

Update on Future Community Applications for Funding

MWRA staff continue to discuss the Lead Service Line Replacement Program with local officials. Many communities continue to identify and replace public and private-side lead services as water main replacement projects are constructed. Staff anticipate additional applications under the Lead Service Line Replacement Loan Program from both participating communities moving into additional phases of their ongoing programs and communities that have not yet participated. Marlborough is planning to apply for an additional \$1.0 million lead loan from MWRA in February 2019 to fund its phase 2 project. Chelsea noted in its first lead loan application that it expects to apply for construction funding during the summer 2019 (phase 2 at \$300,000). Additional

communities expected to apply in the future include: Malden, Medford, Reading, and Somerville.

Continued MWRA outreach and community-to-community discussions on success and lessons learned from initial projects may help move more local officials to action on lead service line removals. MWRA's Lead Loan Program web page is updated regularly and staff plan to distribute this Staff Summary to all member water communities as an information tool.

If enacted, future EPA requirements for lead service line removal will increase the need for local funding options and will stimulate applications for MWRA interest-free loans. EPA is currently indicating a mid-2019 release of the Draft Revised Lead and Copper Rule. It is anticipated that the Revised Lead and Copper Rule will include a mandate for improved inventories of water service line construction materials. Community decision making to identify an appropriate community contribution to provide an incentive for private-side lead service line replacement is a key aspect of local implementation.

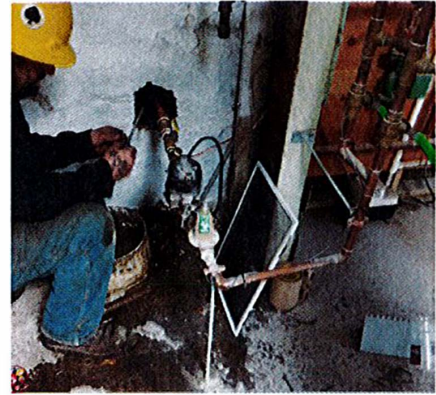
As noted on Attachment A, approximately 14 communities have reported no lead service lines and no lead goosenecks. Absent new inventory information, these communities will not be participating in the Lead Loan Program. An additional 12 communities have reported only lead goosenecks to be considered under a removal program.

Incentives for private-side lead service line replacement

Five methodologies to provide an incentive for private-side lead service line removals include:

- Seven of the nine communities that have received MWRA loan funding have committed to paying the full cost of private side lead service line removals, including: Chelsea, Everett, Marlborough, Needham, Quincy, Revere, and Winthrop. This methodology is expected to yield a high level of success. Quincy's project was recently completed with 206 lead service line replacements out of a total 285 identified - a 72% success rate. For the 79 known private-side lead services that remain, non-participation by investment property owners was the largest obstacle in getting a higher participation rate.
- The community paying a portion of the cost of private side lead service line removals may be the next most effective methodology. In the case of Winchester, the Town committed to paying the first \$1,200 of private-side lead service line removal and the property owner is billed for the remainder. Only 20 private-side lead services were identified and 19 were removed - a 95% success rate with one private-side property owner refusing to participate. Similarly, BWSC's lead service line removal program (no MWRA funding) pays the first \$2,000 of cost of private-side lead service line removals and property owner pays the remainder with the option of spreading the payment out over four years via their monthly water bill. For small house lots with a relatively short water service line, BWSC finds the \$2,000 often covers the full cost of the private-side lead service removal.

- Newton offered a 10-year interest-free loan to property owners to cover the cost of private-side lead service line removals. The project was coordinated by a City consultant and all construction was performed by a construction contractor working for the City. The construction-only cost for each private-side lead service line replacement was tabulated and is being billed to each property owner over a 10-year period. This methodology could be expected to yield a more modest level of success. However, Newton’s project resulted in a 97% success rate with only 8 of 300 private-side lead services not being removed because property owners refused to participate. The high success rate may be due to the extensive outreach to property owners by the City and its consultant.



Private-side lead service replacement in Newton

- Medford is providing a \$1,000 rebate incentive for homeowners who contract privately for private-side lead service line removal work. During the first six months of the pilot program, 43 property owners removed their private-side lead services.

BUDGET/FISCAL IMPACT:

The FY19 CIP includes an overall net budget of zero dollars for the Local Water System Assistance Program (including the Lead Loan Program) because community loans are offset by repayments over the 10-year loan repayment period. The Lead Loan Program budget target is \$5.0 million per year for lead service line loan distributions. Due to the uncertainty on what methodology communities may choose to provide private-side lead incentives, lead loans have been funded using Current Revenue for Capital instead of tax-exempt bond proceeds to prevent private activity concerns. As community loans are repaid, the funds are deposited back into MWRA’s Current Revenue for Capital subaccount of the Construction Fund.

MBE/WBE PARTICIPATION:

MBE/WBE goals for community projects funded by MWRA are established in the Program Guidelines.

ATTACHMENTS:

Attachment A - Summary Table for MWRA Community Lead Services

Attachment B - Details on Community Lead Service Line Replacement Projects

ATTACHMENT A
MWRA Community Lead Water Service List (updated 12/14/18)

Community	Number of Services	Estimated Lead Services	Estimated Lead Goosenecks	Notes
Boston	87,638	4,042	N/A	Has a BWSC-funded program
Malden	11,815	2,917	N/A	Likely to participate in the future
Medford	14,706	2,188	N/A	Likely to participate in the future
Somerville	14,423	1,874	N/A	Likely to participate in the future
Winthrop	4,480	1,282	N/A	\$284,000 MWRA Loan
Marlborough	10,303	1,174	N/A	\$1,000,000 MWRA Loan
Everett	8,126	900	N/A	\$1,000,000 MWRA Loan
Melrose	8,200	574	N/A	
Reading	7,992	300	1,580	Likely to participate in the future
Revere	12,000	267	N/A	\$195,000 MWRA Loan
Needham	10,192	114	848	\$1,000,000 MWRA Loan
Arlington	12,585	100	300	
Chelsea	5,100	96	N/A	\$100,000 MWRA Loan
Quincy	23,750	79	696	\$1,500,000 MWRA Loan
Norwood	8,649	36	N/A	
Brookline	10,527	25	N/A	
Stoneham	6,250	13	0	
Newton	25,071	8	0	\$4,000,000 MWRA Loan
Woburn	11,447	2	30	
Winchester	7,215	1	632	\$1,000,000 MWRA Loan
Belmont	7,745	1	15	
Wellesley	8,324	1	N/A	
Canton	7,162	N/A	N/A	
Dedham/Westwood	13,304	N/A	446	
Waltham	13,732	0	8,100	
Milton	8,473	0	4,200	
Stoughton	7,387	0	2,500	
Peabody	13,539	0	1,600	
Watertown	9,165	0	1,100	
Weston	3,613	0	100	
Lynnfield Water District	1,427	0	44	
Lexington	14,145	0	N/A	
Nahant	1,634	0	N/A	
Wilmington	7,469	0	N/A	
Wakefield	8,410	0	0	
Bedford	4,613	0	0	
Framingham	18,147	0	0	
Marblehead	8,065	0	0	
Northborough	4,234	0	0	
Saugus	9,331	0	0	
Southborough	3,210	0	0	
Swampscott	5,485	0	0	
Chicopee	16,527	0	0	
South Hadley F. D. #1	4,827	0	0	
Wilbraham	3,347	0	0	
TOTAL	503,784	15,994	22,191	

N/A - Information unavailable or unknown

ATTACHMENT B

Details on Community Lead Service Line Replacement Projects

Quincy received a \$1.5 million loan in December 2016 to fund the construction portion of its program targeting the removal of 141 public/private lead services, with Quincy paying the full cost to replace both the public and private lead service lines. The City, working with an engineering consultant, performed an extensive review of its Public Works records to develop a spreadsheet of addresses where lead services existed, were likely, or where the water service pipe material was unknown. A field crew inspected each suspect water service at the meter. Quincy initiated a public information campaign to inform property owners of the program, including: community meetings, website information, public information displays, letters targeted to suspect homes, translated information letters, and certified mail letters with participation agreements. Additional investigations during the project identified a total of 285 lead services, of which 163 were lead-lined steel services (see photo). The service line replacement construction began in April 2017 and was completed in September 2018. A total of 206 full or partial lead services were replaced with new copper services (104 lead services and 102 lead-lined services). The 206 replacements represent a 72% success rate of the total 285 identified lead services. For the 79 known private-side lead services that remain (18 lead services and 61 lead-lined steel services); non-participation by investment property owners was the largest obstacle to a higher participation rate. Quincy's 206 lead services were replaced at an average construction cost of \$6,860 per lead service and a total of 7,180 feet of new copper water service pipe was installed at an average construction cost of \$197 per foot. The City considers its lead removal project a tremendous success and, as the first community to participate in MWRA's Lead Loan Program, received an *Outstanding Performance and Achievement Award* from MassDEP and recognition from Clean Water Action for the project's health benefits.



Sample photo of lead-lined steel water service line removed in Quincy



Quincy lead removal project

Winchester received a \$500,000 loan in March 2017 and an additional \$500,000 in June 2018 to fund phases 1 and 2 of its lead service line removal program. The Town is paying the first \$1,200 of costs for replacing private-side lead services and property owners are billed for the remainder. Winchester initially suspected as many as 240 private-side lead services. At completion of a detailed inventory, 20 lead services (mostly private-side) and approximately 720 lead goosenecks on the public-side were identified. Winchester removed 52 lead goosenecks during 2016, prior to the MWRA loan project. The phase 1 portion of the MWRA loan project (2017 and 2018) removed 19 of the 20 identified private-side lead services (one property owner refused to participate). An additional 36 lead goosenecks on the public-side were also removed. The phase 2 construction program will continue public-side lead gooseneck removal in 2019. The 19 of 20 lead service line replacements represent a 95% success rate (noting the relatively small number of lead services present). Winchester's 56 total service lines were replaced at an average construction cost of \$7,890 per lead service and a total of 1,420 feet of new copper water service pipe was installed at an average construction cost of \$310 per foot.

Newton received a \$4.0 million loan in May 2017 to fund the planning, design, construction, and construction services for lead service line replacements. The initial planning/design estimated up to 627 services with some lead portion (lead service, lead gooseneck, or lead fittings). The project targeted all 627 identified/suspect lead services with the City providing a customer incentive of a 10-year interest-free loan for all private-side lead service removal costs. Design was complete in spring 2017 and construction began in summer 2017 and was substantially complete in December 2018. Upon project completion, 427 full or partial services were replaced at a construction cost of \$2.67 million. Only 8 private-side lead services (out of a total of 300 private-side) were left in place due to property owners' refusal to participate in the program, a success rate of 97%. The high success rate may be due to the extensive outreach to property owners by the City and its consultant. Based on construction test pits, no action was determined to be needed at 187 services included in the initial screening. Newton's project was completed at an average construction cost of \$6,250 per lead service and a total of 18,860 feet of new copper water service pipe was installed at an average construction cost of \$142 per foot. Newton spent an additional \$544,000 on engineering services to design and coordinate the lead removal program (an additional \$1,270 per lead service replaced).



Long lead service line replacement in Newton

Marlborough received a \$1.0 million loan in September 2017 to fund the replacement of approximately 200 lead service lines as the first phase of a large project targeting replacement of all 1,350 lead service lines. Marlborough is paying the full cost of both public and private lead service line replacements. The City is paying separately for the project planning, design, and construction services and has developed a detailed spreadsheet inventory of all public/private lead services. The construction project began in May 2018 and through September 2018, a total of 176 lead services had been replaced at a construction cost of \$1.01 million. Marlborough's 176 lead services were replaced at an average construction cost of \$5,835 per lead service and a total of 7,694 feet of new copper water service pipe was installed at an average construction cost of \$130 per foot. The City is planning to apply for an additional \$1.0 million lead loan from MWRA in February 2019 to fund its phase 2 project.

Revere received a \$195,000 loan in November 2017 to fund the design portion of its lead service line replacement project. Revere is paying the full cost of both public and private lead service line replacements. As part of the City's comprehensive water meter replacement program, Revere had the meter installers inspect and catalog all lead service lines entering each property. This effort resulted in a detailed spreadsheet of 282 properties with lead services. For many of these properties, the installation of a new water meter was delayed and performed concurrently with the replacement of the lead service line. The lead service line replacement design for up to 300 lead services was completed in April 2018 and the construction bids were opened in June 2018. The low bid construction cost for the entire project was \$2.36 million, which is being funded through an SRF loan. After removing \$270,000 associated with the new meter installs, the lead service line construction bid was \$2.09 million. For the estimated 300 lead services, the average bid price is \$6,960 per lead service and \$510 per foot of new copper water service line. The construction project began in the fall 2018 with first 15 lead services replaced. Construction will continue in spring 2019.

Winthrop received a \$284,000 loan in December 2017 to fund the replacement of an estimated 37 lead services. This work was Winthrop's first phase of lead service line removals and was associated with a specific water main construction project (local Contract 5 that received MWRA Local Water System Assistance Program funding). Winthrop paid the full cost of both public and private lead service line replacements. The completed project actually removed 73 total lead services at a cost of \$354,000 (of which \$284,000 came from the LLP). In CY17/18, an additional 45 lead services were also removed under a separate large water main replacement project. Winthrop's lead services were replaced at an average construction cost of \$4,850 per lead service and \$204 per foot of new copper water service line. A second phase LLP funding is possible for FY20 to finance an expanded program to replace some of the estimated 1,282 remaining lead services in Winthrop (estimated as 753 full and 529 private-side only lead services).


Needham received a \$1.0 million loan in June 2018 targeting the removal of 154 identified public/private lead services and 1,047 lead goosenecks. Needham is paying the full cost of both public and private lead service line replacements. Needham bid a 3-year construction contract for lead service line and lead gooseneck removals covering the 2017, 2018, and 2019 construction season. Through the first two years of the contract, 14 full lead services, 26 private-side only lead services, and 199 lead goosenecks (main to sidewalk replacement) have been completed for a total construction cost of \$656,150. Needham's lead services were replaced at an average construction cost of \$2,745 per lead service. The construction is scheduled to continue in 2019 to remove a portion of the 114 lead services and 848 lead goosenecks that remain.

Everett received a \$1.0 million loan in December 2018 targeting the removal of the first 150 of a total 900 estimated public/private lead services. Everett will be paying the full cost of public and private side lead service replacements. During fall 2018/winter 2019, Everett's public outreach work has begun and design of public bid documents is ongoing. The construction work is scheduled to begin during the 2019 construction season. The total number of lead services was estimated at 900 based on an FY18 City review of water service records. Everett also estimates 3,000 properties with water service of unknown material. The \$1.0 million loan from MWRA will fund phase 1 of a planned multi-phased lead removal program.

Chelsea received a \$100,000 loan in December 2018 targeting the inventory, planning, design, and initial replacement construction of a small number of private-side lead services. Chelsea will be paying the full cost of public and private side lead service replacements. The planning/design phase will include a comprehensive review of all City water projects over the last 10-15 years which may have identified private-side lead services that were not replaced during the original construction projects. In parallel with this project, Chelsea is updating its current inventory of lead service lines through additional research of City records, a public awareness campaign on lead health issues, as well as direct door-to-door canvassing of suspect properties to inspect for lead service lines. To maximize inventory results, Chelsea is teaming City employees and the engineering consultant with local volunteers from GreenRoots, a community-based organization. The City and GreenRoots received an award from Clean Water Action for the project's health benefits. Chelsea is planning a follow-up application for a second MWRA lead service line replacement loan in FY20 that will fund the second phase construction project.

Boston (BWSC) BWSC's lead service line removal program (no MWRA funding) pays the first \$2,000 of cost of private-side lead service line removals and property owner pays the remainder with the option of spreading the payment out over four years via their monthly water bill. For small house lots with a relatively short water service line, BWSC finds the \$2,000 often covers the full cost of the private-side lead service removal.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: January 16, 2019
SUBJECT: Approval of Execution of Contract between the Massachusetts Water Resources Authority and the Massachusetts Department of Fish and Game related to the McLaughlin Fish Hatchery Pipeline and Hydropower Project

COMMITTEE: Water Policy & Oversight

____ INFORMATION

VOTE



Carolyn Francisco Murphy

General Counsel



David Coppes, P.E.

Chief Operating Officer

Carolyn M. Fiore, Deputy Chief Operating Officer
Beth Card, Director, Env. and Regulatory Affairs
Preparer/Title

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to execute a Massachusetts standard form contract, substantially in the form attached hereto, between the Massachusetts Department of Fish and Game and the Massachusetts Water Resources Authority, related to the McLaughlin Fish Hatchery Pipeline and Hydropower Project at the William A. Brutsch Water Treatment Facility.

BACKGROUND:

The McLaughlin Fish Hatchery is the largest of the Massachusetts Division of Fisheries and Wildlife's hatcheries and accounts for half of the brook, brown, rainbow, and tiger trout that are produced in its hatcheries annually. The hatchery is located less than a mile from MWRA's Brutsch Water Treatment Facility in Ware and borders the Swift River. In the past, the hatchery used a combination of water from on-site wells and water withdrawn directly from the Swift River, with river withdrawals being the dominant source. Previously, when MWRA demand was low and Quabbin Reservoir's elevation was high and the reservoir was stratified, warmer surface water spilled over the dam. These warmer water spillway discharges in the summer were detrimental to the McLaughlin Fish Hatchery.

To resolve the threat of warm water discharges from the Quabbin Reservoir to the hatchery, the Pipeline and Hydropower Project was approved by the Board on February 10, 2016. The project involved a water pipeline that taps raw water off of MWRA's Chicopee Valley Aqueduct (CVA) just prior to the Brutsch Water Treatment Facility: the cooler water is withdrawn from the depths of Quabbin Reservoir. Now, six million gallons a day (mgd) of untreated water are conveyed first

to a hydropower turbine/generator on the grounds of the Brutsch Facility and after flowing through the turbine, or a parallel bypass line when the turbine is not operating, enters a pipeline terminating approximately 4,400 feet away at the hatchery's water supply distribution system. MWRA received over \$700,000 in state grants for the hydroturbine installation and to date, approximately 350,000 kwh have been generated by the hydroturbine.

DISCUSSION:

On June 3, 2015, the MWRA Board of Directors authorized the execution of a Memorandum of Agreement (MOA) among MWRA and the Massachusetts Division of Fisheries and Wildlife and the Massachusetts Department of Fish and Game. The MOA provided for the transfer of \$2.5 million to the MWRA from the fisheries agencies to fund MWRA's costs for the design, permitting, and construction of the pipeline. The MOA also addressed the respective responsibilities of the agencies, e.g., the MWRA was responsible for all activities necessary to install and bring the pipeline on-line, whereas Fish and Game and Fisheries and Wildlife were to assume ownership and be responsible for operation and maintenance of the pipeline after the pipeline leaves the Brutsch Facility property line.

On June 8, 2016, the MWRA Board of Directors authorized Amendment 1 to the MOA, which increased the amount of funding that Fish and Game would provide for the pipeline component of the project in order to address a change in construction costs. Now that the construction phase of the project has been completed, the remaining responsibilities of the agencies, which had already been included in the original MOA, will be memorialized in a new standard form state contract.

The standard form contract between MWRA and Fish and Game incorporates the respective post-construction obligations of the parties included in the MOA. Specifically, that MWRA provide six million gallons of water per day, free of charge, to the McLaughlin Fish Hatchery subject to drought conditions, safe yield concerns, certain force majeure events and certain transmission problems, and the Division of Fisheries and Wildlife is to maintain, repair, and replace its pipeline. The parties agree that the life of the post-construction use is anticipated to be fifty years, which is also reflected in the new standard contract.

BUDGET/FISCAL IMPACT:

MWRA does not incur any new financial obligations as a result of this Contract.

ATTACHMENT:

Commonwealth of Massachusetts Standard Contract Form (without exhibits)

COMMONWEALTH OF MASSACHUSETTS ~ STANDARD CONTRACT FORM



This form is jointly issued and published by the [Executive Office for Administration and Finance \(ANF\)](#), the [Office of the Comptroller \(CTR\)](#) and the [Operational Services Division \(OSD\)](#) as the default contract for all Commonwealth Departments when another form is not prescribed by regulation or policy. Any changes to the official printed language of this form shall be void. Additional non-conflicting terms may be added by Attachment. Contractors may not require any additional agreements, engagement letters, contract forms or other additional terms as part of this Contract without prior Department approval. Click on hyperlinks for definitions, instructions and legal requirements that are incorporated by reference into this Contract. An electronic copy of this form is available at www.mass.gov/osc under [Guidance For Vendors - Forms](#) or www.mass.gov/osd under [OSD Forms](#).

CONTRACTOR LEGAL NAME: Massachusetts Water Resources Authority (MWRA) (and d/b/a):	COMMONWEALTH DEPARTMENT NAME: Department of Fish and Game (DFG) MMARS Department Code: FWE
Legal Address: (W-9, W-4,T&C): Charlestown Navy Yard, 100 First Avenue, Building 39, Boston, MA 02129	Business Mailing Address: 251 Causeway Street, Suite 400, Boston MA 02114
Contract Manager: Beth Card	Billing Address (if different):
E-Mail: Bethany.Card@MWRA.com	Contract Manager: Kris McCarthy
Phone: (617) 788-4958 Fax: (617) 788-4888	E-Mail: Kris.McCarthy@state.ma.us
Contractor Vendor Code: VC6000170268	Phone: (508) 389-6341 Fax: (508) 389-7891
Vendor Code Address ID (e.g. "AD001"): AD001 (Note: The Address Id Must be set up for <u>EFT</u> payments.)	MMARS Doc ID(s): N/A RFR/Procurement or Other ID Number: N/A
<p style="text-align: center;"><input checked="" type="checkbox"/> NEW CONTRACT</p> PROCUREMENT OR EXCEPTION TYPE: (Check one option only) <input type="checkbox"/> Statewide Contract (OSD or an OSD-designated Department) <input type="checkbox"/> Collective Purchase (Attach OSD approval, scope, budget) <input type="checkbox"/> Department Procurement (includes State or Federal grants 815 CMR 2.00) (Attach RFR and Response or other procurement supporting documentation) <input type="checkbox"/> Emergency Contract (Attach justification for emergency, scope, budget) <input type="checkbox"/> Contract Employee (Attach Employment Status Form , scope, budget) <input checked="" type="checkbox"/> Legislative/Legal or Other: (Attach authorizing language/justification, scope and budget) See Contract Description below.	<p style="text-align: center;"><input type="checkbox"/> CONTRACT AMENDMENT</p> Enter Current Contract End Date <i>Prior</i> to Amendment: Enter Amendment Amount: \$ (or "no change") AMENDMENT TYPE: (Check one option only. Attach details of Amendment changes.) <input type="checkbox"/> Amendment to Scope or Budget (Attach updated scope and budget) <input type="checkbox"/> Interim Contract (Attach justification for Interim Contract and updated scope/budget) <input type="checkbox"/> Contract Employee (Attach any updates to scope or budget) <input type="checkbox"/> Legislative/Legal or Other: (Attach authorizing language/justification and updated scope and budget)
The following COMMONWEALTH TERMS AND CONDITIONS (T&C) has been executed, filed with CTR and is incorporated by reference into this Contract. <input checked="" type="checkbox"/> Commonwealth Terms and Conditions <input type="checkbox"/> Commonwealth Terms and Conditions For Human and Social Services	
COMPENSATION: (Check ONE option): The Department certifies that payments for authorized performance accepted in accordance with the terms of this Contract will be supported in the state accounting system by sufficient appropriations or other non-appropriated funds, subject to intercept for Commonwealth owed debts under 815 CMR 9.00. <input type="checkbox"/> Rate Contract (No Maximum Obligation. Attach details of all rates, units, calculations, conditions or terms and any changes if rates or terms are being amended.) <input type="checkbox"/> Maximum Obligation Contract Enter Total Maximum Obligation for total duration of this Contract (or <i>new</i> Total if Contract is being amended). N/A	
PROMPT PAYMENT DISCOUNTS (PPD): Commonwealth payments are issued through <u>EFT</u> 45 days from invoice receipt. Contractors requesting accelerated payments must identify a PPD as follows: Payment issued within 10 days ___% PPD; Payment issued within 15 days ___% PPD; Payment issued within 20 days ___% PPD; Payment issued within 30 days ___% PPD. If PPD percentages are left blank, identify reason: ___agree to standard 45 day cycle ___ statutory/legal or Ready Payments (G.L. c. 29, § 23A); ___ only initial payment (subsequent payments scheduled to support standard EFT 45 day payment cycle. See Prompt Pay Discounts Policy .) N/A	
BRIEF DESCRIPTION OF CONTRACT PERFORMANCE or REASON FOR AMENDMENT: (Enter the Contract title, purpose, fiscal year(s) and a detailed description of the scope of performance or what is being amended for a Contract Amendment. Attach all supporting documentation and justifications.) On 6/23/15 MWRA and DFG entered into a Standard Contract (the 2015 Contract). The description of the Contract performance was set forth in Attachment A to the 2015 Contract in the form of a Memorandum of Agreement (MOA) between MWRA, DFG and its Division of Fisheries and Wildlife (DFW) dated 6/5/15. As described in more detail in Attachment A to the 2015 Contract, DFG and DFW provided funding in the amount of \$2.5 million to MWRA for its design and construction of a pipeline that conveyed water to DFW's McLaughlin Fish Hatchery as a component of an overall project. MWRA's implementation of the overall project associated with the 2015 Contract also included MWRA's design and construction of a hydropower facility at its Brutsch facility, which was funded solely through grants obtained by MWRA. The construction of the pipeline is complete and the parties desire to incorporate into a Standard Form Contract their respective post-construction obligations (MWRA provide the water free of charge to the DFW hatchery and DFW maintain, repair and replace its pipeline) for the life of the post-construction use of the pipeline as set forth in the MOA/2015 Contract. The 2015 Contract is attached to this 2019 Contract as EXHIBIT 1. In March, 2016 MWRA awarded the contract to construct the pipeline and the cost of the contract exceeded the construct cost estimate by \$200,000. Consequently, the 2015 Contract was amended on 6/14/16 to increase DFG's maximum obligation by an additional \$200,000 to a total of \$2.7 million (the 2016 Contract Amendment). The above referenced MOA was also amended to reflect this increase in DFG's funding obligation and included as Attachment A to the 2016 Contract Amendment, which is attached to this 2019 Contract as EXHIBIT 2. MWRA substantially completed construction of the pipeline project prior to the 6/30/18 date expiration of the 2016 Contract Amendment. The close-out of the final payments and related accounting is being made pursuant to the Contract End Date provisions of that 2016 Contract Amendment. The sole purpose of this 2019 Contract is to incorporate as terms hereunder the respective post-construction obligations of MWRA (provide the water free of charge to the DFW hatchery) and of DFW (maintain, repair and replace its pipeline) for the life of the post-construction use of the pipeline as set forth in the above referenced 6/5/15 MOA and included as Attachment A to the 2015 Contract and the 2016 Contract Amendment and as Exhibits 1 and 2 hereto. As reflected in the Contract End Date for this 2019 Contract, the parties agree that the life of the post-construction use of the pipeline is anticipated to be fifty (50) years.	

COMMONWEALTH OF MASSACHUSETTS ~ STANDARD CONTRACT FORM



ANTICIPATED START DATE: (Complete ONE option only) The Department and Contractor certify for this Contract, or Contract Amendment, that Contract obligations:

1. may be incurred as of the Effective Date (latest signature date below) and no obligations have been incurred prior to the Effective Date.

2. may be incurred as of _____, 20____, a date LATER than the Effective Date below and no obligations have been incurred prior to the Effective Date.

3. were incurred as of _____, a date PRIOR to the Effective Date below, and the parties agree that payments for any obligations incurred prior to the Effective Date are authorized to be made either as settlement payments or as authorized reimbursement payments, and that the details and circumstances of all obligations under this Contract are attached and incorporated into this Contract. Acceptance of payments forever releases the Commonwealth from further claims related to these obligations.

CONTRACT END DATE: Contract performance shall terminate as of June 30, 2068, with no new obligations being incurred after this date unless the Contract is properly amended, provided that the terms of this Contract and performance expectations and obligations shall survive its termination for the purpose of resolving any claim or dispute, for completing any negotiated terms and warranties, to allow any close out or transition performance, reporting, invoicing or final payments, or during any lapse between amendments.

CERTIFICATIONS: Notwithstanding verbal or other representations by the parties, the "Effective Date" of this Contract or Amendment shall be the latest date that this Contract or Amendment has been executed by an authorized signatory of the Contractor, the Department, or a later Contract or Amendment Start Date specified above, subject to any required approvals. The Contractor makes all certifications required under the attached Contractor Certifications (incorporated by reference if not attached hereto) under the pains and penalties of perjury, agrees to provide any required documentation upon request to support compliance, and agrees that all terms governing performance of this Contract and doing business in Massachusetts are attached or incorporated by reference herein according to the following hierarchy of document precedence, the applicable Commonwealth Terms and Conditions, this Standard Contract Form including the Instructions and Contractor Certifications, the Request for Response (RFR) or other solicitation, the Contractor's Response, and additional negotiated terms, provided that additional negotiated terms will take precedence over the relevant terms in the RFR and the Contractor's Response only if made using the process outlined in 801 CMR 21.07, incorporated herein, provided that any amended RFR or Response terms result in best value, lower costs, or a more cost effective Contract.

AUTHORIZING SIGNATURE FOR THE CONTRACTOR:

X: _____ Date: _____
 (Signature and Date Must Be Handwritten At Time of Signature)

Print Name: Frederick A. Laskey

Print Title: Executive Director, MWRA

AUTHORIZING SIGNATURE FOR THE COMMONWEALTH:

X: _____ Date: _____
 (Signature and Date Must Be Handwritten At Time of Signature)

Print Name: Ronald A. Amidon

Print Title: Commissioner, DFG



INSTRUCTIONS AND CONTRACTOR CERTIFICATIONS

The following instructions and terms are incorporated by reference and apply to this Standard Contract Form. Text that appears underlined indicates a "hyperlink" to an Internet or bookmarked site and are unofficial versions of these documents and Departments and Contractors should consult with their legal counsel to ensure compliance with all legal requirements. Using the Web Toolbar will make navigation between the form and the hyperlinks easier. Please note that not all applicable laws have been cited.

CONTRACTOR LEGAL NAME (AND D/B/A): Enter the Full Legal Name of the Contractor's business as it appears on the Contractor's [W-9](#) or [W-4 Form](#) (Contract Employees only) and the applicable [Commonwealth Terms and Conditions](#). If Contractor also has a "doing business as" (d/b/a) name, BOTH the legal name and the "d/b/a" name must appear in this section.

Contractor Legal Address: Enter the Legal Address of the Contractor as it appears on the Contractor's [W-9](#) or [W-4 Form](#) (Contract Employees only) and the applicable [Commonwealth Terms and Conditions](#), which must match the legal address on the 1099I table in MMARS (or the Legal Address in HR/CMS for Contract Employee).

Contractor Contract Manager: Enter the authorized Contract Manager who will be responsible for managing the Contract. The Contract Manager should be an Authorized Signatory or, at a minimum, a person designated by the Contractor to represent the Contractor, receive legal notices and negotiate ongoing Contract issues. The Contract Manager is considered "Key Personnel" and may not be changed without the prior written approval of the Department. If the Contract is posted on [COMMBUYS](#), the name of the Contract Manager must be included in the Contract on COMMBUYS.

Contractor E-Mail Address/Phone/Fax: Enter the electronic mail (e-mail) address, phone and fax number of the Contractor Contract Manager. This information must be kept current by the Contractor to ensure that the Department can contact the Contractor and provide any required legal notices. Notice received by the Contract Manager (with confirmation of actual receipt) through the listed address, fax number(s) or electronic mail address will meet any written legal notice requirements.

Contractor Vendor Code: The Department must enter the [MMARS Vendor Code](#) assigned by the Commonwealth. If a Vendor Code has not yet been assigned, leave this space blank and the Department will complete this section when a Vendor Code has been assigned. The Department is responsible under the [Vendor File and W-9s Policy](#) for verifying with authorized signatories of the Contractor, as part of contract execution, that the legal name, address and Federal Tax Identification Number (TIN) in the Contract documents match the state accounting system.

Vendor Code Address ID: (e.g., "AD001") The Department must enter the MMARS Vendor Code Address ID identifying the payment remittance address for Contract payments, which MUST be set up for EFT payments PRIOR to the first payment under the Contract in accordance with the [Bill Paying](#) and [Vendor File and W-9](#) policies.

COMMONWEALTH DEPARTMENT NAME: Enter the full Department name with the authority to obligate funds encumbered for the Contract.

Commonwealth MMARS Alpha Department Code: Enter the [three \(3\) letter MMARS Code](#) assigned to this Commonwealth Department in the state accounting system.

Department Business Mailing Address: Enter the address where all formal correspondence to the Department must be sent. Unless otherwise specified in the Contract, legal notice sent or received by the Department's Contract Manager (with confirmation of actual receipt) through the listed address, fax number(s) or electronic mail address for the Contract Manager will meet any requirements for legal notice.

Department Billing Address: Enter the Billing Address or email address if invoices must be sent to a different location. Billing or confirmation of delivery of performance issues should be resolved through the listed Contract Managers.

Department Contract Manager: Identify the authorized Contract Manager who will be responsible for managing the Contract, who should be an authorized signatory or an employee designated by the Department to represent the Department to receive legal notices and negotiate ongoing Contract issues.

Department E-Mail Address/Phone/Fax: Enter the electronic mail (e-mail) address, phone and fax number of the Department Contract Manager. Unless otherwise specified in the Contract, legal notice sent or received by the Contract Manager (with confirmation of actual receipt) through the listed address, fax number(s) or electronic mail address will meet any requirements for written notice under the Contract.

MMARS Document ID(s): Enter the MMARS 20 character encumbrance transaction number associated with this Contract which must remain the same for the life of the Contract. If multiple numbers exist for this Contract, identify all Doc Ids.

RFR/Procurement or Other ID Number or Name: Enter the Request for Response (RFR) or other Procurement Reference number, Contract ID Number or other reference/tracking number for this Contract or Amendment and will be entered into the Board Award Field in the MMARS encumbrance transaction for this Contract.

NEW CONTRACTS (left side of Form):

Complete this section ONLY if this Contract is brand new. (Complete the **CONTRACT AMENDMENT** section for any material changes to an existing or an expired Contract, and for exercising options to renew or annual contracts under a multi-year procurement or grant program.)

PROCUREMENT OR EXCEPTION TYPE: Check the appropriate type of procurement or exception for this Contract. Only one option can be selected. See [State Finance Law and General Requirements, Acquisition Policy and Fixed Assets](#), the [Commodities and Services Policy](#) and the [Procurement Information Center \(Department Contract Guidance\)](#) for details.

Statewide Contract (OSD or an OSD-designated Department): Check this option for a Statewide Contract under OSD, or by an OSD-designated Department.

Collective Purchase approved by OSD: Check this option for Contracts approved by OSD for collective purchases through federal, state, local government or other entities.

Department Contract Procurement: Check this option for a Department procurement including state grants and federal sub-grants under [815 CMR 2.00](#) and [State Grants and Federal Subgrants Policy](#), Departmental Master Agreements (MA). If multi-Department user Contract, identify multi-Department use is allowable in Brief Description.

Emergency Contract: Check this option when the Department has determined that an unforeseen crisis or incident has arisen which requires or mandates immediate purchases to avoid substantial harm to the functioning of government or the provision of necessary or mandated services or whenever the health, welfare or safety of clients or other persons or serious damage to property is threatened.

Contract Employee: Check this option when the Department requires the performance of an [Individual Contractor](#), and when the planned Contract performance with an Individual has been classified using the [Employment Status Form](#) (prior to the Contractor's selection) as work of a Contract Employee and not that of an Independent Contractor.

Legislative/Legal or Other: Check this option when legislation, an existing legal obligation, prohibition or other circumstance exempts or prohibits a Contract from being competitively procured, or identify any other procurement exception not already listed. Legislative "earmarks" exempt the Contract solely from procurement requirements, and all other Contract and state finance laws and policies apply. Supporting documentation must be attached to explain and justify the exemption.

CONTRACT AMENDMENT (Right Side of Form)

Complete this section for any Contract being renewed, amended or to continue a lapsed Contract. All Contracts with available options to renew must be amended referencing the original procurement and Contract doc ids, since all continuing contracts must be maintained in the same Contract file (even if the underlying appropriation changes each fiscal year.) "See [Amendments, Suspensions, and Termination Policy](#)."

Enter Current Contract End Date: Enter the termination date of the Current Contract being amended, even if this date has already passed. (Note: Current Start Date is not requested since this date does not change and is already recorded in MMARS.)

Enter Amendment Amount: Enter the amount of the Amendment increase or decrease to a Maximum Obligation Contract. Enter "no change" for Rate Contracts or if no change.

AMENDMENT TYPE: Identify the type of Amendment being done. Documentation supporting the updates to performance and budget must be attached. **Amendment to Scope or Budget:** Check this option when renewing a Contract or executing any Amendment ("material change" in Contract terms) even if the Contract has lapsed. The parties may negotiate a change in any element of Contract performance or cost identified in the RFR or the Contractor's response which results in lower costs, or a more cost-effective or better value performance than was presented in the original selected response, provided the negotiation results in a better value within the scope of the RFR than what was proposed by the Contractor in the original selected response. Any "material" change in the Contract terms must be memorialized in a formal Amendment even if a corresponding MMARS transaction is not needed to support the change. Additional negotiated terms will take precedence over the relevant terms in the RFR and the Contractor's Response only if made using the process outlined in [801 CMR 21.07](#), incorporated herein, provided that any amended RFR or Response terms result in best value, lower costs, or a more cost effective Contract.

Interim Contracts: Check this option for an Interim Contract to prevent a lapse of Contract performance whenever an existing Contract is being re-procured but the new procurement has not been completed, to bridge the gap during implementation between an expiring and a new procurement, or to contract with an interim Contractor when a current Contractor is unable to complete full performance under a Contract.

Contract Employee: Check this option when the Department requires a renewal or other amendment to the performance of a Contract Employee.

Legislative/Legal or Other: Check this option when legislation, an existing legal obligation, prohibition or other circumstance exempts or prohibits a Contract from being competitively procured, or identify any other procurement exception not already listed. Legislative "earmarks" exempt the Contract solely from procurement requirements, and all other Contract and state finance laws and policies apply. Attach supporting documentation to explain and justify the exemption and whether Contractor selection has been publicly



posted.

COMMONWEALTH TERMS AND CONDITIONS

Identify which [Commonwealth Terms and Conditions](#) the Contractor has executed and is incorporated by reference into this Contract. This Form is signed only once and recorded on the Vendor Customer File (VCUST). See [Vendor File and W-9s](#) Policy.

COMPENSATION

Identify if the Contract is a **Rate Contract** (with no stated Maximum Obligation) or a **Maximum Obligation Contract** (with a stated Maximum Obligation) and identify the Maximum Obligation. If the Contract is being amended, enter the new Maximum Obligation based upon the increase or decreasing Amendment. The Total Maximum Obligation must reflect the total funding for the dates of service under the contract, including the Amendment amount if the Contract is being amended. The Maximum Obligation must match the MMARS encumbrance. Funding and allotments must be verified as [available and encumbered](#) prior to incurring obligations. If a Contract includes both a Maximum Obligation component and Rate Contract component, check off both, specific Maximum Obligation amounts or amended amounts and Attachments must clearly outline the Contract breakdown to match the encumbrance.

PAYMENTS AND PROMPT PAY DISCOUNTS

Payments are processed within a 45 day payment cycle through EFT in accordance with the Commonwealth [Bill Paying Policy](#) for investment and cash flow purposes. Departments may NOT negotiate accelerated payments and Payees are NOT entitled to accelerated payments UNLESS a prompt payment discount (PPD) is provided to support the Commonwealth's loss of investment earnings for this earlier payment, or unless a payments is legally mandated to be made in less than 45 days (e.g., construction contracts, Ready Payments under [G.L. c. 29, s. 23A](#)). See [Prompt Pay Discounts Policy](#). PPD are identified as a percentage discount which will be automatically deducted when an accelerated payment is made. Reduced contracts rates may not be negotiated to replace a PPD. If PPD fields are left blank please identify that the Contractor agrees to the standard 45 day cycle; a statutory/legal exemption such as Ready Payments ([G.L. c. 29, § 23A](#)); or only an initial accelerated payment for reimbursements or start up costs for a grant, with subsequent payments scheduled to support standard EFT 45 day payment cycle. Financial hardship is not a sufficient justification to accelerate cash flow for all payments under a Contract. Initial grant or contract payments may be accelerated for the first invoice or initial grant installment, but subsequent periodic installments or invoice payments should be scheduled to support the Payee cash flow needs and the standard 45 day EFT payment cycle in accordance with the Bill Paying Policy. Any accelerated payment that does not provide for a PPD must have a legal justification in Contract file for audit purposes explaining why accelerated payments were allowable without a PPD.

BRIEF DESCRIPTION OF CONTRACT PERFORMANCE

Enter a brief description of the Contract performance, project name and/or other identifying information for the Contract to specifically identify the Contract performance, match the Contract with attachments, determine the appropriate expenditure code (as listed in the [Expenditure Classification Handbook](#)) or to identify or clarify important information related to the Contract such as the Fiscal Year(s) of performance (ex. "FY2012" or "FY2012-14"). Identify settlements or other exceptions and attach more detailed justification and supporting documents. Enter "Multi-Department Use" if other Departments can access procurement. For Amendments, identify the purpose and what items are being amended. Merely stating "see attached" or referencing attachments without a narrative description of performance is insufficient.

ANTICIPATED START DATE

The Department and Contractor must certify WHEN obligations under this Contract/Amendment may be incurred. Option 1 is the default option when performance may begin as of the [Effective Date](#) (latest signature date and any required approvals). If the parties want a new Contract or renewal to begin as of the upcoming fiscal year then list the fiscal year(s) (ex. "FY2012" or "FY2012-14") in the Brief Description section. Performance starts and encumbrances reflect the default [Effective Date](#) (if no FY is listed) or the later FY start date (if a FY is listed). Use Option 2 only when the Contract will be signed well in advance of the start date and identify a specific future start date. Do not use Option 2 for a fiscal year start unless it is certain that the Contract will be signed prior to fiscal year. Option 3 is used in lieu of the [Settlement and Release Form](#) when the Contract/Amendment is signed late, and obligations have already been incurred by the Contractor prior to the [Effective Date](#) for which the Department has either requested, accepted or deemed legally eligible for reimbursement, and the Contract includes supporting documents justifying the performance or proof of eligibility, and approximate costs. Any obligations incurred outside the scope of the [Effective Date](#) under any Option listed, even if the incorrect Option is selected, shall be automatically deemed a settlement included under the terms of the Contract and upon payment to the Contractor will release the Commonwealth from further obligations for the identified performance. All settlement payments require justification and must be under same encumbrance and object codes as the Contract payments. Performance dates are subject to [G.L. c.4, §9](#).

CONTRACT END DATE

The Department must enter the date that Contract performance will terminate. If the Contract is being amended and the Contract End Date is not changing, this date must be re-entered again here. A Contract must be signed for at least the initial duration but not longer than the period of procurement listed in the RFR, or other solicitation document (if applicable). No new performance is allowable beyond the end date without an amendment, but the Department may allow a Contractor to complete minimal close out performance obligations if substantial performance has been made prior to the termination date of the Contract and prior to the end of the fiscal year in which payments are appropriated, provided that any close out performance is subject to appropriation and funding limits under state finance law, and CTR may adjust encumbrances and payments in the state accounting system to enable final close out payments. Performance dates are subject to [G.L. c.4, §9](#).

CERTIFICATIONS AND EXECUTION

See [Department Head Signature Authorization Policy](#) and the [Contractor Authorized Signatory Listing](#) for policies on Contractor and Department signatures.

Authorizing Signature for Contractor/Date: The Authorized Contractor Signatory must (in their own handwriting and in ink) sign AND enter the date the Contract is signed. See section above under "[Anticipated Contract Start Date](#)". Acceptance of payment by the Contractor shall waive any right of the Contractor to claim the Contract/Amendment is not valid and the Contractor may not void the Contract. **Rubber stamps, typed or other images are not acceptable.** Proof of Contractor signature authorization on a [Contractor Authorized Signatory Listing](#) may be required by the Department if not already on file.

Contractor Name /Title: The Contractor Authorized Signatory's name and title must appear legibly as it appears on the [Contractor Authorized Signatory Listing](#).

Authorizing Signature For Commonwealth/Date: The [Authorized Department Signatory](#) must (in their own handwriting and in ink) sign AND enter the date the Contract is signed. See section above under "[Anticipated Start Date](#)". **Rubber stamps, typed or other images are not accepted.** The Authorized Signatory must be an employee within the Department legally responsible for the Contract. See [Department Head Signature Authorization](#). The Department must have the legislative funding appropriated for all the costs of this Contract or funding allocated under an [approved Interdepartmental Service Agreement \(ISA\)](#). A Department may not contract for performance to be delivered to or by another state department without specific legislative authorization (unless this Contract is a Statewide Contract). For Contracts requiring Secretariat signoff, evidence of Secretariat signoff must be included in the Contract file.

Department Name /Title: Enter the Authorized Signatory's name and title legibly.

CONTRACTOR CERTIFICATIONS AND LEGAL REFERENCES

Notwithstanding verbal or other representations by the parties, the "Effective Date" of this Contract or Amendment shall be the latest date that this Contract or Amendment has been executed by an authorized signatory of the Contractor, the Department, or a later Contract or Amendment Start Date specified, subject to any required approvals. The Contractor makes all certifications required under this Contract under the pains and penalties of perjury, and agrees to provide any required documentation upon request to support compliance, and agrees that all terms governing performance of this Contract and doing business in Massachusetts are attached or incorporated by reference herein:

Commonwealth and Contractor Ownership Rights. The Contractor certifies and agrees that the Commonwealth is entitled to ownership and possession of all "deliverables" purchased or developed with Contract funds. A Department may not relinquish Commonwealth rights to deliverables nor may Contractors sell products developed with Commonwealth resources without just compensation. The Contract should detail all Commonwealth deliverables and ownership rights and any Contractor proprietary rights.

Qualifications. The Contractor certifies it is qualified and shall at all times remain qualified to perform this Contract; that performance shall be timely and meet or exceed industry standards for the performance required, including obtaining requisite licenses, registrations, permits, resources for performance, and sufficient professional, liability; and other appropriate insurance to cover the performance. If the Contractor is a business, the Contractor certifies that it is listed under the [Secretary of State's website](#) as licensed to do business in Massachusetts, as required by law.

Business Ethics and Fraud, Waste and Abuse Prevention. The Contractor certifies that performance under this Contract, in addition to meeting the terms of the Contract, will be made using ethical business standards and good stewardship of taxpayer and other public funding and resources to prevent fraud, waste and abuse.

Collusion. The Contractor certifies that this Contract has been offered in good faith and without collusion, fraud or unfair trade practices with any other person, that any actions to avoid or frustrate fair and open competition are prohibited by law, and shall be grounds for rejection or disqualification of a Response or termination of this Contract.

Public Records and Access The Contractor shall provide full access to records related to performance and compliance to the Department and officials listed under [Executive Order 195](#) and [G.L. c. 11, s.12](#) seven (7) years beginning on the first day after the final payment



under this Contract or such longer period necessary for the resolution of any litigation, claim, negotiation, audit or other inquiry involving this Contract. Access to view Contractor records related to any breach or allegation of fraud, waste and/or abuse may not be denied and Contractor can not claim confidentiality or trade secret protections solely for viewing but not retaining documents. Routine Contract performance compliance reports or documents related to any alleged breach or allegation of non-compliance, fraud, waste, abuse or collusion may be provided electronically and shall be provided at Contractor's own expense. Reasonable costs for copies of non-routine Contract related records shall not exceed the rates for public records under [950 C.M.R. 32.00](#).

Debarment. The Contractor certifies that neither it nor any of its subcontractors are currently debarred or suspended by the federal or state government under any law or regulation including, [Executive Order 147](#); [G.L. c. 29, s. 29F](#); [G.L. c. 30, § 39R](#); [G.L. c. 149, § 27C](#); [G.L. c. 149, § 44C](#); [G.L. c. 149, § 148B](#) and [G.L. c. 152, s. 25C](#).

Applicable Laws. The Contractor shall comply with all applicable state laws and regulations including but not limited to the applicable [Massachusetts General Laws](#); the Official [Code of Massachusetts Regulations](#); [Code of Massachusetts Regulations](#) (unofficial); [801 CMR 21.00](#) (Procurement of Commodity and Service Procurements, Including Human and Social Services); [815 CMR 2.00](#) (Grants and Subsidies); [808 CMR 1.00](#) (Compliance, Reporting and Auditing for Human And Social Services); [AICPA Standards](#); confidentiality of Department records under [G.L. c. 66A](#); and the [Massachusetts Constitution Article XVIII](#) if applicable.

Invoices. The Contractor must submit invoices in accordance with the terms of the Contract and the Commonwealth [Bill Paying Policy](#). Contractors must be able to reconcile and properly attribute concurrent payments from multiple Departments. Final invoices in any fiscal year must be submitted no later than August 15th for performance made and received (goods delivered, services completed) prior to June 30th, in order to make payment for that performance prior to the close of the fiscal year to prevent reversion of appropriated funds. Failure to submit timely invoices by August 15th or other date listed in the Contract shall authorize the Department to issue an estimated payment based upon the Department's determination of performance delivered and accepted. The Contractor's acceptance of this estimated payment releases the Commonwealth from further claims for these invoices. If budgetary funds revert due to the Contractor's failure to submit timely final invoices, or for disputing an estimated payment, the Department may deduct a penalty up to 10% from any final payment in the next fiscal year for failure to submit timely invoices.

Payments Subject To Appropriation. Pursuant to [G.L. c. 29 § 26, § 27](#) and [§ 29](#), Departments are required to expend funds only for the purposes set forth by the Legislature and within the funding limits established through appropriation, allotment and subsidiary, including mandated allotment reductions triggered by [G.L. c. 29, § 9C](#). A Department cannot authorize or accept performance in excess of an existing appropriation and allotment, or sufficient non-appropriated available funds. Any oral or written representations, commitments, or assurances made by the Department or any other Commonwealth representative are not binding. The Commonwealth has no legal obligation to compensate a Contractor for performance that is not requested and is intentionally delivered by a Contractor outside the scope of a Contract. Contractors should verify funding prior to beginning performance.

Intercept. Contractors may be registered as Customers in the Vendor file if the Contractor owes a Commonwealth debt. Unresolved and undisputed debts, and overpayments of Contract payments that are not reimbursed timely shall be subject to intercept pursuant to [G.L. c. 7A, s. 3](#) and [815 CMR 9.00](#). Contract overpayments will be subject to immediate intercept or payment offset. The Contractor may not penalize any state Department or assess late fees, cancel a Contract or other services if amounts are intercepted or offset due to recoupment of an overpayment, outstanding taxes, child support, other overdue debts or Contract overpayments.

Tax Law Compliance. The Contractor certifies under the pains and penalties of perjury tax compliance with [Federal tax laws](#); [state tax laws](#) including but not limited to [G.L. c. 62C, G.L. c. 62C, s. 49A](#); compliance with all state tax laws, reporting of employees and contractors, withholding and remitting of tax withholdings and child support and is in good standing with respect to all state taxes and returns due; reporting of employees and contractors under [G.L. c. 62E](#), withholding and remitting [child support](#) including [G.L. c. 119A, s. 12](#); [TIR 05-11](#); [New Independent Contractor Provisions](#) and applicable [TIRs](#).

Bankruptcy, Judgments, Potential Structural Changes, Pending Legal Matters and Conflicts. The Contractor certifies it has not been in bankruptcy and/or receivership within the last three calendar years, and the Contractor certifies that it will immediately notify the Department in writing **at least 45 days prior** to filing for bankruptcy and/or receivership, any potential structural change in its organization, or if there is **any risk** to the solvency of the Contractor that may impact the Contractor's ability to timely fulfill the terms of this Contract or Amendment. The Contractor certifies that at any time during the period of the Contract the Contractor is required to affirmatively disclose in writing to the Department Contract Manager the details of any judgment, criminal conviction, investigation or litigation pending against the Contractor or any of its officers, directors, employees, agents, or subcontractors, including any potential conflicts of interest of which the Contractor has knowledge, or learns of during the Contract term. Law firms or Attorneys providing legal

services are required to identify any potential conflict with representation of any Department client in accordance with Massachusetts Board of Bar Overseers (BBO) rules.

Federal Anti-Lobbying and Other Federal Requirements. If receiving federal funds, the Contractor certifies compliance with federal anti-lobbying requirements including [31 USC 1352](#); [other federal requirements](#); [Executive Order 11246](#); [Air Pollution Act](#); [Federal Water Pollution Control Act](#) and [Federal Employment Laws](#).

Protection of Personal Data and Information. The Contractor certifies that all steps will be taken to ensure the security and confidentiality of all Commonwealth data for which the Contractor becomes a holder, either as part of performance or inadvertently during performance, with special attention to restricting access, use and disbursement of personal data and information under [G.L. c. 93H](#) and [c. 66A](#) and [Executive Order 504](#). The Contractor is required to comply with [G.L. c. 93I](#) for the proper disposal of all paper and electronic media, backups or systems containing personal data and information, provided further that the Contractor is required to ensure that any personal data or information transmitted electronically or through a portable device be properly encrypted using (at a minimum) [Information Technology Division \(ITD\) Protection of Sensitive Information](#), provided further that any Contractor having access to credit card or banking information of Commonwealth customers certifies that the Contractor is PCI compliant in accordance with the [Payment Card Industry Council Standards](#) and shall provide confirmation compliance during the Contract, provide further that the Contractor shall immediately notify the Department in the event of any security breach including the unauthorized access, disbursement, use or disposal of personal data or information, and in the event of a security breach, the Contractor shall cooperate fully with the Commonwealth and provide access to any information necessary for the Commonwealth to respond to the security breach and shall be fully responsible for any damages associated with the Contractor's breach including but not limited to [G.L. c. 214, s. 3B](#).

Corporate and Business Filings and Reports. The Contractor certifies compliance with any certification, filing, reporting and service of process requirements of the [Secretary of the Commonwealth](#), the [Office of the Attorney General](#) or other Departments as related to its conduct of business in the Commonwealth; and with its incorporating state (or foreign entity).

Employer Requirements. Contractors that are employers certify compliance with applicable state and [federal employment laws](#) or regulations, including but not limited to [G.L. c. 5, s. 1](#) (Prevailing Wages for Printing and Distribution of Public Documents); [G.L. c. 7, s. 22](#) (Prevailing Wages for Contracts for Meat Products and Clothing and Apparel); [minimum wages and prevailing wage programs and payments](#); [unemployment insurance](#) and contributions; [workers' compensation and insurance](#), [child labor laws](#), [AGO fair labor practices](#); [G.L. c. 149](#) (Labor and Industries); [G.L. c. 150A](#) (Labor Relations); [G.L. c. 151](#) and [455 CMR 2.00](#) (Minimum Fair Wages); [G.L. c. 151A](#) (Employment and Training); [G.L. c. 151B](#) (Unlawful Discrimination); [G.L. c. 151E](#) (Business Discrimination); [G.L. c. 152](#) (Workers' Compensation); [G.L. c. 153](#) (Liability for Injuries); [29 USC c. 8](#) (Federal Fair Labor Standards); [29 USC c. 28](#) and the [Federal Family and Medical Leave Act](#).

Federal And State Laws And Regulations Prohibiting Discrimination including but not limited to the [Federal Equal Employment Opportunity \(EEO\) Laws](#) the [Americans with Disabilities Act](#); [42 U.S.C. Sec. 12,101, et seq.](#), the [Rehabilitation Act](#), [29 USC c. 16 s. 794](#); [29 USC c. 16, s. 701](#); [29 USC c. 14, 623](#); the [42 USC c. 45](#); (Federal Fair Housing Act); [G.L. c. 151B](#) (Unlawful Discrimination); [G.L. c. 151E](#) (Business Discrimination); the Public Accommodations Law [G.L. c. 272, s. 92A](#); [G.L. c. 272, s. 98](#) and [98A](#), [Massachusetts Constitution Article CXIV](#) and [G.L. c. 93, s. 103](#); [47 USC c. 5, sc. II, Part II, s. 255](#) (Telecommunication Act; Chapter 149, [Section 105D](#), [G.L. c. 151C](#), [G.L. c. 272, Section 92A, Section 98](#) and [Section 98A](#), and [G.L. c. 111, Section 199A](#), and [Massachusetts Disability-Based Non-Discrimination Standards For Executive Branch Entities](#), and related Standards and Guidance, authorized under Massachusetts Executive Order or any disability-based protection arising from state or federal law or precedent. See also [MCAD](#) and [MCAD links and Resources](#).

Small Business Purchasing Program (SBPP). A Contractor may be eligible to participate in the SBPP, created pursuant to [Executive Order 523](#), if qualified through the SBPP COMMBUYS subscription process at: [www.commbuys.com](#) and with acceptance of the terms of the SBPP participation agreement.

Limitation of Liability for Information Technology Contracts (and other Contracts as Authorized). The [Information Technology Mandatory Specifications](#) and the [IT Acquisition Accessibility Contract Language](#) are incorporated by reference into Information Technology Contracts. The following language will apply to Information Technology contracts in the U01, U02, U03, U04, U05, U06, U07, U08, U09, U10, U75, U98 object codes in the [Expenditure Classification Handbook](#) or other Contracts as approved by CTR or OSD. Pursuant to Section 11. Indemnification of the Commonwealth Terms and Conditions, the term "other damages" shall include, but shall not be limited to, the reasonable costs the Commonwealth incurs to repair, return, replace or seek cover (purchase of comparable substitute commodities and services) under a Contract. "Other damages" shall not include damages to the Commonwealth as a result of third party claims, provided, however, that the foregoing in no way limits the Commonwealth's right of recovery for personal injury or property damages or patent and copyright infringement under Section 11 nor the Commonwealth's ability to join the contractor as a third party defendant. Further, the term

COMMONWEALTH OF MASSACHUSETTS ~ STANDARD CONTRACT FORM



"other damages" shall not include, and in no event shall the contractor be liable for, damages for the Commonwealth's use of contractor provided products or services, loss of Commonwealth records, or data (or other intangible property), loss of use of equipment, lost revenue, lost savings or lost profits of the Commonwealth. In no event shall "other damages" exceed the greater of \$100,000, or two times the value of the product or service (as defined in the Contract scope of work) that is the subject of the claim. Section 11 sets forth the contractor's entire liability under a Contract. Nothing in this section shall limit the Commonwealth's ability to negotiate higher limitations of liability in a particular Contract, provided that any such limitation must specifically reference Section 11 of the Commonwealth Terms and Conditions. In the event the limitation of liability conflicts with accounting standards which mandate that there can be no cap of damages, the limitation shall be considered waived for that audit engagement. These terms may be applied to other Contracts only with prior written confirmation from the Operational Services Division or the Office of the Comptroller. The terms in this Clarification may not be modified.

Northern Ireland Certification. Pursuant to G.L. c. 7 s. 22C for state agencies, state authorities, the House of Representatives or the state Senate, by signing this Contract the Contractor certifies that it does not employ ten or more employees in an office or other facility in Northern Ireland and if the Contractor employs ten or more employees in an office or other facility located in Northern Ireland the Contractor certifies that it does not discriminate in employment, compensation, or the terms, conditions and privileges of employment on account of religious or political belief; and it promotes religious tolerance within the work place, and the eradication of any manifestations of religious and other illegal discrimination; and the Contractor is not engaged in the manufacture, distribution or sale of firearms, munitions, including rubber or plastic bullets, tear gas, armored vehicles or military aircraft for use or deployment in any activity in Northern Ireland.

Pandemic, Disaster or Emergency Performance. In the event of a serious emergency, pandemic or disaster outside the control of the Department, the Department may negotiate emergency performance from the Contractor to address the immediate needs of the Commonwealth even if not contemplated under the original Contract or procurement. Payments are subject to appropriation and other payment terms.

Consultant Contractor Certifications (For Consultant Contracts "HH" and "NN" and "U05" object codes subject to G.L. Chapter 29, s. 29A). Contractors must make required disclosures as part of the RFR Response or using the Consultant Contractor Mandatory Submission Form.

Attorneys. Attorneys or firms providing legal services or representing Commonwealth Departments may be subject to G.L. c. 30, s. 65, and if providing litigation services must be approved by the Office of the Attorney General to appear on behalf of a Department, and shall have a continuing obligation to notify the Commonwealth of any conflicts of interest arising under the Contract.

Subcontractor Performance. The Contractor certifies full responsibility for Contract performance, including subcontractors, and that comparable Contract terms will be included in subcontracts, and that the Department will not be required to directly or indirectly manage subcontractors or have any payment obligations to subcontractors.

EXECUTIVE ORDERS

For covered Executive state Departments, the Contractor certifies compliance with applicable Executive Orders (see also Massachusetts Executive Orders), including but not limited to the specific orders listed below. A breach during period of a Contract may be considered a material breach and subject Contractor to appropriate monetary or Contract sanctions.

Executive Order 481. Prohibiting the Use of Undocumented Workers on State Contracts. For all state agencies in the Executive Branch, including all executive offices, boards, commissions, agencies, Departments, divisions, councils, bureaus, and offices, now existing and hereafter established, by signing this Contract the Contractor certifies under the pains and penalties of perjury that they shall not knowingly use undocumented workers in connection with the performance of this Contract; that, pursuant to federal requirements, shall verify the immigration status of workers assigned to a Contract without engaging in unlawful discrimination; and shall not knowingly or recklessly alter, falsify, or accept altered or falsified documents from any such worker

Executive Order 130. Anti-Boycott. The Contractor warrants, represents and agrees that during the time this Contract is in effect, neither it nor any affiliated company, as hereafter defined, participates in or cooperates with an international boycott (See IRC § 999(b)(3)-(4), and IRS Audit Guidelines Boycotts) or engages in conduct declared to be unlawful by G.L. c. 151E, s. 2. A breach in the warranty, representation, and agreement contained in this paragraph, without limiting such other rights as it may have, the Commonwealth shall be entitled to rescind this Contract. As used herein, an affiliated company shall be any business entity of which at least 51% of the ownership interests are directly or indirectly owned by the Contractor or by a person or persons or business entity or entities directly or indirectly owning at least 51% of the ownership interests of the Contractor, or which directly or indirectly owns at least 51% of the ownership interests of the Contractor.

Executive Order 346. Hiring of State Employees By State Contractors. Contractor certifies compliance with both the conflict of interest law G.L. c. 268A specifically s. 5 (f) and this order; and includes limitations regarding the hiring of state employees by private companies contracting with the Commonwealth. A privatization contract shall be deemed

to include a specific prohibition against the hiring at any time during the term of Contract, and for any position in the Contractor's company, any state management employee who is, was, or will be involved in the preparation of the RFP, the negotiations leading to the awarding of the Contract, the decision to award the Contract, and/or the supervision or oversight of performance under the Contract.

Executive Order 444. Disclosure of Family Relationships With Other State Employees. Each person applying for employment (including Contract work) within the Executive Branch under the Governor must disclose in writing the names of all immediate family related to immediate family by marriage who serve as employees or elected officials of the Commonwealth. All disclosures made by applicants hired by the Executive Branch under the Governor shall be made available for public inspection to the extent permissible by law by the official with whom such disclosure has been filed.

Executive Order 504. Regarding the Security and Confidentiality of Personal Information. For all Contracts involving the Contractor's access to personal information, as defined in G.L. c. 93H, and personal data, as defined in G.L. c. 66A, owned or controlled by Executive Department agencies, or access to agency systems containing such information or data (herein collectively "personal information"), Contractor certifies under the pains and penalties of perjury that the Contractor (1) has read Commonwealth of Massachusetts Executive Order 504 and agrees to protect any and all personal information; and (2) has reviewed all of the Commonwealth Information Technology Division's Security Policies. Notwithstanding any contractual provision to the contrary, in connection with the Contractor's performance under this Contract, for all state agencies in the Executive Department, including all executive offices, boards, commissions, agencies, departments, divisions, councils, bureaus, and offices, now existing and hereafter established, the Contractor shall: (1) obtain a copy, review, and comply with the contracting agency's Information Security Program (ISP) and any pertinent security guidelines, standards, and policies; (2) comply with all of the Commonwealth of Massachusetts Information Technology Division's "Security Policies"; (3) communicate and enforce the contracting agency's ISP and such Security Policies against all employees (whether such employees are direct or contracted) and subcontractors; (4) implement and maintain any other reasonable appropriate security procedures and practices necessary to protect personal information to which the Contractor is given access by the contracting agency from the unauthorized access, destruction, use, modification, disclosure or loss; (5) be responsible for the full or partial breach of any of these terms by its employees (whether such employees are direct or contracted) or subcontractors during or after the term of this Contract, and any breach of these terms may be regarded as a material breach of this Contract; (6) in the event of any unauthorized access, destruction, use, modification, disclosure or loss of the personal information (collectively referred to as the "unauthorized use"): (a) immediately notify the contracting agency if the Contractor becomes aware of the unauthorized use; (b) provide full cooperation and access to information necessary for the contracting agency to determine the scope of the unauthorized use; and (c) provide full cooperation and access to information necessary for the contracting agency and the Contractor to fulfill any notification requirements. Breach of these terms may be regarded as a material breach of this Contract, such that the Commonwealth may exercise any and all contractual rights and remedies, including without limitation indemnification under Section 11 of the Commonwealth's Terms and Conditions, withholding of payments, Contract suspension, or termination. In addition, the Contractor may be subject to applicable statutory or regulatory penalties, including and without limitation, those imposed pursuant to G.L. c. 93H and under G.L. c. 214, § 3B for violations under M.G.L. c. 66A.

Executive Orders 523, 524 and 526. Executive Order 526 (Order Regarding Non-Discrimination, Diversity, Equal Opportunity and Affirmative Action which supersedes Executive Order 478). Executive Order 524 (Establishing the Massachusetts Supplier Diversity Program which supersedes Executive Order 390). Executive Order 523 (Establishing the Massachusetts Small Business Purchasing Program.) All programs, activities, and services provided, performed, licensed, chartered, funded, regulated, or contracted for by the state shall be conducted without unlawful discrimination based on race, color, age, gender, ethnicity, sexual orientation, gender identity or expression, religion, creed, ancestry, national origin, disability, veteran's status (including Vietnam-era veterans), or background. The Contractor and any subcontractors may not engage in discriminatory employment practices; and the Contractor certifies compliance with applicable federal and state laws, rules, and regulations governing fair labor and employment practices; and the Contractor commits to purchase supplies and services from certified minority or women-owned businesses, small businesses, or businesses owned by socially or economically disadvantaged persons or persons with disabilities. These provisions shall be enforced through the contracting agency, OSD, and/or the Massachusetts Commission Against Discrimination. Any breach shall be regarded as a material breach of the contract that may subject the contractor to appropriate sanctions.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: January 16, 2019
SUBJECT: Painting of the Deer Island Steel Water Storage Tank
Atlas Painting and Sheeting Corp.
Contract 7601



COMMITTEE: Water Policy & Oversight

 INFORMATION

 X VOTE


Michele S. Gillen

Director of Administration

John Colbert, P.E., Chief Engineer
Lisa Hamilton, P.E., Assistant Director, Engineering
Carmine De Maria, Project Manager
Preparer/Title



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

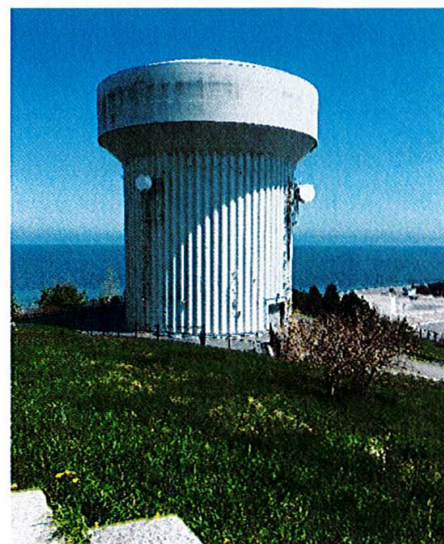
RECOMMENDATION:

To approve the award of Contract 7601, Painting of the Deer Island Steel Water Storage Tank, to the lowest responsible and eligible bidder, Atlas Painting and Sheeting Corp. and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of \$2,590,000, for a contract term of 240 calendar days from the Notice to Proceed.

DISCUSSION:

The Deer Island Water Storage Tank, (shown at right) is a 2 million gallon, elevated steel hydro-pillar tank operating in MWRA's Northern High Pressure Zone. It is 127 feet in height. The tank supplies water and fire protection for Deer Island and also serves as an emergency feed to the Town of Winthrop. The tank was constructed in 1994. The tank exterior was last painted in 2008; the interior coating is original construction.

MWRA performs water tank inspections approximately every 5 years. Recent inspections identified that the paint system is beginning to deteriorate and metal is corroding on the interior roof structure, tank shell and floor sections. Given the condition and age of the coating it is recommended to repaint both the exterior and the interior, and perform miscellaneous



structural repairs. Repainting includes removal of the existing coating to bare metal prior to the application of the new coating system.

Procurement Process

Contract 7601 was initially advertised and bid utilizing MWRA's e-procurement system (Event Document 3423-4) in accordance with Massachusetts General Laws, Chapter 149. During the procurement, a contractor questioned whether the general contractor was required to be Division of Capital Asset Management and Maintenance (DCAMM) certified in the painting category. After consulting with the Massachusetts Attorney General's office, the Procurement Department confirmed that this project should be bid pursuant to Chapter 149 because the structure had many building-like characteristics. Upon review of the DCAMM Certified Prime Contractor list in the painting category, the estimated project cost for this project exceeded the Single Project Limit of many of the listed certified painting contractors. During this review, DCAMM had also received an inquiry from a painting contractor related to this procurement, and contacted MWRA. DCAMM recommended that the MWRA utilize its Special Certification process, which would allow industrial painting contractors to become DCAMM certified, thereby increasing competition and certifying contractors who are uniquely qualified to paint potable water storage tanks of this size. MWRA staff followed DCAMM's recommendation, which required the bid schedule to be lengthened to allow time for interested contractors to apply for the special certification and DCAMM to process those applications. This resulted in the cancellation of the initial procurement, and the issuance of a new advertisement and bid utilizing the MWRA's e-procurement system (Event Document 3545-8) in accordance with Massachusetts General Laws, Chapter 149.

Ultimately, DCAMM approved four contractors in the "Steel Tank Structure Paint Coating" special category. Bids were received and opened on December 19, 2018, from two contractors as follows:

<u>Bidders</u>	<u>Bid Amount</u>
Atlas Painting and Sheeting Corp.	\$2,590,000.00
<i>Engineer's Estimate</i>	<i>\$4,045,000.00</i>
Amstar of Western New York, Inc.	\$6,000,000.00

Four General Contractors took out documents and became DCAMM Certified. Two of them were contacted to determine why they did not bid. One contractor indicated that the Deer Island project posed too much risk for it to bid competitively. It cited uncertainty in regard to the repair items. It also thought that the 240-day time constraint could be challenging if the Notice to Proceed was issued in January and the weather was cold and wet for several months. The other contractor has been contacted several times and has not returned any calls.

Amstar of Western New York, Inc.'s bid was determined to be unresponsive as the Form for General Bid was not completed and the bid amount was higher than the Single Project Limit (\$3,398,000) set forth in its DCAMM Certificate of Eligibility.

Atlas Painting and Sheeting's bid is 36% lower than the Engineer's Estimate. The bid is responsive and the bidder was certified by DCAMM for a Single Project Limit of \$3,580,000 and an Aggregate Work Limit of \$10,000,000. Atlas currently has five ongoing projects with a total contract value (work to be completed) of \$3,270,901.

Staff reviewed Atlas Painting and Sheeting's bid, conducted discussions with the Contractor and had a formal interview on January 7, 2019. Following those discussions, staff are of the opinion that the Contractor fully understands the scope of work and that the bid contains all elements of the work. Based on these discussions, there are a number of items that contributed to the difference between the bid price and Engineer's estimate as follows:

- Bids were taken prior to the beginning of the construction season. During this time, Contractors are typically trying to fill their workload for the following year. This contributed to the favorable bid.
- Atlas confirmed that its current workload is light. The Deer Island project fit its needs well and will allow it to keep its crews busy. Atlas has worked at Deer Island and is very familiar with the facility as well as MWRA standards and practices involved with completion of work.
- Atlas noted that it had previously bid on the Bellevue 2 and Turkey Hill project. The firm was out-bid by other painting contractors. However, it confirmed that at that time, it had a strong workload and had little incentive to bid the project aggressively.
- Atlas anticipated similar level of competitive bids as that on the Bellevue 2 and Turkey Hill project and bid accordingly.
- Atlas confirmed its unit price for scaffolding. It was able to obtain significantly lower pricing on the scaffolding than what was included in the Engineer's Estimate. This resulted in a \$181,000 difference between the actual cost and the estimated cost.

Evaluations and rating of contractor performance completed as part of the DCAMM certification process were favorable. References were also checked for the Angle Lane Water Tank Rehabilitation project in Halfmoon, NY. This project consists of painting a 450,000 gallon elevated hydro-pillar tank. Atlas's work was described as excellent and it was prompt with submittals and pay applications. The firm has also completed acceptable work on MWRA Contract S392 Painting/Coating Phase 3-Deer Island Treatment Plant (\$1,229,500) and S513 Concrete/Steel Restoration and Coating Phase IV, Deer Island (\$1,839,000). Atlas Painting and Sheeting has demonstrated its ability to successfully complete comparable size projects.

After reviewing the bid, interviewing the Contractor, reviewing DCAMM Contractor performance evaluations, and checking project references, staff have concluded that Atlas Painting and Sheeting possesses the skill, ability, and integrity necessary to perform the work under this contract and is qualified to do so. Staff have further determined that the bid price is reasonable, complete, and includes payment of prevailing wages, as required. Therefore, staff recommend that Contract 7601 be awarded to Atlas Painting and Sheeting, as the lowest responsible and eligible bidder.

BUDGET/FISCAL IMPACT:

The FY19 CIP includes \$3,871,101.00 for Contract 7601. The award amount is \$ 2,590,000.

MBE/WBE PARTICIPATION:

The MBE and WBE participation requirements for this contract have been established at 7.24 % and 3.6 %, respectively.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: January 16, 2019
SUBJECT: Commonwealth Avenue Pumping Station Improvements
WES Construction Corp.
Contract 7524



COMMITTEE: Water Policy & Oversight

 INFORMATION

 X VOTE


Michele S. Gillen

Director of Administration


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

John Colbert, P.E., Chief Engineer
Lisa Hamilton, P.E., Assistant Director, Engineering
Preparer/Title

This project is one of the Metropolitan Redundancy Interim Improvements projects that are being implemented to improve emergency response to an unexpected shut down of the Metropolitan Tunnel system until a new redundant tunnel is constructed. The Commonwealth Avenue Pumping Station Improvements contract will provide a redundant potable water supply and other improvements to the pump station in the event that the City Tunnel needs to be taken out of service in an emergency.

RECOMMENDATION:

To approve the award of Contract 7524, Commonwealth Avenue Pumping Station Improvements, to the lowest responsible and eligible bidder, WES Construction Corp., and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of \$6,879,500 for a contract term of 580 calendar days from the Notice to Proceed. Contract 7524, a DEP SRF funded project received Authorization to Award from the DEP on January 10, 2019.

DISCUSSION:

The Commonwealth Avenue Pumping Station is located in a primarily residential neighborhood in the City of Newton (see attached Figure 1). It supplies water to 85 percent of the City of Newton on a regular basis and can serve the remaining 15 percent in an emergency. The pumping station is supplied through a single connection to Shaft 6 of MWRA's High Service City Tunnel. This project will provide a new connection to the station from two low service pipelines in Commonwealth Avenue and add low service pumps so that the City of Newton can be supplied in the event of a City Tunnel failure.

The Commonwealth Avenue Pumping Station was originally placed into service in 1953 and has received a variety of improvements over the years, including a renovation completed in 1999. That renovation upgraded the capacity and reliability of the pumping station and included the construction of a new 'West' Building to contain two additional pumps and a 900kW diesel-generator, and rehabilitation of the existing 'East' Building with new piping, valves and two pumps.

The pumping station has four identical 9-mgd pumps (two in each building), and a total capacity of 27 million gallons per day. Stations are designed to meet full capacity with one pump out of service for redundancy and reliability. Two of the four pumps are typically operated to maintain an adequate water level at the City's Newton Covered Reservoir. The East Building was designed to allow the installation of a third pump in the future.

The East and West Buildings are separate, but are heated by a common boiler and are electrically interconnected to allow the generator in the West Building to provide emergency power to all equipment. The main ground level floor for both buildings includes an office/control room, pump room, electrical room and a bathroom. The downstairs area includes the pump suction and discharge piping, valves and instrumentation.



Commonwealth Avenue Pump Station, Newton

The buildings are air-conditioned to provide longer life for electrical components, such as Variable Frequency Drives, and to minimize the pumps and piping from sweating during the summer. However, there have been maintenance problems, as the existing air-conditioning system in the East Building is oversized; it was originally sized for diesel equipment that was replaced with more efficient electrical pumps in the 1999 renovation at the Pumping Station. The air conditioning system was not replaced in 1999 and now warrants replacement due to its age and condition.

This construction contract includes the installation of a new 24-inch diameter suction pipe to the 'East' Building from the Weston Aqueduct Supply Main Low Service 48-inch and 60-inch pipes located in Commonwealth Avenue across the street from the pumping station, and the installation of two new pumps (one replacement and one new) capable of pumping from the low service gradeline for redundancy. This redundancy will allow the pumping station to operate in the event that Shaft 6 of the City Tunnel cannot provide suction to the pumping station. The project also includes new Supervisory Control and Data Acquisition (SCADA) instrumentation and controls, new heating, ventilation and air conditioning equipment to replace older equipment that has a history of maintenance issues, painting of the suction and discharge piping, and new suspended ceilings in the office/control rooms and bathrooms.

Procurement Process

Contract 7524, designed by Black & Veatch, was advertised in the Boston Herald, El Mundo, Banner Publications, Central Register and COMMBUYS, and bid in accordance with Chapter 149 of Massachusetts General Laws. General bids were received and opened on December 6, 2018; one firm submitted a bid and the result is presented below.

<u>Bidders</u>	<u>Bid Amount</u>
<i>Engineer's Estimate*</i>	<i>\$6,275,000</i>
WES Construction Corp.	\$6,879,500

**The Engineer's Estimate was updated after the project was advertised and prior to receipt of bids.*

General Contractors that took out documents were contacted to determine why they did not bid. One General Contractor submitted filed sub-bids in the HVAC and Electrical categories restricting its filed sub-bids to itself. However, its filed sub-bids were not competitive, and the low filed-sub-bidder in the Electrical category excluded this bidder. Thus, this General Contractor elected not to submit a general bid. A second General Contractor submitted a competitive filed sub-bid for the HVAC category also with the use of the bid restricted to itself; however, it elected not to submit a general bid because its estimating department was unable to meet the bid deadline. A third General Contractor could not support the project due to prior commitments and did not submit a bid.

The submitted bid is 9.6% above the Engineer's Estimate. MWRA staff and Black & Veatch met with WES Construction on December 21, 2018. Staff and Black & Veatch identified items that contributed to the cost differential, including: the challenges of making the connections to the MWRA Weston Aqueduct Supply Mains; and a busy bidding environment. WES Construction stated that to meet the seasonal work restrictions for the tie-ins, it plans to mobilize multiple pipeline crews from a number of its ongoing projects.

MWRA staff and Black & Veatch reviewed the scope of work with WES Construction. Staff are satisfied that the bid includes all elements of the work.

WES Construction projects are primarily in the DCAMM Work Categories for General Building Construction, Sewage and Water Treatment Plants and Modular Construction/Prefab. In 2012 – 2013

WES Construction completed construction projects for mechanical system improvement at the North Easton Waste Water Treatment Plant, the Braintree Great Pond Water Treatment Plant, and the Waste Water Treatment Facility for MCI Norfolk.

WES Construction has successfully completed numerous projects for MWRA, including the recent Upgrades to the Chelsea Screen House. References for WES Construction were checked and were found to be satisfactory.

Staff have determined that WES Construction possesses the skill, ability, and integrity necessary to perform the work under this contract, and is qualified to do so. Staff have further determined that the bid price is reasonable, complete, and includes the payment of prevailing wages as required. Therefore, staff recommend the award of this contract to WES Construction as the lowest responsible and eligible bidder.

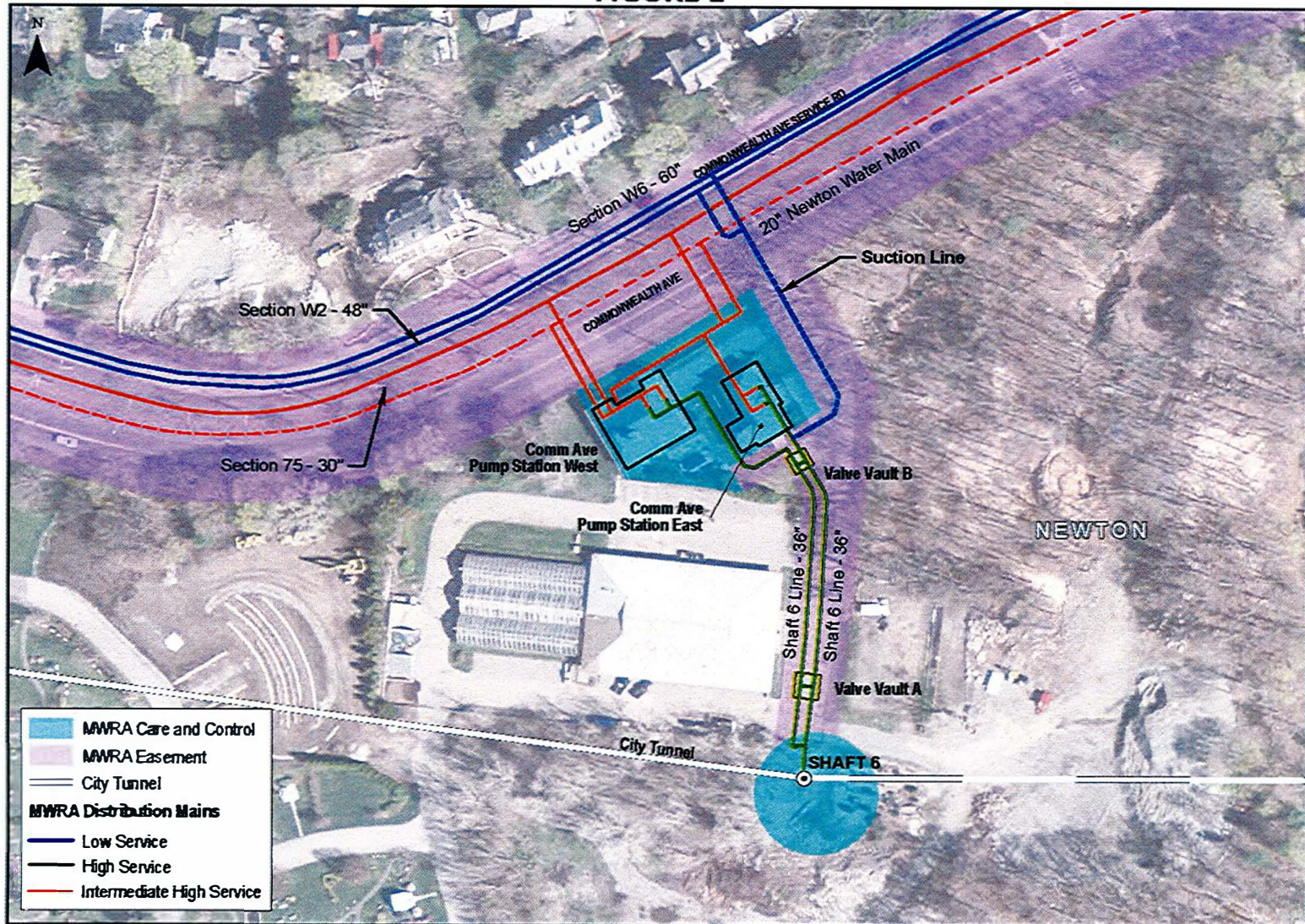
BUDGET/FISCAL IMPACT:

The FY19 CIP includes a budget of \$7,033,590 for Contract 7524. The contract award amount is \$6,879,500. It should be noted that Contract 7524 will receive funding through the DEP State Revolving Fund.

MBE/WBE PARTICIPATION:

The D/MBE and D/WBE participation requirements for this project were established at 4.2% and 4.5%, respectively. WES Construction Corp. submitted the requisite documentation meeting the established participation requirements. This documentation was submitted to DEP for its review. On January 10, 2019, the DEP approved authorization to award Contract 7524 to WES Construction Corp. The Affirmative Action and Compliance Unit has reviewed the bids and has determined that the bid from WES Construction is responsive to those requirements.

FIGURE 1



STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: January 16, 2019
SUBJECT: Northern Intermediate High Section 110 – Stoneham
Albanese D&S Inc.
Contract 7067, Change Order 5



COMMITTEE: Water Policy and Oversight

 INFORMATION

 X VOTE

Corinne M. Barrett, Director, Construction
Jeremiah Sheehan, Construction Coordinator
Preparer/Title



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

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to approve Change Order 5 to Contract 7067, Northern Intermediate High Section 110 Stoneham, with Albanese D&S Inc., for an amount not to exceed \$1,050,000, increasing the contract amount from \$23,540,800 to \$24,590,800, with no increase in contract term.

Further, to authorize the Executive Director to approve additional change orders as may be needed to Contract 7067 in an amount not to exceed the aggregate of \$250,000, in accordance with the Management Policies and Procedures of the Board of Directors.

DISCUSSION:

MWRA's Northern Intermediate High (NIH) service area provides water to the communities of Reading, Stoneham, Wakefield, Wilmington, Winchester, and Woburn through a single 48-inch pipeline, which is fed by the Gillis Pump Station at Spot Pond in Stoneham. Although some of these communities are partially served by MWRA, the loss of this single transmission main would result in a rapid loss of service in Reading, Stoneham and Woburn, and potential water restrictions in Wakefield, Wilmington and Winchester.

The existing main pipeline that serves this area (Section 89) is a three-mile-long, four-foot diameter, pre-stressed concrete cylinder pipe (PCCP) transmission main with limited redundancy except for Section 29, which is a 24-inch century old pipeline that parallels Section 89 for a short distance. Due to the lack of redundancy, Section 89 cannot be taken out of service for inspection or for repairs. The project goal is to design and construct a new pipeline that will provide redundancy to the community meters, so that Section 89 can be removed from service for inspection and rehabilitation. Under Contract 7067, or Contract 4, the Contractor is excavating and installing 13,215 linear feet of 48-inch water transmission main connecting to previous MWRA construction contracts in the Town of Stoneham, as shown on the attached map.

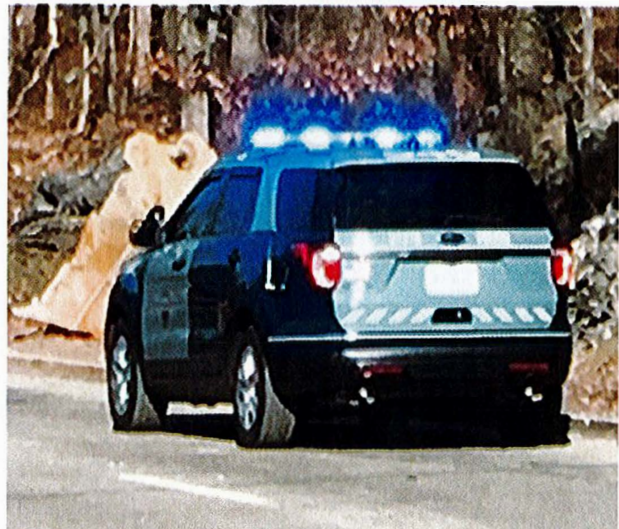
This Change Order

Change Order 5 consists of the following two items:

Increase in Police Detail Services

Not-to-Exceed \$750,000

The contract included an allowance in Line Item 2 for Police Detail Services in the amount of \$750,000 for the actual amount invoiced by cities, towns, and the State Police. Unlike previous projects where traffic could be detoured to alternate streets, the pipeline on this project is primarily on major roads in Stoneham, which cannot be closed during construction.



Police Detail on Main Street, photo left. Police Vehicle on DCR parkway at Spot Pond Reservoir, photo right.

Several factors have arisen which will result in a projected overrun of the police detail allowance. These include:

- The Design Engineer developed construction zone safety plans for work along the four lane Department of Conservation and Recreation (DCR) parkway surrounding the Spot Pond Reservoir. There is approximately 6,000 linear feet of 48-inch pipe along the DCR roadway, or 45% of the pipeline length. The plan depicted three State Police details along the work zone while maintaining traffic flow during construction. However, after the start of construction, the State Police have contended that four State Police details per day are necessary due to the speed of vehicles on the parkway and the volume of trucks entering and leaving the work site.
- After the start of the construction detour, DCR requested the assignment of a State Police detail at the Stone Zoo crosswalk to assist with pedestrian traffic from the parking lot, as there is not a pedestrian light to stop traffic.
- Similarly, along Main Street, the plan included two Stoneham Police Details to be stationed at either end of the long work zone while maintaining traffic flow during construction. There is approximately 3,000 linear feet of 48-inch pipe along Main Street or approximately 25% of the pipeline length. However, as a result of numerous complaints

about access and egress to side streets along Main Street, one additional police detail was required by the Police Chief to assist.

- While installation of the pipeline along Main Street is approximately 50% complete to date, the rate of production has been hampered by ledge and a leaking NGRID gas main. As NGRID workforce was locked out for several months, monitoring of the leaking gas main slowed production rate and increased the time necessary for traffic details.
- A revised collective bargaining agreement between the Town of Stoneham and Stoneham Police guaranteeing each police detail at least one hour of overtime per day at a rate of 1.5 times the regular rate of pay.
- The temporary assignment of additional police details at very busy street intersections during construction in order to dissipate traffic delays.

To date, \$704,660.57 (94%) has been spent on Line Item 2, approximately 55% of the new 48-inch water main has been installed, and the contract does not expire until June 1, 2020. Staff have estimated future police details based on the schedule of remaining work and project an additional \$750,000 is necessary to complete the project.

The approved PCO for this item has been identified by staff as an overrun in quantities. MWRA staff, the Consultant, and the Contractor have agreed to an amount not to exceed \$750,000 for this additional work with no increase in contract term.

Relocate 130 Feet of 30-inch PVC Drain Line; Not-to-Exceed \$300,000
Remove and Replace 40 Feet of 8-inch Sewer Main;
Relocate new Town of Stoneham 8-inch Water Main including Furnish and Install Two 8-inch Gate Valves

During excavation to install the new 48-inch water main at the intersection of Wright and Maple Streets in Stoneham, the Contractor uncovered a 30-inch x 42-inch brick arch drainage culvert, which is in direct conflict with installation of the new 48-inch MWRA water main. This existing drain culvert captures and conveys all the surface water runoff from the Town of Stoneham center



Existing drain culvert in conflict with new water line



Support of telephone pole during excavation to install 30-inch drain

district to the Sweetwater Brook near Montvale Avenue. The Town of Stoneham Storm Water Infrastructure Map provided to the Design Engineer during design does not depict the existing drainage culvert on Wright Street. Surveying of the existing utilities performed during the design stage did not depict the drainage structure at the intersection because the structure was buried underground, and any evidence of the structure on the surface was paved over. However, subsequent to the discovery of the culvert during excavation, the Town of Stoneham Sewer Department personnel discovered a different plan with information depicting a drainage culvert on Wright Street. Test pits were excavated to confirm the exact location and elevation of the culvert to determine if the 48-inch MWRA pipeline could be installed without relocating the drain culvert. It was determined that the 48-inch MWRA pipe could not be installed underneath or above the drain. Therefore, in order to alleviate the conflict between the two pipelines, the Design Engineer provided a re-design relocating 130 feet of drain with a new 30-inch PVC drain line and three 5-foot diameter manholes at both the intersection of Wright and Maple Streets and northbound along Wright Street. It was also necessary to relocate the alignment of the new MWRA 48-inch water main at the intersection. As a result of the MWRA water main realignment, it was also necessary to relocate forty feet of 8-inch sewer line, relocate new 8-inch water main, and furnish and install two additional 8-inch gate valves, associated bends and thrust blocks to the revised location on Wright Street.

The approved PCO for this item was identified by staff as an unforeseen condition. MWRA staff, the Consultant, and the Contractor agreed to an amount not to exceed \$300,000 for this additional work with no increase in contract term. Staff and the Contractor are currently negotiating the final lump sum cost of this item. The Contractor proceeded with this work at its own risk in order to proceed with the remainder of the contract work.

CONTRACT SUMMARY:

	<u>Amount</u>	<u>Time</u>	<u>Dated</u>
Original Contract:	\$22,737,300.00	1,000 Days	07/31/17
Change Orders:			
Change Order 1*	\$20,000.00	0 Days	07/31/18
Change Order 2	\$350,000.00	0 Days	07/31/18
Change Order 3	\$283,500.00	0 Days	11/30/18
Change Order 4*	\$150,000.00	0 Days	12/18/18
Change Order 5	<u>\$1,050,000.00</u>	<u>0 Days</u>	Pending
Total of Change Orders:	\$1,853,500.00	0 Days	
Adjusted Contract:	\$24,590,800.00	1,000 Days	

*Approved under delegated authority

If Change Order 5 is approved, the cumulative value of all change orders to this contract will be \$1,853,500 or 8.15% of the original contract amount. Work on this contract is approximately 55% complete.

BUDGET/FISCAL IMPACT:

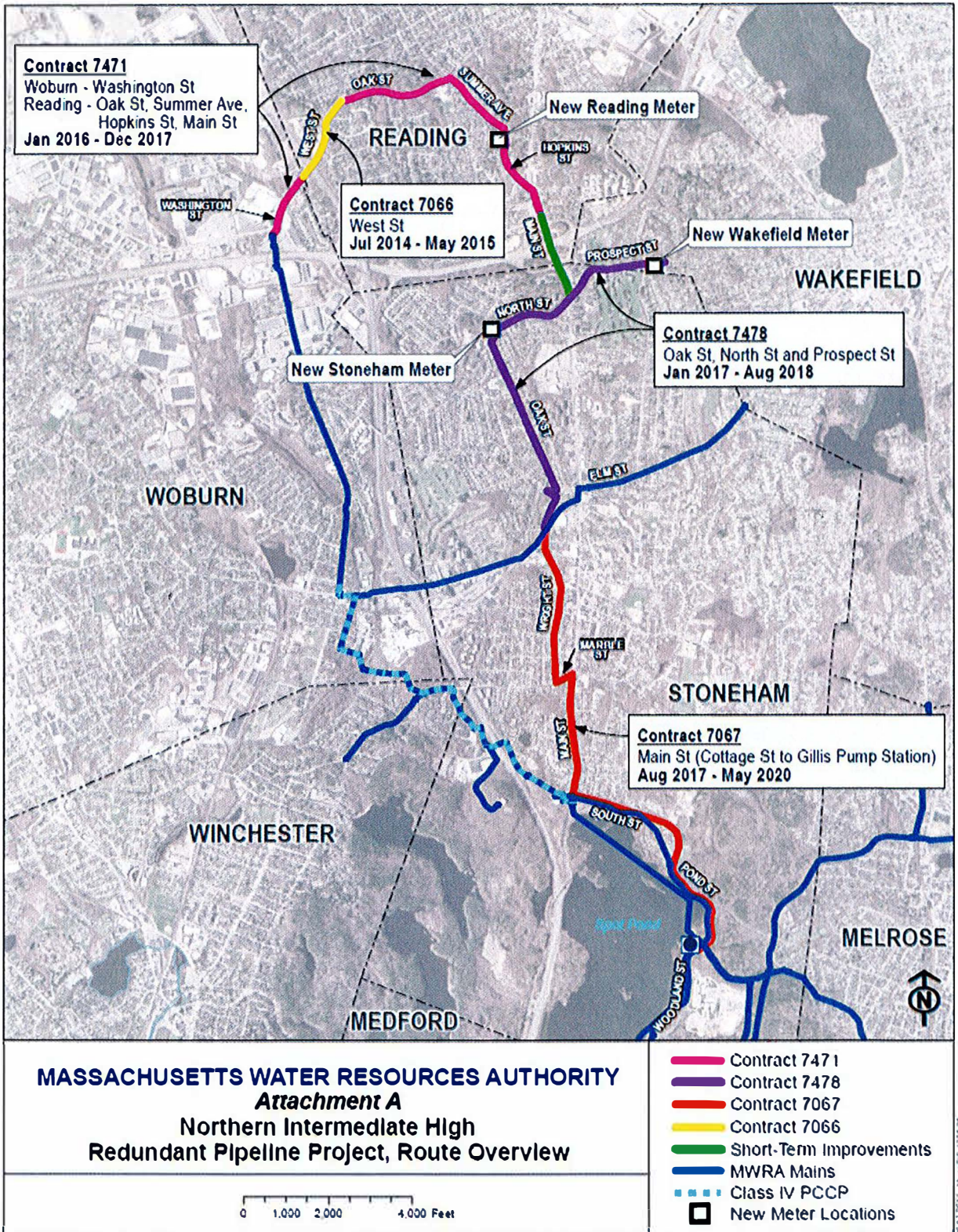
The FY19 Capital Improvement Program budget includes \$22,737,300 for Contract 7067. Including this change order for \$1,050,000, the adjusted subphase total will be \$24,590,800, or \$1,853,500 over budget. This amount will be absorbed within the five-year CIP spending cap.

MBE/WBE PARTICIPATION:

The MBE/WBE participation requirements for this project were established at 7.24% and 3.6%, respectively. The Contractor has been notified that these requirements are still expected to be met.

ATTACHMENTS:

Northern Intermediate High Redundant Pipeline Project





MASSACHUSETTS WATER RESOURCES AUTHORITY

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

Frederick A. Laskey
Executive Director

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

BOARD OF DIRECTORS' MEETING

Chair: M. Beaton
Vice-Chair: J. Carroll
Secretary: A. Pappastergion
Board Members:
C. Cook
K. Cotter
P. Flanagan
J. Foti
B. Peña
H. Vitale
J. Walsh
J. Wolowicz

to be held on

Wednesday, January 16, 2019

Location: 100 First Avenue, 2nd Floor
Charlestown Navy Yard
Boston, MA 02129

Time: 1:00 p.m.

AGENDA

I. APPROVAL OF MINUTES

II. REPORT OF THE CHAIR

- A. Annual Meeting: Election and Appointment of MWRA Officers and Committee Assignments

III. REPORT OF THE EXECUTIVE DIRECTOR

IV. BOARD ACTIONS

A. Approvals

1. PCR Amendments – January 2019 (ref. P&C A.1)
2. Approval of a Contract Between the Massachusetts Water Resources Authority and the Massachusetts Department of Fish and Game for Ongoing Operation of the McLaughlin Fish Hatchery Pipeline and Hydropower Project (ref. W B.1)

B. Contract Awards

1. Modeling of Massachusetts Bay Water Quality: Deltares, USA, Inc., Contract 7412 (ref. WW A.1)
2. Painting of Deer Island Steel Water Storage Tank: Atlas Painting and Sheeting Co., Contract 7601 (ref. W C.1)

3. Commonwealth Avenue Pumping Station Improvements: WES Construction Corp., Contract 7524 (ref. W C.2)

C. Contract Amendments/Change Orders

1. Operations and Maintenance of the Fore River Pelletizing Plant: New England Fertilizer Company, Contract S345, Amendment 2 (ref. WW B.1)
2. Northern Intermediate High Section 110 – Stoneham: Albanese D&S, Inc., Contract 7067, Change Order 5 (ref. W D.1)

V. OTHER BUSINESS

VI. CORRESPONDENCE TO THE BOARD

VII. EXECUTIVE SESSION

A. Litigation:

1. CSO Assessment – U.S. v. M.D.C., et al., USDC No. 85-0489-RGS

B. Security:

1. Update on Cyber Security

VIII. ADJOURNMENT

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the Board of Directors

December 19, 2018

A meeting of the Board of Directors of the Massachusetts Water Resources Authority was held on Wednesday, December 19, 2018 at the Authority headquarters in Charlestown. Vice Chair Carroll presided. Present from the Board were Messrs. Foti, Pappastergion, Peña, Vitale and Walsh. Messrs. Beaton, Cotter and Flanagan and Ms. Wolowicz were absent. Among those present from the Authority staff were Frederick Laskey, Executive Director, Carolyn Francisco Murphy, General Counsel, David Coppes, Chief Operating Officer, Carolyn Fiore, Deputy Chief Operating Officer, Thomas Durkin, Director of Finance, Michele Gillen, Director of Administration, Betsy Reilley, Director, Environmental Quality, Ria Convery, Assistant Secretary, and Kristin MacDougall, Assistant to the Board of Directors. The meeting was called to order at 1:04 p.m.

APPROVAL OF NOVEMBER 14, 2018 MINUTES

Upon a motion duly made and seconded, it was

Voted: to approve the minutes of the Board of Directors' meeting of November 14, 2018 as presented and filed with the records of the meeting.

REPORT OF THE EXECUTIVE DIRECTOR

Mr. Laskey noted that City of Boston Mayor Walsh has appointed Mr. Christopher Cook to the MWRA Board of Directors. Mr. Laskey briefly updated the Board on MWRA reservoir and wastewater systems' wet weather operations. He cited a recent article by researchers from the Woods Hole Oceanographic Institute and UMass Boston School of the Environment that suggests the Boston Harbor cleanup has resulted in measurable economic benefits for the Commonwealth. He also noted that the MWRA Board of Directors Annual Meeting may take place in January 2019.

APPROVALS

PCR Amendments – December 2018

Upon a motion duly made and seconded, it was

Voted: to approve amendments to the Position Control Register (PCR) for December 2018 as presented and filed with the records of the meeting.

Appointment of Budget Director, Finance

Upon a motion duly made and seconded, it was

Voted: to approve the appointment of Mr. James F. Halloran to the position of Budget Director, Finance Division (Non-Union, Grade 16) at an annual salary of \$135,000, commencing on a date to be determined by the Executive Director.

Appointment of Chief Engineer, Engineering & Construction

Upon a motion duly made and seconded, it was

Voted: to approve the appointment of Mr. John P. Colbert to the position of Chief Engineer (Non-Union, Grade 16), at the recommended annual salary of \$161,350, to be effective on a date to be determined by the Executive Director.

Appointment of Assistant Director of Engineering, Engineering & Construction

Department

Upon a motion duly made and seconded, it was

Voted: to approve the appointment of Ms. Lisa Hamilton to the position of Assistant Director of Engineering (Non-Union, Grade 14) in the Engineering & Construction Department, at an annual salary of \$138,813, commencing on a date to be determined by the Executive Director.

Appointment of Manager of Design, Tunnel Redundancy

Upon a motion duly made and seconded, it was

Voted: to approve the appointment of Ms. Colleen Rizzi to the position of Manager of Design, Tunnel Redundancy Department (Non-Union, Grade 14) at an annual salary of \$135,000, commencing on a date to be determined by the Executive Director.

Appointment of Manager, Geotechnical and Tunneling, Tunnel Redundancy

Upon a motion duly made and seconded, it was

Voted: to approve the appointment of Ms. Wing Yan Vivian Chan to the position of Manager of Geotechnical and Tunneling, Tunnel Redundancy Department (Non-Union, Grade 14) at an annual salary of \$135,000, commencing on a date to be determined by the Executive Director.

Transmittal of the FY20 Proposed Capital Improvement Program to the MWRA Advisory Board

Upon a motion duly made and seconded, it was

Voted: to approve the transmittal of the FY20 Proposed Capital Improvement Program to the Advisory Board for its 60-day review and comment period.

Approval of Two New Members of the Wastewater Advisory Committee

Upon a motion duly made and seconded, it was

Voted: to approve the addition of two new members, Ms. Belinda Stansbury and Kannan Vembu, Ph.D. to the Wastewater Advisory Committee.

Approval of Amendment 2 to Memorandum of Understanding with Massachusetts Department of Fish and Game for Public Access Fishing Pier at Deer Island

Upon a motion duly made and seconded, it was

Voted: to authorize the Executive Director, on behalf of the Authority, to execute Amendment 2 to an existing Memorandum of Understanding with the Massachusetts Department of Fish and Game, and other fisheries offices, substantially as presented and filed with the records of the meeting, authorizing the Department to award the construction of a fishing pier and associated lighting, security improvements, and 20 pier parking spaces within the public access portion of Deer Island for general public access use, increasing MWRA's share of the project cost by \$77,370 from \$245,790 to \$323,160, and to authorize MWRA to provide general oversight and monitoring of the use of the fishing pier and parking areas.

CONTRACT AWARDS

John J. Carroll Water Treatment Plant SCADA System Improvements, Design, Engineering Services During Construction and Resident Engineering Services: Arcadis U.S., Inc., Contract 7581

Upon a motion duly made and seconded, it was

Voted: to approve the recommendation of the Consultant Selection Committee to award Contract 7581, John J. Carroll Water Treatment Plant SCADA System Improvements, Design, Engineering Services During Construction and Resident Engineering and Inspection Services to Arcadis U.S., Inc., and to authorize the Executive Director, on behalf of the Authority, to execute said contract in an amount not to exceed \$4,652,028.07, for a contract term of 52 months from the Notice to Proceed.

Intermediate High Water Pipeline Improvements, Design and Engineering Services During Construction: CDM Smith Inc., Contract 6955

Upon a motion duly made and seconded, it was

Voted: to approve the recommendation of the Consultant Selection Committee to award Contract 6955, Intermediate High Pipeline Improvements Design and Engineering Services During Construction to CDM Smith Inc., and to authorize the Executive Director, on behalf of the Authority, to execute said contract in an amount not to exceed \$6,451,907, for a contract term of 90 months from the Notice to Proceed.

Security Guard Services for Various MWRA Facilities: Universal Protection Service, LLC, d/b/a Allied Universal Security Services, Contract EXE-041

Upon a motion duly made and seconded, it was

Voted: to approve the award of a contract to Universal Protection Service LLC, d/b/a Allied Universal Security Services, to provide security guard services to the MWRA for the Deer Island Treatment Plant, Chelsea Facility, Charlestown Navy Yard, and the Carroll Water Treatment Plant facilities; and to authorize the Executive Director, on behalf of the Authority, to execute a contract with Universal Protection Service LLC, d/b/a Allied Universal Security Services in an

amount not to exceed \$6,849,216 for a period of 1,096 calendar days from the Notice to Proceed date with an option to renew for two additional 365 calendar day periods, subject to further Board approval.

Refurbishment of Secondary Reactor Aerator and Mixer Gearboxes at The Deer Island Treatment Plant: SPX Corporation, Bid WRA-4594

Upon a motion duly made and seconded, it was

Voted: to approve the award of Purchase Order Contract WRA-4594 for the refurbishment of secondary reactor aerator and mixer gearboxes at the Deer Island Treatment Plant to the lowest responsive bidder, SPX Corporation, and to authorize the Executive Director, on behalf of the Authority, to execute said purchase order in an amount not to exceed \$885,936 for a period of three years from December 19, 2018 through December 18, 2021.

CONTRACT AMENDMENTS/CHANGE ORDERS

Northern Intermediate High Redundant Pipeline Design, Construction Administration and Resident Inspection Services: Stantec Consulting Services, Inc., Contract 6906, Amendment 3

Upon a motion duly made and seconded, it was

Voted: to authorize the Executive Director, on behalf of the Authority, to approve Amendment 3 to Contract 6906, Northern Intermediate High Redundant Pipeline Design, Construction Administration and Resident Inspection Services, with Stantec Consulting Services, Inc., which includes settlement of certain claims, increasing the contract amount by \$468,000.00, from \$6,323,234.84 to \$6,791,234.84, with no increase in contract duration.

Managed Security Services, NWN Corporation, Contract 7499, Amendment 1

Upon a motion duly made and seconded, it was

Voted: to authorize the Executive Director, on behalf of the Authority, to approve Amendment 1 to Contract 7499, Managed Security Services, with NWN Corporation in the amount of \$1,075,633.19, increasing the contract total from \$2,109,842 to an amount not to exceed \$3,185,475.19, and approving the option to extend the term by 24 months, from July 4, 2019 through July 4, 2021.

OTHER BUSINESS

Staff made an informational presentation on emerging contaminants. There was discussion and questions and answers. (Mr. Foti left and returned to the meeting during the presentation.)

EXECUTIVE SESSION

It was moved to enter executive session to discuss litigation and security and thereafter to return to open session solely for the purpose of adjournment. 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>
Carroll		
Foti		
Pappastergion		
Peña		
Vitale		
Walsh		

Voted: to enter executive session for the purpose of discussing strategy with respect to litigation and security, in that such discussions may have a detrimental effect upon the negotiating positions and security of the Authority.

* * * *

EXECUTIVE SESSION

* * * *

The meeting returned to open session at 2:31 p.m. and adjourned at 2:32 p.m.

Approved: January 16, 2018

Attest:

Andrew M. Pappastergion, Secretary

STAFF SUMMARY

TO: Board of Directors

FROM: Matthew A. Beaton, Chairman



DATE: January 9, 2019

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

RECOMMENDATION:

That the Board of Directors (1) designate this January 16, 2019 meeting as the Annual Meeting which, as provided in the Authority's by-laws, will be deemed a special meeting of the Board for the purpose of election of officers; (2) elect a Vice-Chairman of the Board; and (3) appoint a Secretary of the Board, an MWRA Treasurer, and such Assistant Secretaries and Assistant Treasurers of the Board as the Board deems appropriate. New Committee Chairs will be appointed approximately every two years.

To ratify the following appointments of Board members to standing Committees:

Administration, Finance and Audit	Wastewater Policy and Oversight	Water Policy and Oversight	Personnel and Compensation
Chair: H. Vitale Vice Chair: J. Foti	Chair: P. Flanagan Vice Chair: J. Walsh	Chair: B. Pena Vice Chair: C. Cook	Chair: J. Wolowicz Vice Chair: K. Cotter
C. Cook J. Carroll K. Cotter A. Pappastergion B. Pena J. Walsh	C. Cook J. Carroll J. Foti A. Pappastergion B. Pena H. Vitale	J. Carroll J. Foti A. Pappastergion H. Vitale J. Walsh J. Wolowicz	J. Carroll P. Flanagan J. Foti A. Pappastergion H. Vitale J. Walsh

DISCUSSION:

Article IV, Section 1, of the by-laws, which specifies the officers to be elected, provides that:

“The Board of Directors shall annually elect one of its members as Vice-Chairman and shall annually appoint a Secretary and a Treasurer, who need not be members of the Board of Directors.”

The by-laws also provide that:

“Upon the recommendation of the Executive Director, the Board of Directors may also elect one or more Assistant Secretaries and Assistant Treasurers.”

Retirement Board Appointments

The provisions of G.L. c. 32 § 20 (4 7/8 D) regarding the MWRA Retirement Board, provide that:

“ . . . the secretary of the Authority shall be a member *ex officio* . . . ”

That same section of that statute further provides that a second member of the Retirement Board “ . . . shall be appointed by the board of directors of the authority for a term of 3 years . . . ” Thomas J. Durkin was appointed as a member of the Retirement Board for a three-year term beginning on July 1, 2018.

Nomination of Officers

Currently, the following individuals serve as the MWRA’s officers:

Vice-Chairman:	John J. Carroll
Secretary:	Andrew M. Pappastergion
Treasurer:	Matthew Horan
Assistant Secretaries:	Bonnie Hale (retired) Rose Marie Convery
Assistant Treasurer:	Robert Belkin Kathy Soni (retired)

The Chairman wishes to request that a motion be made to nominate the following as officers, inclusive of appointments of certain MWRA staff as Treasurer, Retirement Board Member, Assistant Secretaries and Assistant Treasurers, as follows:

Vice-Chairman:	John J. Carroll
Secretary:	Andrew M. Pappastergion
Treasurer:	Matthew Horan
Retirement Board Member:	Thomas J. Durkin
Assistant Secretaries:	Kristin MacDougall Rose Marie Convery
Assistant Treasurers:	Robert Belkin James Halloran

There are no special procedures for election of officers, except as governed by Robert’s Rules of Order. Thus, any Board member may make a nomination to elect an officer, and the nomination will carry upon a majority vote of the quorum.