



MASSACHUSETTS WATER RESOURCES AUTHORITY

Charlestown Navy Yard
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Boston, MA 02129

Frederick A. Laskey
Executive Director

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ADMINISTRATION, FINANCE & AUDIT COMMITTEE MEETING

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

to be held on

Wednesday, March 16, 2016

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

Time: 10:00 a.m.

AGENDA

A. Information

1. Delegated Authority Report – February 2016
2. FY16 Financial Update and Summary as of February 2016

B. Approvals

1. Amendments to Capital Finance Management Policy
2. Appointment of Proxy for Fore River Railroad Corporation

C. Contract Awards

1. Managed Security Services: NWN Corporation, Contract 7499
2. Integrated Financial, Procurement and Human Resources/Payroll Management System Maintenance and Support: Infor Global Solutions
3. Employee Assistance Program Services: AllOne Health, Contract A605
4. Groundskeeping Services – Metropolitan Boston: C&W Facility Services, Contract OP-315

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the Administration, Finance and Audit Committee

February 10, 2016

A meeting of the Administration, Finance and Audit Committee was held on February 10, 2016 at the Authority headquarters in Charlestown. Chairman Vitale presided. Present from the Board were Messrs. Blackmon, Flanagan, Foti, Pena and Walsh; Ms. Wolowicz and Messrs. Carroll and Pappastergion joined the meeting in progress. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Mike Hornbrook, Michele Gillen, Dave Duest, Tom Durkin, Matt Horan, Kathy Soni, Nava Navanandan, Carolyn Francisco Murphy, Andrew Hildick-Smith, John Vetere, Carmen DeMaria and Bonnie Hale. The meeting was called to order at 10:05 a.m.

Information

Delegated Authority Report – January 2016

Staff responded to a few questions regarding the report.

Second Quarter FY16 Orange Notebook

The Committee received the report; there were no questions.

Fiscal Year 2016 Mid-Year Capital Improvement Program Spending Report

Staff summarized the report, and there was general discussion and question and answer. (Ms. Wolowicz and Mr. Carroll joined the meeting during the discussion.)

Staff summarized the remaining three information items, and there was general discussion:

- FY16 Financial Update and Summary as of January 2016
- Assessment Smoothing at the Utility Level
- Preliminary FY17 Water and Sewer Assessments.

* Approved as recommended at February 10, 2016 Board of Directors meeting.

Approvals

***FY17 Proposed Current Expense Budget**

Staff gave a presentation on the proposed FY17 CEB. The Committee recommended approval of transmittal to the Advisory Board for its review and comment (ref. agenda item B.1).

***Approval of the Seventy Second Supplemental Resolution**

Staff described the proposed bond issuance and there was general discussion and question and answer. (Mr. Pappastergion joined the meeting during the discussion.) The Committee recommended approval (ref. agenda item B.2).

***Assignment and Consent to Assignment, Stantec Consulting Services, Inc.**

The Committee recommended approval of the assignment of Fay, Spofford & Thorndike contracts to Stantec Consulting, as itemized in the staff summary (ref. agenda item B.3).

Contract Awards

***Miscellaneous Fencing: Premier Fence LLC, Contract 6760X**

There was question and answer, and the Committee recommended approval of the contract award (ref. agenda item C.1).

The meeting adjourned at 10:55 a.m.

* Approved as recommended at February 10, 2016 Board of Directors meeting.

STAFF SUMMARY



TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: March 16, 2016
SUBJECT: Delegated Authority Report – February 2016



COMMITTEE: Administration, Finance & Audit

INFORMATION
 VOTE

Barbie Aylward, Administrator A & F
Joanne Gover, Admin. Systems Coordinator
Preparer/Title


Michele S. Gillen
Director, Administration

Carolyn Francisco Murphy
Director of Procurement

RECOMMENDATION:

For information only. Attached is a listing of actions taken by the Executive Director under delegated authority for the period February 1 – 29, 2016.

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 October 14, 2009, 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; or up to \$500,000 if the award is to other than 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; or up to \$500,000 if the award is to other than 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 FEBRUARY 1 - 29, 2016

NO.	DATE OF AWARD	TITLE AND EXPLANATION	CONTRACT	AMEND/CO	COMPANY	FINANCIAL IMPACT
C-1.	02/02/16	CLINTON TREATMENT PLANT ENERGY EFFICIENCY UPGRADES AWARD OF AN ENERGY EFFICIENT CONTRACT TO A NGRID PREQUALIFIED VENDOR FOR THE INSTALLATION OF FOUR VFD'S ON THE PLANT'S BLOWER MOTORS AND ONE HEAT TIMER IN THE MECHANICAL ROOM FOR A TERM OF 180 CALENDAR DAYS. A REBATE TOTALING \$15,355.00 WILL BE RECEIVED FROM NGRID UPON PROJECT COMPLETION.	5550	AWARD	HORIZON SOLUTIONS, LLC	\$36,869.00
C-2.	02/19/16	13.8KV ELECTRICAL SYSTEMS MAINTENANCE DECREASE ESTIMATED QUANTITIES FOR UNSPECIFIED MAINTENANCE AND REPAIRS, REPLACEMENT PARTS, MARK-UP AND FACTORY AUTHORIZED SERVICE REPRESENTATIVE SERVICES.	OP-220	1	INFRA-RED BUILDING AND POWER SERVICES, INC.	(\$46,298.60)
C-3.	02/19/16	GROUNDSKEEPING SERVICES - SOUTH METROPOLITAN BOSTON AREA DECREASE ESTIMATED QUANTITIES FOR SCHEDULED GROUNDSKEEPING SERVICES AT THE 19 LOCATIONS.	OP-232A	2	BUZZ CUTS MAXIMUM LAWN CARE	(\$51,841.21)
C-4.	02/19/16	SECURITY EQUIPMENT MAINTENANCE AND REPAIR SERVICES INCREASE ESTIMATED QUANTITIES FOR NON-EMERGENCY AND EMERGENCY ON-CALL MAINTENANCE AND REPAIR SERVICES AND OTHER MISCELLANEOUS WORK, SPARE PARTS AND REPLACEMENT PARTS AND MARK-UP.	EXE-034	1	VISCOM SYSTEMS, INC.	\$211,147.80
C-5.	02/29/16	WIND TURBINE MAINTENANCE DECREASE ESTIMATED QUANTITIES FOR UNSPECIFIED MAINTENANCE AND REPAIRS, REPLACEMENT PARTS, MARK-UP, FACTORY AUTHORIZED SERVICE REPRESENTATIVE SERVICES AND FIRE DEPARTMENT SERVICES.	5525	2	BALDWIN CRANE & EQUIPMENT CORP.	(\$40,442.54)
C-6.	02/29/16	BOILER AND WATER HEATER SERVICE DECREASE ESTIMATED QUANTITIES FOR BOILER AND WATER HEATER PREVENTIVE MAINTENANCE SERVICES; NON-EMERGENCY AND EMERGENCY REPAIR SERVICES; AUTHORIZED SERVICE REPRESENTATIVE SERVICES, WATER TREATMENT CHEMICALS AND GLYCOL; REPLACEMENT PARTS, AND MARK-UP.	OP-217	1	COOLING & HEATING SPECIALISTS, INC.	(\$51,935.15)
C-7.	02/29/16	ULTRAVIOLET DISINFECTION FACILITIES JOHN J. CARROLL WATER TREATMENT PLANT DECREASE ESTIMATED QUANTITIES FOR CALGON UV EQUIPMENT, UTILITY SERVICES PROVIDED BY NSTAR, TEMPORARY LIQUID CO2 TANK AND VAPORIZER SYSTEM, REPAIR JOINTS ON INFLUENT PIPE AND CHAMBERS.	6924	30	DANIEL O'CONNELL'S SONS, INC.	(\$83,849.94)

PURCHASING DELEGATED AUTHORITY ITEMS - February 1 - 29, 2016

NO.	TITLE AND EXPLANATION	CONTRACT #	AMENDMENT	COMPANY	FINANCIAL IMPACT
P-1.	2/1/16 ONE PREFABRICATED CONCRETE BUILDING AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR ONE PREFABRICATED CONCRETE BUILDING FOR THE WACHUSETT RESERVOIR WATER QUALITY SAMPLING STATION. MWRA SELECTED SCAN AS THE STANDARD FOR ALL OF ITS WATER QUALITY MONITORING SYSTEMS AND EQUIPMENT AND THIS EQUIPMENT IS CURRENTLY INSTALLED AND ON LINE AT A NUMBER OF CRITICAL WATER FACILITIES. MWRA IS PURCHASING A PREFABRICATED CONCRETE BUILDING TO HOUSE THE SCAN WATER QUALITY ANALYZERS FOR THE WACHUSETT RESERVOIR.	WRA-4124		UNITED CONCRETE PRODUCTS, INC.	\$66,433.00
P-2.	2/1/16 QUALITY ASSURANCE DIVING SERVICES AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR QUALITY ASSURANCE DIVER SERVICES FOR MWRA'S INVASIVE AQUATIC PLANT CONTROL CONTRACTS AT WACHUSETT RESERVOIR. AQUATIC INVASIVE PLANTS CONTROL CONTRACTS AT WACHUSETT RESERVOIR INCLUDE A DIVER ASSISTED SUCTION HARVESTING (DASH) CONTRACT IN STILLWATER BASIN AND A DIVER HAND-HARVEST AND SELECTED DASH HARVESTING IN THE LOWER BASIN AND COVE AREAS OF THE RESERVOIR. UNDER THESE CONTRACTS, INVASIVE AQUATIC PLANTS, PARTICULARLY EURASIAN WATERMILFOIL AND FANWORT, REPRESENT THE BULK OF THE PLANTS HARVESTED FROM THE BASINS AND COVES. SINCE 2013, MWRA HAS UTILIZED A SEPARATE DIVING CONTRACT TO FOLLOW AFTER THE REMOVAL CONTRACTORS AS A QUALITY ASSURANCE (QA) MEASURE. THE QA DIVER CONTRACT HAS OCCURRED ANNUALLY PRIMARILY FOR THE STILLWATER BASIN'S DASH EFFORT.	WRA-4143		APEX COMPANIES, LLC	\$64,214.00
P-3.	2/2/16 AUDIO VISUAL EQUIPMENT AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR AUDIO VISUAL EQUIPMENT FOR THE CHELSEA CONFERENCE ROOMS C & D AND DEER ISLAND CLASSROOM & PUMP ROOM TO REPLACE THE ORIGINAL AUDIO VISUAL (AV) EQUIPMENT WHICH WAS INSTALLED IN 2004 AND HAS REACHED THE END OF ITS USEFUL LIFE.	WRA-4123Q		ADTECH SYSTEMS, LLC	\$41,041.00
P-4.	2/4/16 ONE RIDE-ON FLOOR SCRUBBER AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR ONE RIDE-ON FLOOR SCRUBBER FOR THE DEER ISLAND TREATMENT PLANT. DEER ISLAND'S FACILITIES DEPARTMENT CLEANS AND MAINTAINS MORE THAN 350,000 SQUARE FEET OF CONCRETE AND TILE FLOORING. THE CURRENT PROCESS FOR CLEANING THESE SURFACE AREAS INVOLVES CHEMICAL CLEANERS WITH EITHER BUCKETS AND MOPS OR PLANT SERVICE WATER AND SQUEEGEES. AFTER CONSULTING WITH OTHER PUBLIC AGENCIES, STAFF DETERMINED THAT UTILIZING A RIDE-ON FLOOR SCRUBBER IS A MORE COST-EFFECTIVE USE OF LABOR, WATER, AND CHEMICALS THAN THE CURRENT PROCESS. STAFF REVIEWED OPTIONS FOR VARIOUS RIDE-ON FLOOR SCRUBBERS AND DEVELOPED SPECIFICATIONS THAT INCORPORATED THE USE OF "GREEN TECHNOLOGIES" IN WHICH THE CLEANING MACHINE, THROUGH AN ON-BOARD PROCESS, ELECTRICALLY CONVERTS STRAIGHT TAP WATER INTO A CLEANING SOLUTION, THUS ELIMINATING THE NEED TO PURCHASE CHEMICAL CLEANERS FOR MOST TYPICAL EVERYDAY DEBRIS, DIRT, AND STAIN CLEANING REQUIREMENTS.	WRA-4149Q		GRAINGER	\$26,663.52
P-5.	2/4/16 UPGRADE OF TWO ALLEN BRADLEY VARIABLE FREQUENCY DRIVES AWARD OF A SOLE SOURCE PURCHASE ORDER FOR THE UPGRADE OF TWO ALLEN BRADLEY VARIABLE FREQUENCY DRIVES AT THE SPRING STREET PUMP STATION. THE SPRING STREET PUMP STATION IN ARLINGTON SERVES THE NORTHERN EXTRA HIGH SERVICE SYSTEM AND IS DESIGNED TO MEET THE AVERAGE DAILY DEMAND OF 12.4 MILLION GALLONS PER DAY. THERE ARE FOUR SPLIT-CASE PUMPS LOCATED WITHIN THE PUMP STATION. PUMPS 1 AND 4 ARE SINGLE SPEED, AND PUMPS 2 AND 3 ARE DRIVEN BY A VFD AND ARE CONTROLLED BY SCADA. VFD PARTS HAVE AN EXPECTED USEFUL LIFE OF APPROXIMATELY 10 YEARS; THE CURRENT VFD PARTS FOR PUMPS 2 AND 3 ARE APPROXIMATELY NINE YEARS OLD AND HAVE REACHED THE END OF THEIR RELIABLE, USEFUL SERVICE LIFE. THE VFD FOR PUMP 3 HAS FAILED AND SINCE THE VFD FOR PUMP 2 WAS INSTALLED AT THE SAME TIME AS PUMP 3, STAFF RECOMMENDED THAT BOTH VFDS BE UPGRADED AT THIS TIME TO MAINTAIN AVAILABILITY AND RELIABILITY OF THE STATION.			NORTHEAST ELECTRICAL DISTRIBUTORS, INC	\$66,140.00
P-6.	2/19/16 REPAIR OF DIESEL PUMP ENGINE #2 AWARD OF A CRITICAL NEED PURCHASE ORDER FOR THE REPAIR OF DIESEL PUMP ENGINE #2 AT THE PRISON POINT CSO. DURING THE RAIN EVENT ON JANUARY 9, 2016, PUMP ENGINE #2 OVERHEATED AND SHUT DOWN DUE TO HIGH JACKET WATER TEMPERATURE. IT WAS DETERMINED THAT THE ENGINE HAD BLOWN CYLINDER HEAD GASKETS ON SOME OF THE TWELVE CYLINDERS. AS A RESULT OF THE DAMAGE, THE CHIEF OPERATING OFFICER DETERMINED THAT IT WAS CRITICAL TO THE OPERATION OF THE FACILITY THAT REPAIRS BE MADE AS QUICKLY AS POSSIBLE AND REQUESTED THE IMMEDIATE ISSUANCE OF A CRITICAL NEED PURCHASE ORDER.			WELD POWER SERVICE CO., INC.	\$85,974.50
P-7.	2/23/16 SUPPLY AND DELIVERY OF POLYMER AWARD OF A TWO-YEAR PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE SUPPLY AND DELIVERY OF POLYMER TO THE DEER ISLAND TREATMENT PLANT. AMOUNTS ARE ESTIMATED; MWRA WILL ONLY PAY FOR PRODUCT DELIVERED.	WRA-4115		BASF CORPORATION	\$637,200.00
P-8.	2/25/16 APPLICATION & SYSTEMS DEVELOPMENT MANAGEMENT SERVICES AWARD OF A PURCHASE ORDER CONTRACT TO PROVIDE APPLICATION & SYSTEMS DEVELOPMENT MANAGEMENT SERVICES FOR A PERIOD OF 4 MONTHS. MIS IS CURRENTLY WITHOUT AN APPLICATION & SYSTEMS DEVELOPMENT MANAGER. THE POSITION HAS BEEN POSTED BUT HAS HAD NO QUALIFIED RESPONDENTS. IN AN ATTEMPT TO HELP IDENTIFY AND RECRUIT A QUALIFIED MANAGER AND TO ASSURE THAT CRITICAL PROJECTS LIKE MAXIMO UPGRADE 7.6, INFOSTAR REPLACEMENT IMPLEMENTATION PROJECT PLAN, EDISCOVERY, ARCHIVE AND PURGE AND TALENT ACQUISITION REMAIN ON SCHEDULE AND ARE SUCCESSFULLY IMPLEMENTED MIS REQUESTED THAT AN APPLICATION & SYSTEMS DEVELOPMENT MANAGER BE CONTRACTED TO ASSIST IN THE SOLC DEVELOPMENT.	WRA-4183Q IF553		NTT DATA, INC.	\$65,000.00

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: March 16, 2016
SUBJECT: FY16 Financial Update and Summary

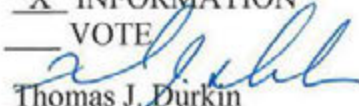


COMMITTEE: Administration, Finance & Audit


Kathy Soni, Budget Director
Preparer/Title

INFORMATION

VOTE


Thomas J. Durkin
Director, Finance

RECOMMENDATION:

For information only. This staff summary provides the financial update and variance highlights through February, comparing actual spending to the budget, and a year-end projection for the Current Expense Budget.

DISCUSSION:

Total year-to-date expenses are lower than budget by \$3.0 million or 0.7% mainly due to lower direct expenses of \$2.5 million, indirect expenses of \$440,000, and higher revenues of \$2.6 million or 0.5% for a total variance of \$5.6 million.

In February, \$1.6 million was transferred to the Defeasance Account as result of continued low variable rate environment, the effect of last year's reserves release, and the timing of new money borrowing which brought the defeasance account balance to \$15.9 million. Should these favorable trends continue, the defeasance account is projected at \$28.4 million. Without the transfer of the \$15.9 million in debt service savings to the Defeasance Account, the total year-to-date budget variance through February would have been \$21.4 million.

Beyond debt service savings, staff project a surplus of approximately \$6.2 million at year-end of which \$2.3 million is for direct expenses, mainly due to conservative budgeting for wages and utilities both of which are lower than anticipated, offset by higher maintenance expenses associated with the Nut Island fire incident. Indirect expenses are projected to be lower than budget by \$648,000, and revenues are projected \$2.4 million higher than budget.

Staff have already identified candidates for the FY16 defeasance and built into the FY17 Proposed Budget \$25.0 million in debt service savings, targeting mostly FY20.

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

Please refer to Attachment 4 for a more detailed year-end projection by line item.

The expense variances by major categories are presented in the table below:

	FY16 Budget	FY16 Actual	\$ Variance	% Variance
Direct Expenses	\$140.2	\$137.7	-\$2.5	-1.8%
Indirect Expenses	\$30.7	\$30.3	-\$0.4	-1.4%
Debt Service	\$285.0	\$285.0	\$0.0	0.0%
Total	\$456.0	\$453.0	-\$3.0	-0.7%

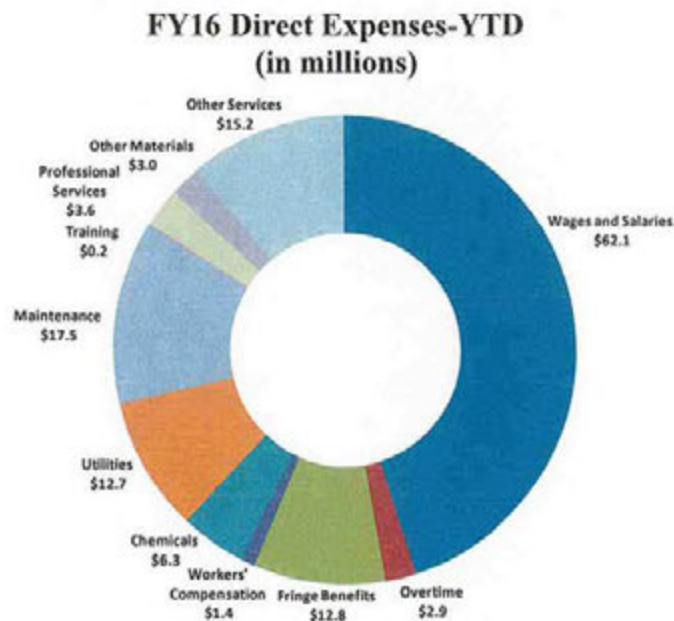
The major variances through February by categories were:

- Lower Direct Expenses of \$2.5 million for Wages and Salaries, Utilities, Other Services, Workers' Compensation, Chemicals, Fringe Benefits, and Professional Services. This is offset by higher spending for Maintenance, Other Material, and Overtime;
- Lower Indirect Expenses of \$440,000 for lower Watershed reimbursements; lower HEEC capacity charges; and lower insurance costs, mostly for premiums.
- Revenues exceeded budget by \$2.6 million due to higher non-rate revenue related to higher than expected TRAC penalty fees, unbudgeted water revenues, US Treasury rebate and energy rebates.

Please refer to Attachment 1 for a more detailed comparison by line item.

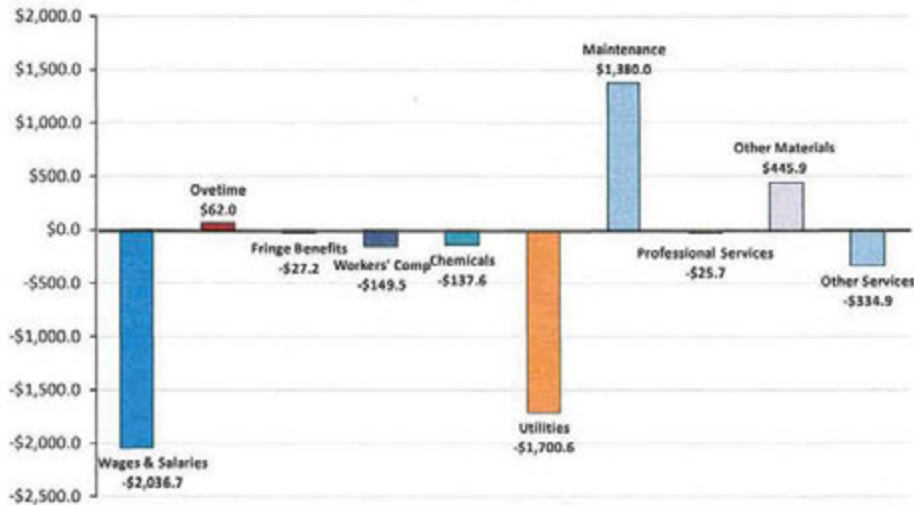
Direct Expenses

Year-to-date direct expenses totaled \$137.7 million, \$2.5 million or 1.8% less than budgeted.



The underspending on direct expenses is related to Wages and Salaries, Utilities, Other Services, Workers' Compensation, Chemicals, Fringe Benefits, Professional Services, and Training and Meetings; offset by overspending for Maintenance, Other Materials, and Overtime.

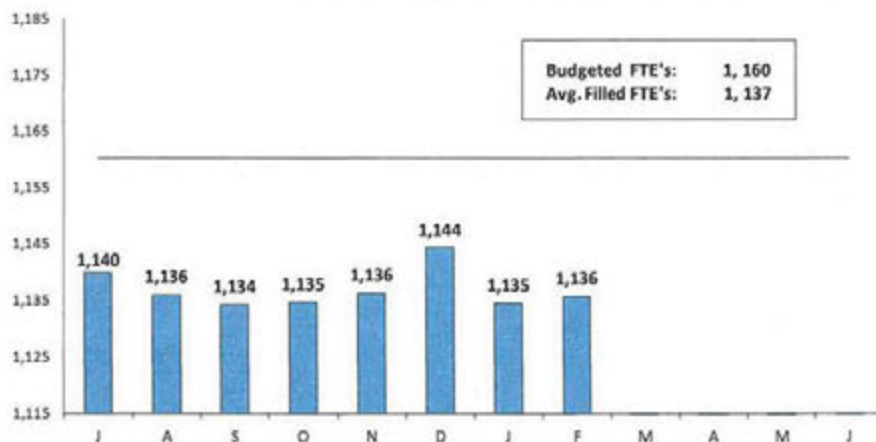
FY16 Direct Expense Variance (in 000's)



Wages and Salaries

Wages and Salaries were underspent by \$2.0 million or 3.2% mainly as a result of lower average Full Time Equivalent positions (FTEs) than budgeted and the timing of back filling vacant positions and the salary mix differential between staff retiring and new hires. The average FTEs through February were 1,137, which was 23 positions lower than the 1,160 FTEs budgeted. Additionally, the Authority had two temporary employees.

FY16 MWRA Full Time Equivalent (FTE) Position Trend



In February 2016, the Authority had 1,143 filled positions vs. 1,170 budgeted positions.

Utilities

Utilities were underspent \$1.7 million or 11.8% for lower Electricity of \$1.4 million mainly due to underspending at Deer Island of \$1.2 million for lower commodity and transmission and distribution costs, lower flows which resulted in less pumping demand, and an over accrual at the end of FY15. There has also been underspending in Diesel Fuel of \$179,000.

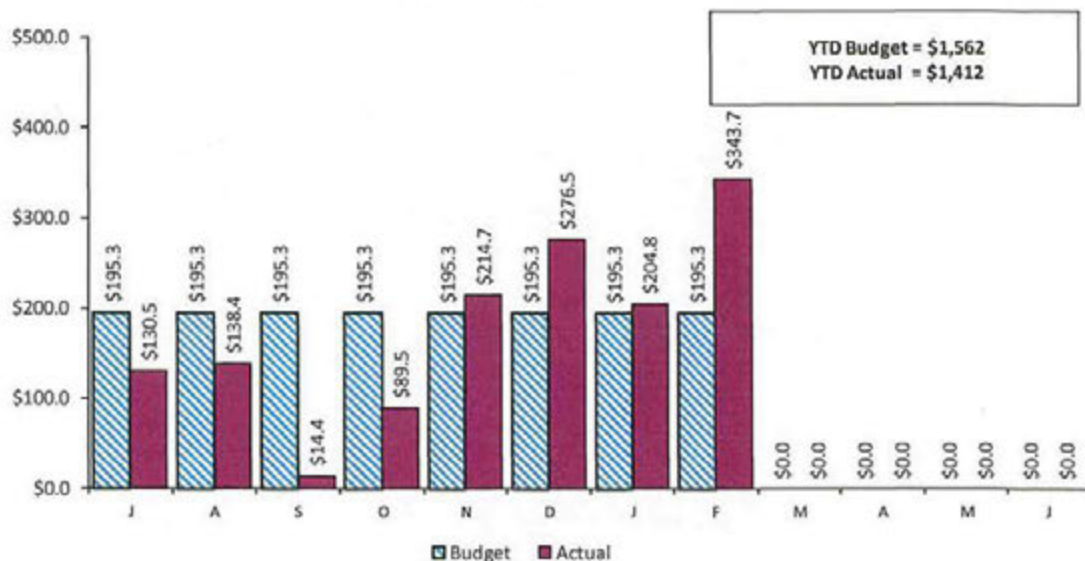
Other Services

Other Services spending was lower than budget by \$335,000 or 2.2% due to lower spending of \$265,000 for sludge pelletization services for lower year to date tonnage; \$96,000 for Grit and Screenings disposal services primarily due to lower quantities; \$66,000 for Space Lease Rentals for the Chelsea facility lease due to an overpayment of escrow for insurance; and \$50,000 for Other Rentals. The underspending is offset by higher spending on Telephone Services of \$67,000 associated with Field Operations SCADA lines for the water and wastewater facilities; Other Services of \$49,000 for Ward Street Headworks radio tower demolition and Membership/Dues/Subscriptions of \$40,000.

Workers' Compensation

Workers' Compensation expenses were lower than budget by \$150,000 or 9.6% based on lower compensation payments of \$121,000 and medical expenses of \$70,000. In February, actual spending was \$148,000 over budget due to increased reserves requirement. The year to date favorable variance is the result of lump sum settlements in prior periods, thus lowering reserves. It is important to note that spending on this line item can change significantly depending on future claims and severity of cases.

**FY16 Workers' Compensation Spending
(in 000's)**

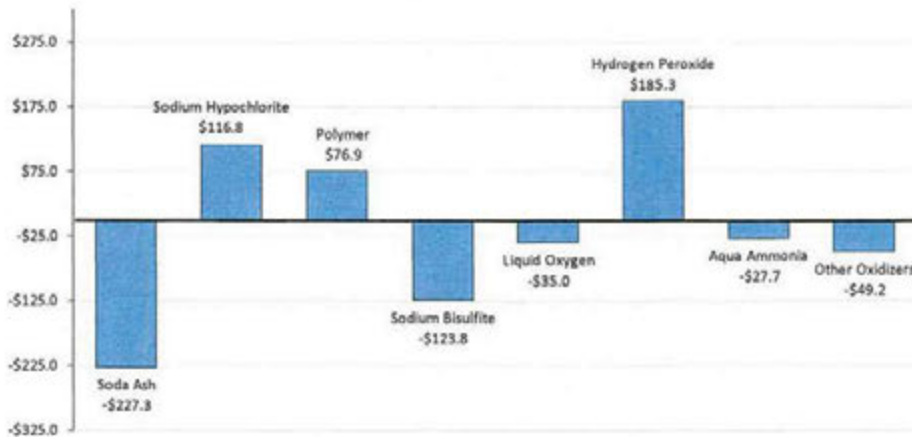


# of Open Claims-Lost Time	62	61	62	62	63	58	64	68	0	0	0	0
# of Open Claims-Medical Only	22	17	23	23	23	21	26	21	0	0	0	0

Chemicals

Chemical expenses were lower than budgeted by \$138,000 or 2.1% year-to-date mainly due to lower than budgeted spending on Soda Ash of \$227,000 and Carbon Dioxide of \$11,000 due to lower usage to meet corrosion control targets and timing of deliveries for Soda Ash; Sodium Bisulfite of \$24,000 due to time of deliveries at DITP and lower usage at the Carroll Water Treatment Plant for Ozone residual removal; Other Oxidizers of \$49,000 due to timing of deliveries and lower pricing for the new contract; and Ozone of \$35,000 due to higher water quality and change in operating target resulting from UV disinfection. This is offset by overspending on Hydrogen Peroxide of \$185,000 due to increased need for pretreatment of hydrogen sulfide gas due to plant flows; Sodium Hypochlorite of \$117,000 primarily at Deer Island; and Polymer of \$77,000 due to treating high volume of sludge.

FY16 Chemical Expense Variances
(in 000's)



Fringe Benefits

Fringe Benefits spending was lower than budgeted by \$27,000 or 0.2% for Health Insurance of \$96,000 and Dental Insurance of \$23,000 due to fewer than budgeted filled positions. This was offset by higher spending in Medicare costs of \$29,000 Unemployment Insurance of \$26,000, and Tuition Reimbursement of \$24,000.

Professional Services

Professional Services spending was lower than budget by \$26,000 or 0.7% primarily associated with Lab Testing and Analysis of \$122,000 in ENQUAL-Wastewater and Engineering of \$38,000 at Deer Island and Reservoir Operations. This is offset by higher spending in Treasury of \$91,000 and Legal Services of \$59,000 primarily in Law.

Maintenance

Maintenance expenses were higher than budgeted by \$1.4 million or 8.6% year-to-date. Materials were overspent by \$1.4 million. Higher spending for energy efficiency projects

totaling \$922,000 of which a portion of the overspending is related to timing. The remainder of the projects were unbudgeted but were completed to take advantage of incentives from the utility companies. Services were overspent by \$20,000.

Other Materials

Other Materials were higher than budget by \$446,000 or 17.2% mainly due to the timing of Vehicle Purchases of \$432,000; Lab and Testing Supplies of \$81,000 mainly due to receipt of equipment ordered in FY15 and received in the first Quarter of FY16; Equipment/Furniture of \$75,000; Computer Hardware of \$45,000; and Health and Safety of \$33,000. The overspending is offset by lower spending for Vehicle Expenses of \$250,000 mostly due to lower fuel prices.

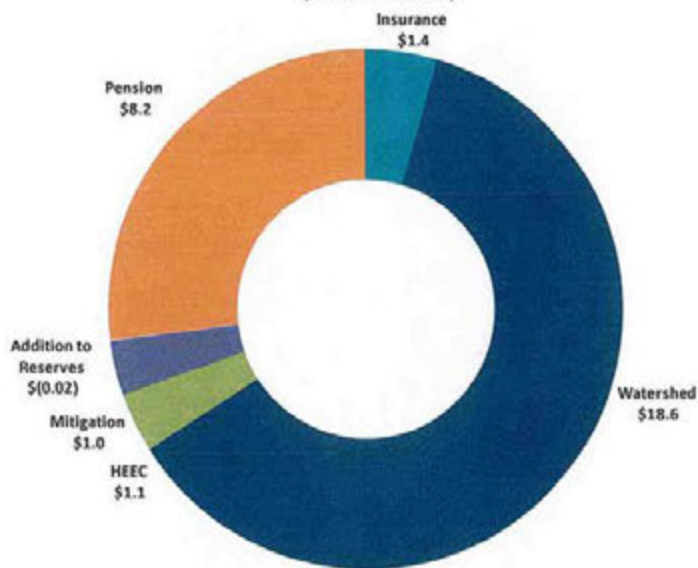
Overtime

Overtime was higher than budget by \$62,000 or 2.2% for greater spending in Water Valve Maintenance to reconfigure system flows associated with providing Lynn water, responding to a Cambridge water main break, start-up at Spot Pond, and Treatment and Transmission Operation for half plant maintenance at Carroll Water Treatment Plant and FOD Metro Maintenance. This is offset by fewer wet weather events and shutdowns related to the North Main Pump Station valve replacement project.

Indirect Expenses

Through February Indirect expenses total \$30.3 million, \$440,000 or 0.1% lower than budget. The majority of the FY16 underspending is related to lower Watershed Reimbursement of \$294,000 for FY15 over accrual; lower HEEC Agreement cost of \$148,000 due to timing of payments versus budget; and lower Insurance costs of \$79,000 mostly related to premiums. This is offset by higher spending of \$81,000 for Winthrop and Quincy mitigation.

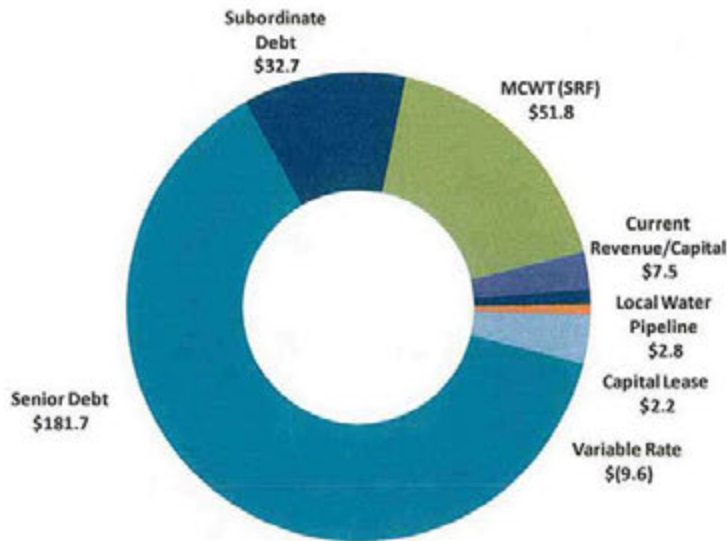
**FY16 Indirect Expenses-YTD
(in millions)**



Debt Service Expenses

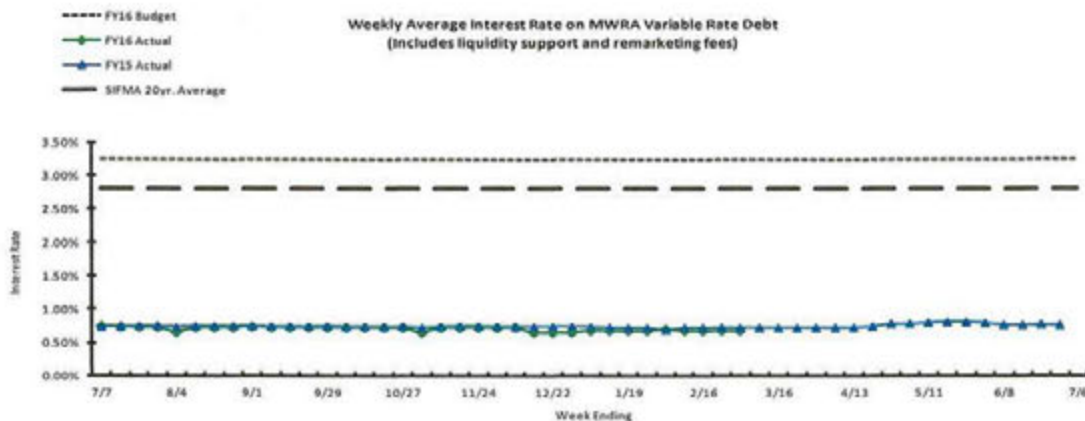
Debt Service expenses include the principal and interest payment for fixed debt, the variable subordinate debt, and the Massachusetts Clean Water Trust (MCWT) obligation, the commercial paper program for the local water pipeline projects, current revenue for capital, and the Chelsea facility lease payment.

**FY16 Debt Expenses-YTD
(in millions)**



Debt Service expenses through February totaled \$285.0 million which is at budgeted level after the transfer of \$15.9 million of a favorable year-to-date variance to the Defeasance Account. The short-term rates related variance is \$9.6 million year-to-date. Additionally, the Authority recognized \$6.3 million in year-to-date underspending that is the result of the favorable impact of defeasances related to reserve releases and for not borrowing senior debt scheduled for November.

The graph below reflects the FY16 actual variable rate trend by month over the past year and the FY16 Budget.



Revenue

Revenue for year to date through February totaled \$477.4 million which was \$2.6 million or 0.5% higher than budget.

The higher non-rate Revenue is due to Other Revenue of \$2.2 million of which, \$593,000 is for City of Lynn MWRA water use while they completed maintenance work on their water system, \$610,000 for TRAC Penalties mainly attributed to a large settlement with a company who had a series of discharge violations to the MWRA sewer, which since then has been addressed and corrective measures were implemented; US Treasury rebate of \$296,000; higher surplus equipment sales of \$230,000, energy rebates of \$254,000, and greater Investment Income of \$297,000.

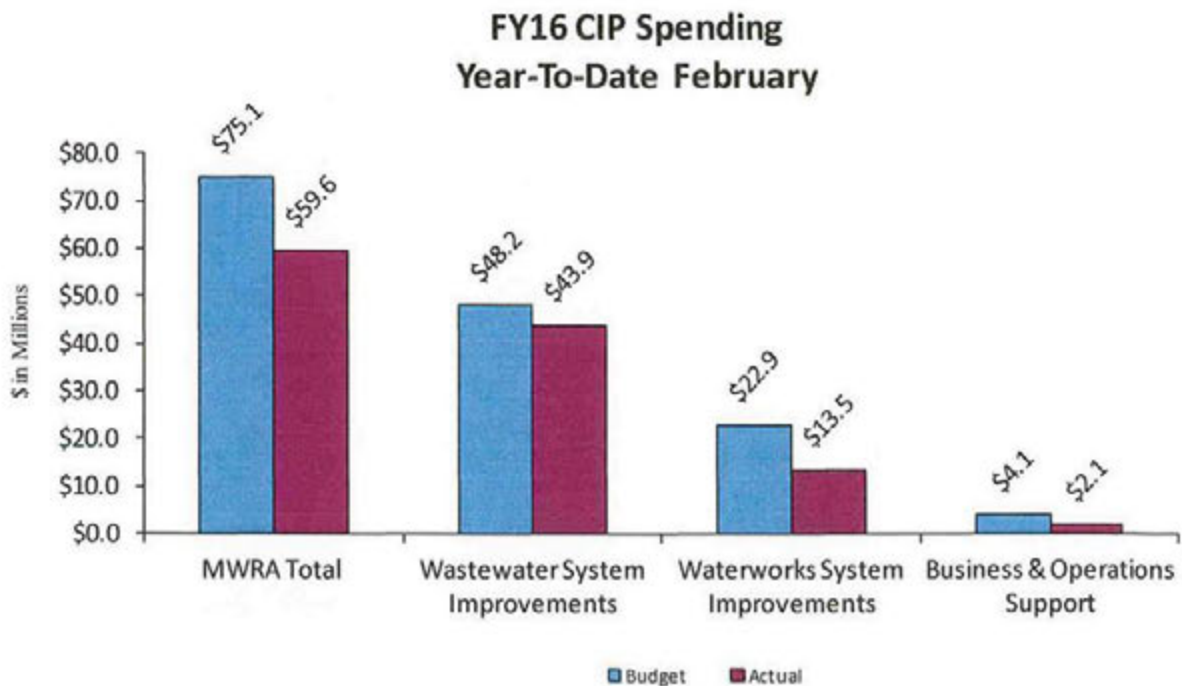
The higher Investment Income of \$297,000 is due to investments called sooner than projected that provided gains on investments not budgeted. This positive variance will erode as long-term funds are reinvested at lower rates than the called investments. Short-term interest rates are higher than budgeted which also have favorable impact on the investment income variance.

Please refer to Attachment 2 for a more detailed comparison by line item.

FY16 Capital Improvement Program

Spending year-to-date in FY16 totals \$59.6 million, \$15.5 million or 20.6% below budget. After accounting for programs which are not directly under MWRA's control, most notably the Inflow and Infiltration (I/I) program, the Local Water Pipeline program, and the community managed Combined Sewer Overflow (CSOs) projects, underspending totals \$16.9 million or 30.9%. Underspending was reported across all three programs with Waterworks underspent by \$9.3 million and Wastewater posting underspending of \$4.2 million and Business and Operations Support and \$2.0 million, respectively.

Spending By Program:



\$ in Millions	Budget	Actuals	\$ Var.	% Var.
Wastewater System Improvements				
Interception & Pumping	5.7	2.6	-3.1	-54.0%
Treatment	22.0	17.3	-4.7	-21.3%
Residuals	0.0	0.0	0.0	N/A
CSO	7.8	14.0	6.1	78.5%
Other	12.7	10.0	-2.6	-20.6%
Total Wastewater System Improvements	\$48.2	\$43.9	-\$4.2	-8.8%
Waterworks System Improvements				
Drinking Water Quality Improvements	4.3	4.6	0.3	6.6%
Transmission	7.8	1.1	-6.7	-86.3%
Distribution & Pumping	9.3	9.4	0.0	0.1%
Other	1.5	-1.5	-2.9	-200.4%
Total Waterworks System Improvements	\$22.9	\$13.5	-\$9.3	-40.8%
Business & Operations Support	\$4.1	\$2.1	-\$1.9	-47.6%
Total MWRA	\$75.1	\$59.6	-\$15.5	-20.6%

The main reasons for the program variances in order of magnitude:

Waterworks Transmission: Net underspending of \$6.7 million reflects the combination of underspending for Long Term Redundancy of \$6.1M due to schedule change for Wachusett Aqueduct Pump Station and ongoing tunnel alternatives review for metropolitan redundancy, and Watershed Land of \$647,000 due to the timing of land acquisitions. Offset by Hatchery Pipeline Design/Engineering Services During Construction/Resident Engineer Inspection of \$146,000 due to consultant progress and scope changes.

Combined Sewer Overflow: (CSO) Net overspending of \$6.1 million due to the Cambridge water use of \$5.6M and updated cost estimates of approximately \$2.1 million due to unforeseen utility locations and private utility coordination, subsurface conditions, and additional engineering services during construction, partially offset by Reserved Channel Sewer Separation of \$969,000 due to updated cost estimates and MWR003 Gate & Siphon of \$497,000, and Dorchester Bay Sewer Separation of \$125,000 due to timing.

Wastewater Treatment: Underspending of \$4.7 million reflects underspending on North Main Pump Station VFD Replacement of \$1.3M, As-Needed Design 7-2 and 7-3 of \$1.1M, Electrical Equipment Upgrade - Construction 4 of \$956,000, Thermal Power Plant Boiler Control Replacement of \$943,000, and Scum Skimmer Replacement of \$734,000 due to timing. Steam Turbine Generator System Modifications Construction of \$450,000 due to energy efficiency rebate, Barge Berth and Facility Replacement of \$350,000 due to schedule change, and other smaller projects totaling \$284,000. Offset by overspending on Butterfly Valve Replacement of \$746,000, Secondary Reactor VFDs of \$397,000 and HVAC Equipment Replacement Design/Engineering Services During Construction of \$293,000 due to timing.

Interception & Pumping: Underspending of \$3.1 million reflecting underspending on Chelsea Creek Screen House Upgrades of \$1.5 million due to timing, and Alewife Brook Pump Station Rehab Final Design/CA/REI and Construction of \$1.1M and Caruso Pump Station Improvements Construction of \$320,000 due to schedule change. Offset by Nut Island Headworks Electric, Grit & Screenings Conveyance Design and Construction of \$234,000 due to progress.

Waterworks Other: Underspending of \$2.9 million due to lower community requests for Local Water System Loans of \$2.6 million, and Quabbin Power Communication and Security Construction of \$378,000 due to schedule shift.

Wastewater Other: Underspending of \$2.6 million primarily due to less than anticipated community requests for grants and loans.

Business and Operations Support: Underspending of \$2.0 million due to lower than budgeted spending on MIS-related projects of \$872,000 due to timing of IT Strategic Plan implementation, Security Equipment of \$521,000 due to delay in award of monitoring equipment contracts, and \$521,000 due to lower than projected use of as-needed technical assistance contracts.

Drinking Water Quality Improvements: Overspending of \$0.3 million due to Existing Facilities CP-7 of \$732,000 and Carroll Water Treatment Plant's Ultraviolet Disinfection - Design/Engineering Services During Construction/Resident Engineer Inspection of \$161,000 due to timing, and Brutsch Treatment Facility of \$344,000 reflecting additional construction administration and resident engineering services. Offset by Carroll Water Treatment Plant's Ultraviolet Disinfection Construction of \$952,000 due to litigation settlement.

Water Distribution and Pumping: Overspending matched underspending within this program. Overspending on Weston Aqueduct Supply Mains Section 36/C/S9-A11 Valve of \$1.7 million due to contractor progress, Southern Extra High Redundancy & Storage Final Design/CA/RI of \$399,000 due to timing. Offset by NIH Redundancy & Storage of \$1.5 million and WASM 3 - MEPA/Design/CA/RI of \$529,000 due to schedule shift, and Valve Replacement of \$348,000 due to timing.

Construction Fund Balance

The construction fund balance was at \$33.7 million as of the end of February. Commercial Paper availability was at \$201.0 million to fund construction projects.

Attachment 1 – Variance Summary February 2016

Attachment 2 – Current Expense Variance Explanations

Attachment 3 – Capital Improvement Program Variance Explanations

Attachment 4 – FY16 Budget vs. FY16 Projections

ATTACHMENT 1

	February 2016 Year-to-Date					
	Period 8 YTD Budget	Period 8 YTD Actual	Period 8 YTD Variance	%	FY16 Approved	% Expended
EXPENSES						
WAGES AND SALARIES	\$ 64,123,367	\$ 62,086,637	\$ (2,036,730)	-3.2%	\$ 99,363,168	62.5%
OVERTIME	2,872,475	2,934,503	62,028	2.2%	4,219,293	69.5%
FRINGE BENEFITS	12,792,603	12,765,430	(27,173)	-0.2%	19,326,756	66.1%
WORKERS' COMPENSATION	1,562,000	1,412,492	(149,508)	-9.6%	2,343,000	60.3%
CHEMICALS	6,402,007	6,264,408	(137,599)	-2.1%	9,790,848	64.0%
ENERGY AND UTILITIES	14,353,058	12,652,442	(1,700,616)	-11.8%	23,164,822	54.6%
MAINTENANCE	16,108,082	17,488,073	1,379,991	8.6%	28,698,772	60.9%
TRAINING AND MEETINGS	212,466	201,866	(10,600)	-5.0%	413,714	48.8%
PROFESSIONAL SERVICES	3,633,563	3,607,861	(25,702)	-0.7%	5,819,611	62.0%
OTHER MATERIALS	2,588,456	3,034,331	445,875	17.2%	6,164,589	49.2%
OTHER SERVICES	15,556,064	15,221,199	(334,865)	-2.2%	23,529,902	64.7%
TOTAL DIRECT EXPENSES	\$ 140,204,141	\$ 137,669,242	\$ (2,534,901)	-1.8%	\$ 222,834,475	61.8%
INDIRECT EXPENSES						
INSURANCE	\$ 1,454,383	\$ 1,375,576	\$ (78,807)	-5.4%	\$ 2,160,797	63.7%
WATERSHED/PILOT	18,910,926	18,616,888	(294,038)	-1.6%	28,096,233	66.3%
BEC _o PAYMENT	1,275,767	1,128,013	(147,754)	-11.6%	1,946,157	58.0%
MITIGATION	942,308	1,023,077	80,769	8.6%	1,400,000	73.1%
ADDITIONS TO RESERVES	(23,509)	(23,509)	-	0.0%	(34,927)	67.3%
RETIREMENT FUND	8,159,521	8,159,521	-	0.0%	8,159,521	100.0%
POST EMPLOYEE BENEFITS	-	-	-	---	5,224,848	0.0%
TOTAL INDIRECT EXPENSES	\$ 30,719,396	\$ 30,279,566	\$ (439,830)	-1.4%	\$ 46,952,629	64.5%
DEBT SERVICE						
STATE REVOLVING FUND	\$ 51,614,141	\$ 51,831,331	\$ 217,190	0.4%	\$ 81,876,277	63.3%
SENIOR DEBT	188,252,737	181,749,940	(6,502,797)	-3.5%	283,024,431	64.2%
CORD FUND	-	-	-	---	-	---
DEBT SERVICE ASSISTANCE	-	-	-	---	-	---
CURRENT REVENUE/CAPITAL	7,538,462	7,538,462	-	0.0%	11,200,000	67.3%
SUBORDINATE MWRA DEBT	32,667,040	32,667,040	-	0.0%	49,222,442	66.4%
LOCAL WATER PIPELINE CP	2,792,758	2,792,758	-	0.0%	4,149,240	67.3%
CAPITAL LEASE	2,165,329	2,165,329	-	0.0%	3,217,060	67.3%
VARIABLE DEBT	-	(9,592,934)	(9,592,934)	---	-	0.0%
BOND REDEMPTION SAVINGS	-	-	-	---	-	---
DEFEASANCE ACCOUNT	-	15,878,541	15,878,541	---	-	0.0%
TOTAL DEBT SERVICE	\$ 285,030,467	\$ 285,030,467	\$ -	0.0%	\$ 432,689,450	65.9%
TOTAL EXPENSES	\$ 455,954,004	\$ 452,979,275	\$ (2,974,731)	-0.7%	\$ 702,476,554	64.5%
REVENUE & INCOME						
RATE REVENUE	\$ 452,603,846	\$ 452,603,846	\$ -	0.0%	\$ 672,440,000	67.3%
OTHER USER CHARGES	5,974,580	6,066,030	91,450	1.5%	8,683,898	69.9%
OTHER REVENUE	10,092,517	12,286,008	2,193,491	21.7%	12,000,066	102.4%
RATE STABILIZATION	-	-	-	---	-	---
INVESTMENT INCOME	6,157,208	6,453,751	296,543	4.8%	9,352,590	69.0%
TOTAL REVENUE & INCOME	\$ 474,828,151	\$ 477,409,635	\$ 2,581,485	0.5%	\$ 702,476,554	68.0%

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY16 Budget YTD February	FY16 Actuals YTD February	FY16 YTD Actual vs. FY16 Budget		Explanations
			\$	%	
Direct Expenses					
Wages & Salaries	64,123,367	62,086,637	(2,036,730)	-3.2%	Underspending is mainly the result of lower average Full Time Equivalent positions (FTEs) than budgeted and the timing of backfilling vacant positions and the salary mix differential between staff retiring and new hires. The average FTEs through February was 1,137, which was 23 positions lower than the 1,160 FTEs budgeted. Additionally, the Authority had one temporary employee.
Overtime	2,872,475	2,934,503	62,028	2.2%	Overspending mainly in Treatment & Transmission Operations for planned operator half plant maintenance, Water Valve Maintenance to reconfigure system flows associated with providing Lynn water, responding to a Cambridge water main break, and start-up at Spot Pond, and FOD Metro Maintenance. This is offset by fewer wet weather events and shutdowns related to the North Main Pump Station valve replacement project.
Fringe Benefits	12,792,603	12,765,430	(27,173)	-0.2%	Lower than budget mainly due to Health Insurance of \$96,000 and Dental Insurance of \$23,000 due to lower headcount, offset by overspending for Medicare of \$29,000; Unemployment Insurance of \$26,000; and Tuition Reimbursement of \$24,000.
Worker's Compensation	1,562,000	1,412,492	(149,508)	-9.6%	Underspending due to lower compensation payments of \$121,000 and medical expenses of \$70,000. In February, actual spending was \$148,000 over budget for cost associated with increase of reserve requirements. The year to date favorable variance is the result of lump sum settlements in prior periods, thus lowering reserves. It is important to note that spending on this line item can change significantly depending on future claims and severity of cases.
Chemicals	6,402,007	6,264,408	(137,599)	-2.1%	Lower year-to-date spending primarily due to lower than budgeted spending on Soda Ash of \$227,000 and Carbon Dioxide of \$11,000 due to lower usage to meet corrosion control targets and timing of deliveries for Soda Ash; Sodium Bisulfite of \$124,000 due to time of deliveries at DITP and lower usage at the Carroll Water Treatment Plant for Ozone residual removal; Other Oxidizers of \$49,000 due to timing of deliveries and lower pricing for the new contract; and Liquid Oxygen of \$35,000 due to higher water quality and change in operating target resulting from UV disinfection. This is offset by overspending on Hydrogen Peroxide of \$185,000 due to increased need for pretreatment of hydrogen sulfide gas due to lower than budgeted plant flows; Sodium Hypochlorite of \$117,000 primarily at Deer Island; and Polymer of \$77,000.

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY16 Budget YTD February	FY16 Actuals YTD February	FY16 YTD Actual vs. FY16 Budget		Explanations
			\$	%	
Utilities	14,353,058	12,652,442	(1,700,616)	-11.8%	Underspending due to lower Electricity of \$1.4 million mainly due to underspending at Deer Island of \$1.2 million for lower commodity and transmission and distribution costs, lower flows which resulted in less pumping demand, and an over accrual at the end of FY15. There has also been underspending in Diesel Fuel of \$246,000, Natural Gas of \$68,000, Propane of \$37,000 and #2 Fuel Oil of \$30,000. This is offset by higher water usage of \$104,000 at DITP, NI Headworks and JCWTP.
Maintenance	16,108,082	17,488,073	1,379,991	8.6%	Materials were overspent by \$1.4 million. Higher spending for energy efficiency projects totaling \$922,000 of which a portion of the overspending is related to timing. Services were overspent by \$20,000.
Training & Meetings	212,466	201,866	(10,599)	-5.0%	
Professional Services	3,633,563	3,607,861	(25,702)	-0.7%	Lower spending on Lab Testing & Analysis of \$122,000 in ENQUAL-Wastewater; and Engineering of \$38,000 at Deer Island and Reservoir Operations. This is offset by overspending in Other Professional Services in Treasury and Legal Services in Law.
Other Materials	2,588,456	3,034,331	445,875	17.2%	Higher than budget mainly due to timing of Vehicle Purchase of \$432,000 funds are budgeted in May and June; Lab and Testing Supplies of \$81,000 mainly due to receipt of equipment ordered in FY15 and received in the first Quarter of FY16; Equipment/Furniture of \$75,000; Computer Hardware of \$45,000; and Health & Safety of \$33,000. The overspending is offset by lower spending for Vehicle Expense of \$250,000 mostly due to lower fuel prices.
Other Services	15,556,064	15,221,199	(334,865)	-2.2%	Lower than budgeted spending of \$265,000 for Sludge Pelletization for lower year to date tonnage; \$96,000 for Grit and Screenings disposal services primarily due to lower quantities; \$66,000 for Space Lease Rentals for the Chelsea facility lease due to an overpayment of escrow for insurance; \$50,000 for Other Rentals; \$20,000 for Moving/Freight; and \$12,000 for Printing/Duplicating. This is offset by higher spending of \$67,000 for Telephone Services associated with Field Operations SCADA lines for the water and wastewater facilities; \$49,000 for Other Services for Ward Street Headworks radio tower demolition; and \$40,000 for Membership/Dues/Subscriptions.
Total Direct Expenses	140,204,141	137,669,242	(2,534,897)	-1.8%	

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY16 Budget YTD February	FY16 Actuals YTD February	FY16 YTD Actual vs. FY16 Budget		Explanations
			\$	%	
Indirect Expenses					
Insurance	1,454,383	1,375,576	(78,807)	-5.4%	Lower Premiums of \$82,000. Claims are at budgeted level.
Watershed/PILOT	18,910,926	18,616,888	(294,038)	-1.6%	Underspending due to lower Reimbursement expenses of \$255k due to FY15 overaccrual and lower PILOT payments.
HEEC Payment	1,275,767	1,128,013	(147,754)	-11.6%	Lower spending due to timing of actual billing.
Mitigation	942,308	1,023,077	80,769	8.6%	
Addition to Reserves	(23,509)	(23,509)	-	0.0%	
Pension Expense	8,159,521	8,159,521	(0)	0.0%	
Post Employee Benefits	-	-	-		
Total Indirect Expenses	30,719,396	30,279,566	(439,830)	-1.4%	
Debt Service					
Debt Service	285,030,467	285,030,467	-	0.0%	Through February staff have transferred \$15.9 million of a favorable YTD variance to the Defeasance Account. The short-term rates related variance is \$9.6 million YTD. Additionally, the Authority recognized \$6.3 million YTD underspending that is the result of the favorable impact of defeasances related to reserve releases and for not borrowing senior debt scheduled for November.
Debt Service Assistance	-	-	-		
Total Debt Service Expenses	285,030,467	285,030,467	-	0.0%	
Total Expenses	455,954,004	452,979,275	(2,974,728)	-0.7%	
Revenue & Income					
Rate Revenue	452,603,846	452,603,846	-	0.0%	
Other User Charges	5,974,580	6,066,030	91,450	1.5%	
Other Revenue	10,092,517	12,286,008	2,193,491	21.7%	City of Lynn water non-rate revenue of \$594,000 for use of MWRA water while they completed maintenance work on their water system; TRAC penalty payment of \$610,000, US Treasury rebates of \$296,000, sale of surplus equipment of \$230,000, and energy rebates of \$254,000.
Rate Stabilization	-	-	-		
Investment Income	6,157,208	6,453,751	296,544	4.8%	The higher Investment Income of \$297,000 is due to investments called sooner than projected that provided gains on investments not budgeted. This positive variance will erode as long-term funds are reinvested at lower rates than the called investments. Short-term interest rates are higher than budgeted which also have favorable impact on the investment income variance.
Total Revenue	474,828,151	477,409,635	2,581,485	0.5%	
Net Revenue in Excess of Expenses	18,874,147	24,430,360	5,556,213		

ATTACHMENT 3
Capital Improvement Program Variance Explanations
(000's)

	FY16 Budget YTD February	FY16 Actuals YTD February	YTD Actuals vs. Budget		Explanations
			\$	%	
Interception & Pumping (I&P)	\$5,669	\$2,605	(\$3,064)	-54.0%	Underspending mainly due to Chelsea Screenhouse Upgrades of \$1.5M due to timing, Alewife Brook Pump Station Rehab Final Design/CA/REI and Construction of \$1.1M and Caruso Pump Station Improvements Construction of \$320,000 due to schedule change, and other smaller projects totaling \$378,000. Offset by Nut Island Headworks Electric, Grit & Screenings Conveyance Design and Construction of \$234,000 due to progress.
Treatment	\$22,019	\$17,338	(\$4,681)	-21.3%	Underspending on North Main Pump Station VFD Replacement of \$1.3M, As-Needed Design 7-2 and 7-3 of \$1.1M, Electrical Equipment Upgrade - Construction 4 of \$956,000, Thermal Power Plant Boiler Control Replacement of \$943,000, and Scum Skimmer Replacement of \$734,000 due to timing. Steam Turbine Generator System Modifications Construction of \$450,000 due to energy efficiency rebate, Barge Berth and Facility Replacement of \$350,000 due to schedule change, and other smaller projects totaling \$284,000. Offset by overspending on Butterfly Valve Replacement of \$746,000, Secondary Reactor VFDs of \$397,000 and HVAC Equipment Replacement Design/Engineering Services During Construction of \$293,000 due to timing.
Residuals	\$0	\$0	\$0	-	
CSO	\$7,816	\$13,955	\$6,139	78.5%	Overspending on Cambridge Sewer Separation of \$7.7M due to water use during construction activities and updated cost estimates as a result of additional unforeseen conditions. Offset by Reserved Channel Sewer Separation of \$969,000 due to updated cost estimates, MWR003 Gate & Siphon of \$497,000, and Dorchester Bay Sewer Separation (Commercial Point) of \$125,000 due to timing.
Other Wastewater	\$12,651	\$10,040	(\$2,610)	-20.6%	Underspending on Infiltration and Inflow (I/I) due to lower community requests for grants and loans.
Total Wastewater	\$48,156	\$43,940	(\$4,216)	-8.8%	

ATTACHMENT 3
Capital Improvement Program Variance Explanations
(000's)


	FY16 Budget YTD February	FY16 Actuals YTD February	YTD Actuals vs. Budget		Explanations
			\$	%	
Drinking Water Quality Improvements	\$4,311	\$4,595	\$284	6.6%	Overspending due to Existing Facilities CP-7 of \$732,000 and Carroll Water Treatment Plant's Ultraviolet Disinfection - Design/Engineering Services During Construction/Resident Engineer Inspection of \$161,000 due to timing, and Brutsch Treatment Facility of \$344,000 due to additional construction administration and resident engineering services. Offset by Carroll Water Treatment Plant's Ultraviolet Disinfection - Construction of \$952,000 due to litigation settlement.
Transmission	\$7,752	\$1,065	(\$6,688)	-86.3%	Underspending for Long Term Redundancy of \$6.1M due to schedule change for Wachusett Aqueduct Pump Station and ongoing tunnel alternatives review for metropolitan redundancy, and Watershed Land of \$647,000 due to the timing of land acquisitions. Offset by Hatchery Pipeline Design/Engineering Services During Construction/Resident Engineer Inspection of \$146,000 due to consultant progress and scope changes.
Distribution & Pumping	\$9,345	\$9,354	\$9	0.1%	Overspending on Weston Aqueduct Supply Mains Section 36/C/S9 - A11 Valve of \$1.7M due to contractor progress, Southern Extra High Redundancy & Storage Final Design/CA/RI of \$399,000 due to timing. Offset by NIH Redundancy & Storage of \$1.5M and WASM 3 - MEPA/Design/CA/RI of \$529,000 due to schedule shift, and Valve Replacement of \$348,000 due to timing.
Other Waterworks	\$1,466	(\$1,473)	(\$2,938)	n/a	Underspending due to lower community requests for Local Water System Loans of \$2.6M, and Quabbin Power Communication and Security Construction of \$378,000 due to schedule shift.
Total Waterworks	\$22,874	\$13,541	(\$9,333)	-40.8%	
Business & Operations Support	\$4,089	\$2,142	(\$1,947)	-47.6%	Underspending on MIS-related projects of \$872,000 due to timing of IT Strategic Plan implementation, Security Equipment of \$521,000 due to delay in award of equipment monitoring contracts, and \$521,000 due to lower than projected use of as-needed technical assistance.
Total MWRA	\$75,120	\$59,623	(\$15,497)	-20.6%	

ATTACHMENT 4

FY16 Budget vs FY16 Projection



TOTAL MWRA	FY16 Budget	FY16 Projection	Change	
			FY16 Budget vs FY16 Projection	
			\$	%
EXPENSES				
WAGES AND SALARIES	\$ 99,363,168	\$ 96,948,377	\$ (2,414,791)	-2.4%
OVERTIME	4,219,293	4,211,968	(7,325)	-0.2%
FRINGE BENEFITS	19,326,756	19,336,831	10,075	0.1%
WORKERS' COMPENSATION	2,343,000	2,204,000	(139,000)	-5.9%
CHEMICALS	9,790,849	9,568,186	(222,663)	-2.3%
ENERGY AND UTILITIES	23,164,822	21,131,015	(2,033,807)	-8.8%
MAINTENANCE	28,698,772	31,962,886	3,264,114	11.4%
TRAINING AND MEETINGS	413,714	414,086	372	0.1%
PROFESSIONAL SERVICES	5,819,611	5,632,283	(187,328)	-3.2%
OTHER MATERIALS	6,164,588	5,975,209	(189,379)	-3.1%
OTHER SERVICES	23,529,902	23,195,039	(334,863)	-1.4%
TOTAL DIRECT EXPENSES	\$ 222,834,475	\$ 220,579,880	\$ (2,254,595)	-1.0%
INSURANCE	\$ 2,160,797	\$ 2,081,990	(78,807)	-3.6%
WATERSHED/PILOT	28,096,233	27,519,959	(576,274)	-2.1%
HEEC PAYMENT	1,946,157	1,798,403	(147,754)	-7.6%
MITIGATION	1,400,000	1,520,000	120,000	8.6%
ADDITIONS TO RESERVES	(34,927)	(34,927)	-	0.0%
RETIREMENT FUND	8,159,521	8,159,521	-	0.0%
ADDITIONAL PENSION DEPOSIT	-	-	-	-
POSTEMPLOYMENT BENEFITS	5,224,848	5,224,848	-	0.0%
TOTAL INDIRECT EXPENSES	\$ 46,952,629	\$ 46,269,794	\$ (682,835)	-1.5%
STATE REVOLVING FUND	\$ 81,876,277	\$ 78,874,468	(3,001,809)	-3.7%
SENIOR DEBT	283,024,431	275,717,759	(7,306,672)	-2.6%
SUBORDINATE DEBT	49,222,442	49,222,442	-	0.0%
LOCAL WATER PIPELINE CP	4,149,242	500,000	(3,649,242)	-87.9%
CURRENT REVENUE/CAPITAL	11,200,000	11,200,000	-	0.0%
CAPITAL LEASE	3,217,060	3,217,060	-	0.0%
CORE FUND DEPOSIT	-	-	-	-
BOND REDEMPTION	-	-	-	-
VARIABLE RATE SAVINGS	-	(14,439,885)	(14,439,885)	-
DEFEASANCE ACCOUNT	-	28,397,607	28,397,607	-
DEBT SERVICE ASSISTANCE	-	-	-	-
TOTAL DEBT SERVICE	\$ 432,689,450	\$ 432,689,450	\$ -	0.0%
TOTAL EXPENSES	\$ 702,476,554	\$ 699,539,124	\$ (2,937,430)	-0.4%
REVENUE & INCOME				
RATE REVENUE	\$ 672,440,000	\$ 672,440,000	-	0.0%
OTHER USER CHARGES	8,683,898	8,683,898	-	0.0%
OTHER REVENUE	12,000,066	14,893,557	2,893,491	24.1%
RATE STABILIZATION	-	-	-	-
INVESTMENT INCOME	9,352,590	9,652,590	300,000	3.2%
TOTAL REVENUE & INCOME	\$ 702,476,554	\$ 705,670,045	\$ 3,193,491	0.5%
VARIANCE:		\$ (6,130,921)	\$ (6,130,921)	


STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: March 16, 2016
SUBJECT: Amendments to Capital Finance Management Policy

COMMITTEE: Administration, Finance & Audit

VOTE
 INFORMATION

Matthew R. Horan Treasurer 
Sean R. Cordy, Senior Financial Analyst 
Preparer/Title


Thomas J. Durkin
Director of Finance

In July 2010, the Commonwealth's Finance Advisory Board, which became the State Finance and Governance Board (SFGB) in 2013, required that all quasi-public and state level debt issuers, including MWRA, formally adopt a debt management policy. The Board of Directors first approved that policy on October 13, 2010. The SFGB regulations further require that all issuers review their Policy and present it to their governing body for adoption every two years. MWRA completed the required two year review in 2012 and 2014. After review by various parties including MWRA's Financial Advisor, Disclosure and Bond Counsels, staff are proposing a few changes to the Policy further described below.

RECOMMENDATION:

That in compliance with the State Finance and Governance Board's regulations (976 CMR 2.04), the Board adopts the amendments to the Capital Finance Management Policy, including the revised refunding analysis criteria, substantially in the form attached hereto.

DISCUSSION:

In October 2010, the Board approved a Capital Finance Management Policy ("Policy") to provide a framework regarding the administration and internal policy for the issuance, management, and reporting on all debt obligations of MWRA. The issuance of MWRA debt is governed by the conditions set forth in the Enabling Act and the General Revenue Bond Resolution and all issuances require the approval of the Board. Once the debt has been issued, these documents continue to provide direction on the use and investment of funds as well as continuing compliance requirements. The Policy is designed to be a distilled version of the General Revenue Bond Resolution, as well as to detail some of the procedural steps taken prior to and after the issuance of debt. The document contains

many of MWRA's standard policies related to debt issuance including call options and refunding savings threshold standards.

A copy of the approved Policy was provided to the Commonwealth's Finance Advisory Board ("FAB") in 2010 to comply with its regulations (976 CMR 2.04). Beyond the initial submittal requirement, the FAB's regulations state that "Such policies shall be formally adopted at least every two years and the adopted policies or evidence that there has been no material changes to the most recently filed policies, shall be filed with the Board by March 31st of each even-numbered year beginning in 2012." In March 2012, staff submitted an updated Policy which incorporated written post issuance compliance documents which were required by the Internal Revenue Service. In March 2014, MWRA's policy was updated to include a more detailed description of MWRA's refunding policy and changes to reflect changes to the Continuing Disclosure requirements. To ensure compliance with the requirement, staff, MWRA's Financial Advisor and Bond Counsel reviewed the policy and have proposed a few minor changes.

The majority of the updates are related to name changes that occurred over the last two years. These changes include the Massachusetts Water Pollution Abatement Trust becoming the Massachusetts Clean Water Trust, the General Bond Resolution now being referred to as the Amended and Restated General Bond Resolution and updating one reference to the Commonwealth's Finance Advisory Board which is now the State Finance and Governance Board. The only other change is in Tab I "Summary of Private Activity Restrictions on Private Business Use" and reflects changes to the Internal Revenue Service's private activity safe harbors for tax-exempt bonds. These changes to the safe harbor allow for a little more flexibility in the structure of management contracts. The changes remove the requirement that five-year contracts carry a termination provision starting in year three, limitations on how much gross revenue a fee could be based on was eliminated and the rule allows for various combinations of fee structures. These changes to regulations are unlikely to have any impact on MWRA, but Bond Counsel believed the update should be reflected in the policy.

While this Policy will provide a framework for the management of MWRA's debt portfolio, it is not designed to replace the requirements found in the Enabling Act and General Revenue Bond Resolution. Attached is a red-lined version of the Policy showing the proposed changes. Acceptance of the amendments to this Policy will not constitute a change to the Authority's procedures for issuing debt and all new and refunding debt issuances will continue to require prior Board approval.

Massachusetts Water Resources Authority

Capital Finance Management Policy

1. Purpose

The purpose of the Capital Finance Management Policy is to provide a framework regarding administration and internal policy for the issuance, management, and reporting on all debt obligations of the Massachusetts Water Resources Authority.

2. General Policy

All debt obligations of the Authority will be issued in compliance with Chapter 372 of the Acts of 1984 of The Commonwealth of Massachusetts (Enabling Act), Amended and Restated General Revenue Bond Resolution and Supplemental Bond Resolutions, and all applicable state and federal laws governing the issuance of debt. As required by the Enabling Act, all new debt issuances must be presented to the Board of Directors for review, evaluation and approval prior to the transaction. It will be the Authority's policy to:

- A. Undertake a multi-year approach to the planning of debt financings to borrow funds in a timely fashion to provide funding for the Authority's Capital Improvement Program (CIP) and other corporate purposes;
- B. Assure the Authority's ability to access the capital markets through a strong credit rating and maintaining investor interest in the issuances; and
- C. Achieve the lowest cost of borrowing while minimizing the risk of market fluctuations.
- D. Manage its debt financings responsibly mindful of generational equity and long-term financial impacts.

3. Planning for Future Borrowings

The Authority will continually monitor its multi-year borrowing plan to reflect changes to the CIP, actual expenditures, and borrowings. The borrowing plan will assist in the development of the schedule for the sale of debt obligations over a three fiscal year cycle. It is understood that market conditions, changes in size and/or timing of capital projects, and other factors outside the control of the Authority may necessitate changes to the schedule for the sale of debt obligations. The borrowing plan is not a commitment by the Authority to sell debt obligations at such times.

4. Issuance Related Policies

4.1 Pre-Issuance Evaluation:

The Authority will review the various factors that impact the issuance of debt including legal, economic, financial and market conditions. All of these factors are continuously changing and any decisions related to the issuance of new debt should be done only after careful consideration of all the factors that impact the issuance. Some of the factors that should be considered include, but are not limited to, the following:

- A. The legal constraints on the Authority's issuance of debt including debt capacity and the various other limitations included in the Enabling Act and in the Amended and Restated General Revenue Bond Resolution and Supplemental Bond Resolutions.
- B. The availability of other funding sources including grant funds, loans through the Massachusetts Clean Water Pollution Abatement Trust and pay-as-you go capital.
- C. The condition of the municipal bond market, including current interest rates and the availability of different investor groups and the availability of alternatives to traditional tax-exempt financing.
- D. Whether the new debt would be issued as Senior or Subordinate lien indebtedness, including a cost/benefit analysis of choosing one lien over the other and credit enhancement costs.
- E. Type of debt obligations to be issued.
- F. The nature of the projects and/or equipment to be financed.

4.2 Issuance Procedures

The Authority will issue long-term debt for the purposes of funding the CIP, refunding or restructuring outstanding debt and for other purposes authorized by the Authority's Enabling Act and permitted by the Amended and Restated General Revenue Bond Resolution. All debt issuances will be presented to the Board of Directors for review and evaluation and will require its approval as required by the Enabling Act and Amended and Restated General Revenue Bond Resolution. In general, the Authority will follow the procedures outlined below:

4.2.1 *Long-Term Borrowings:*

- A. All new debt issuances will receive prior approval of the Board of Directors as required by the Enabling Act and the Amended and Restated General Revenue Bond Resolution.

- B. The Authority will not issue debt in excess of its statutory debt cap.
- C. The Authority will utilize long-term debt, as necessary, to permanently finance capital improvements to its infrastructure. Typical features of long-term fixed rate debt will be:
 - a. The expected useful life of the projects to be financed will be taken into account in determining the appropriate maturity of the debt issue.
 - b. In general, the Authority's debt will carry a call provision for maturities longer than 10 years, subject to market considerations.
- D. The Authority will determine based on market conditions whether a competitive or negotiated sale would be more advantageous. Some factors impacting that decision include:
 - a. Stability of bond prices and investor demand in the market;
 - b. The complexity of the transaction and any issues which may impact investor demand for the bonds;
 - c. Size of the transaction; and
 - d. Importance of flexibility to adjust sizing and structuring to respond to investor demand which is particularly important for refunding transactions.
- E. The Authority will manage its debt portfolio and financial position to obtain and maintain the highest credit rating possible. While high credit ratings generally reduce the Authority's cost of debt and market access, these rating considerations must be balanced with maintaining flexibility to meet its operational and capital needs.
- F. Credit enhancements, such as bond insurance and letters of credit, will only be used when the anticipated present value savings in terms of reduced interest expense exceeds the cost of the enhancement and the covenants are acceptable to MWRA.
- G. To provide budget certainty the Authority typically issues fixed interest rate debt. However, it should be recognized that certain circumstances may merit the issuance of variable rate debt. Prior

to the issuance of any variable rate debt, the savings and other possible advantages over a comparable fixed rated borrowing will be evaluated and a comparative analysis presented to the Board of Directors as part of the approval process.

4.2.2 *Refunding Transactions*

The Authority will monitor its debt portfolio for opportunities to refund any outstanding debt when debt service savings will be realized. In reviewing refunding options, the Authority will use the following criteria to evaluate the bonds available for refunding to ensure there are sufficient savings to justify the issuance of new debt:

- Overall present value savings will generally be considered at 4% or greater;
- Individual maturities must have at least a 3% present value savings or an option value above 70%; and
- Efficiency of the escrow as determined by dividing the present value savings by the negative arbitrage on the escrow should be over 50%.

At the direction of the Board, the Authority may refund or restructure existing debt to meet particular organizational and/or strategic needs when it is advantageous to do so.

4.2.3 *Short-Term Borrowing*

The Authority typically utilizes its short-term Tax-Exempt Commercial Paper (TECP) program and Revolving loans to only finance assets during design and construction. The TECP/Revolving Loans generally will be permanently financed by long-term debt no later than six-months after the asset is placed into service. In some instances TECP/Revolving Loans may be used to refund outstanding debt as is provided for in the associated Supplemental Resolution and as directed by the Board.

4.2.4 *Derivative Transactions*

While the Authority does not anticipate entering into any additional derivatives (including Interest Rate Swaps, Caps, Collars, etc.), it may consider their use as a hedge against future interest rate risk when appropriate, but in no event will derivatives be used for speculative purposes. Further, the Authority will use derivatives only when it has a complete understanding of the derivative product and the benefits are substantially larger than the potential risks associated with it. Derivative products will only be utilized when it can be demonstrated that their usage would provide significant debt service savings or mitigation of the risk of

fluctuations in interest rates. Prior to entering into any derivative product the following criteria would be evaluated:

- A. Are there sufficient counterparties with appropriate ratings to competitively bid on the derivative transaction;
- B. Does the transaction hedged against create any new interest rate volatility and are such risks appropriate for the Authority and the transaction;
- C. The basis risk and likelihood that the Authority will receive a rate that matches the rate paid on the hedged bonds;
- D. The tax risk associated with any potential future changes to the federal tax code;
- E. The termination risks associated with the derivative transaction including counterparty risk;
- F. The creditworthiness of the proposed counterparty will be thoroughly evaluated and any downgrade and collateral provisions that might be necessary to reduce risks;
- G. Comply with all applicable statutory and regulatory requirements associated with the entering into of derivative transactions, including those of the Commonwealth's State Finance and Governance Advisory Board; and
- H. Any derivative transactions would be presented and evaluated by the Board of Directors prior to approval.

5. Bond Compliance

The Authority will maintain an adequate system of internal controls to provide compliance with applicable laws, rules, regulations, and covenants associated with outstanding debt.

5.1 General Resolution Compliance

The Authority will take all necessary steps to ensure compliance with its Amended and Restated General Revenue Bond Resolution and all Supplemental Resolutions. Compliance with the Amended and Restated General Revenue Bond Resolution includes but is not limited to:

- A. Ensuring that all principal and interest accounts are funded in equal 1/12 installments for principal and 1/6 installments for semi-annual

interest payments and that the accounts will be fully funded one month and one day prior to the payment date, as required by the Amended and Restated General Revenue Bond Resolution.

- B. Maintaining rolling coverage levels at a minimum level of 120% for senior debt service and 110% for subordinated-combined senior and subordinated debt service as required by the Amended and Restated General Revenue Bond Resolution.
- C. Maintaining reserve funds at the required levels and provide all annual certifications to Trustee.
- D. Providing the Trustee with all required certifications related to coverage, budget, reporting and all other requirements included in the General Bond Resolution and the Enabling Act.

5.2 Tax-Exempt Status Requirement Compliance

The Authority will comply with all relevant federal tax law provisions including without limitation arbitrage requirements, limitations on nongovernmental use of tax-exempt bond financed facilities, recordkeeping requirements, and remediation requirements with respect to nonqualified bonds. The Authority will take all appropriate actions to ensure that the interest paid on its tax-exempt debt obligations to investors maintains its tax-exempt status. Additionally, the Authority will establish and maintain a sound arbitrage compliance program that incorporates strategies to limit negative arbitrage. Neither the Authority nor any other person under its control or direction will make any investment or other use of tax exempt bond proceeds in any manner which would cause the bonds to be private activity bonds or arbitrage bonds, or would otherwise cause the bonds to lose their tax-exempt status. In connection with the maintenance of such tax-exempt status, the Authority will utilize the procedures set forth in the Authority's Post Issuance Compliance Guide Regarding Use of Tax-Exempt Bond Financed Property and Proceeds included as Attachment A to this document.

5.3 Derivative Compliance

The Authority will routinely monitor all of its derivative transactions to ensure that all the terms of the agreements are being met. The counterparties will be routinely monitored and evaluated for termination risk and collateral requirements, if applicable. In addition, the agreements will be regularly monitored for basis, tax, and termination risk. The Authority will have the termination values of all existing agreements calculated on a weekly basis.

5.4 Debt Cap

The Authority will routinely examine its future borrowing needs, repayment schedules and capacity under the debt cap to ensure that it will be able to fund

the CIP. The Authority will seek increases to the debt cap as necessary to meet the needs of the CIP.

5.5 Other Contractual Agreements

The Authority will comply with all of the terms and conditions contained within other contractual agreements associated with the issuance and maintenance of debt, including but not limited to the Direct Purchases, Revolving Loan Agreements, Standby Bond Purchase Agreements, and Letters of Credit.

6. **Continuing Disclosure Policy**

The Authority will provide certain continuing disclosure pursuant to the provision of Rule 15c2-12(b)(5) promulgated under the Securities Exchange Act of 1934 (as amended, the "Rule"). Specifically, the Authority and its Trustee, U.S. Bank National Association, as Dissemination Agent (the "Dissemination Agent"), have entered into existing Continuing Disclosure Agreement dated November 21, 1995 (as amended, the "Continuing Disclosure Agreement"). The Continuing Disclosure Agreement will transfer to any successor to U.S. Bank N.A. as Dissemination Agent.

6.1 Annual Continuing Disclosure

Pursuant to the Continuing Disclosure Agreement, the Authority will provide an annual filing, not later than 15 business days prior to January 1 of each year to the Dissemination Agent, each nationally recognized municipal securities information repository, and any other public or private repository (currently, the Municipal Securities Rulemaking Board) or entity designated by the Commonwealth as a state information depository for the purpose of the Rule (State Depository). Currently, the annual filing is only required to be submitted to the Municipal Securities Rulemaking Board (MSRB) through its Electronic Municipal Market Access system, known as "EMMA" The annual filing will include or incorporate by reference the following information:

- A. Quantitative information for, or as of the end of, the preceding fiscal year of the type presented in the Authority's most recent official statement including:
 - a. Summary of revenues, expense, and fund deposits;
 - b. Amount of outstanding indebtedness and debt limitation as of the end of the fiscal year;
 - c. Summary table with respect to the coverage covenants in accordance with the Amended and Restated General Revenue Bond Resolution; and

- d. Summary table showing the capital investments by major category during the preceding fiscal year.
- B. Quantitative information for the current fiscal year of the type presented in the Authority's most recent official statement including:
- a. A summary table of the Authority's current water and wastewater charges by Local Body;
 - b. The Current Expense Budget rate revenue requirement and percentage increase for water and wastewater over the prior fiscal year; and
 - c. Executive summaries of the Authority's most recently adopted Current Expense Budget and Capital Improvement Program.
- C. The most recently available audited financial statements of the Authority, prepared in accordance with accounting principles generally accepted in the United States of America.

6.2 Reporting of Material Events

Pursuant to the Continuing Disclosure Agreement, the Authority in a timely manner not in excess of 10 business days after the occurrence of any of the following listed events, shall file or cause to be filed a notice of such occurrence with the MSRB. The Authority also shall provide a copy of each such notice to the Dissemination Agent. The events covered under this reporting requirement include the following:

1. Principal and interest payment delinquencies.
2. Non-payment related defaults, if material..
3. Unscheduled draws on debt service reserve reflecting financial difficulties.
4. Unscheduled draws on credit enhancements reflecting financial difficulties.
5. Substitution of credit or liquidity providers, or their failure to perform.
6. Adverse tax opinions, the issuance by the Internal Revenue Service of proposed or final determinations of taxability, Notices of Proposed Issue (IRS Form 5701-TEB) or other material notices or determinations with respect to the tax status of Additional Bonds, or

other material events affecting the tax-exempt status of Additional Bonds.

7. Modifications to the rights of the Owners of Additional Bonds, if material.
8. Bond Calls, if material and tender offers.
9. Defeasance of Additional Bonds or any portion thereof.
10. Release, substitution or sale of property securing repayment of the Additional Bonds, if material.
11. Rating changes.
12. Bankruptcy, insolvency, receivership or similar event of the Authority.¹
13. The consummation of a merger, consolidation, or acquisition involving the Authority or the sale of all or substantially all of the assets of the Authority, other than in the ordinary course of business, the entry into a definitive agreement to undertake such an action or the termination of a definitive agreement relating to any such actions, other than pursuant to its terms, if material.
14. Appointment of a successor or additional trustee or the change of name of a trustee if material.

7. Credit Rating

The Authority will attempt to maintain its current ratings while at the same time strive to enhance its overall credit quality. While high credit ratings generally reduce the Authority's cost of debt and market access, credit ratings must be balanced with maintaining flexibility to meet its operational and capital needs.

8. Investment of Bond Proceeds

The security of the principal amount is regarded as the highest priority in handling the investment of bond proceeds. All other investment objectives are secondary

¹ As noted in the Rule, this event is considered to occur when any of the following occur: (i) the appointment of a receiver, fiscal agent or similar officer for the Authority in a proceeding under the U.S. Bankruptcy Code or in any proceeding under state or federal law in which a court or governmental authority has assumed jurisdiction over substantially all of the assets or business of the Authority, or if such jurisdiction has been assumed by leaving the existing governing body and officials or officers in possession but subject to the supervision and orders of a court or governmental authority, or (ii) the entry of an order confirming a plan of reorganization, arrangement or liquidation by a court or governmental authority having supervision or jurisdiction over substantially all of the assets or business of the Authority.

to the maintenance of the principal amount. Each investment transaction shall seek to first ensure that capital losses are avoided.

Bond proceeds are only to be invested in permitted investments, as defined in the Amended and Restated General Revenue Bond Resolution. Neither the Authority nor any other person under its control or direction will make any investment of bond proceeds in any manner which would cause the bonds to be private activity bonds or arbitrage bonds. The Authority will comply with all federal tax arbitrage regulations.


9. Budgeting Debt Service

The Authority will develop a debt service budget based on the known costs for all fixed rate transactions. For variable rate debt, the Authority will budget at the fixed principal amortization amounts, plus an assumed interest rate based on market conditions and historic interest rate trends. The annual debt service budget will also include assumptions for the planned borrowings which will include an assumed interest rate and principal amortization schedule.

10. Review of Policy

This policy should be reviewed by staff at least once every two years. However, reviews may be made as often as deemed necessary. Pursuant to 976 CMR 2.04, by March 31 of every even year, starting in 2012 the Authority will send the Commonwealth's State Finance and Governance Board, successor to the Finance Advisory Board, a copy of any revisions to the Policy or notice that no significant changes have occurred.



STAFF SUMMARY


TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: March 16, 2016
SUBJECT: Appointment of Proxy for Fore River Railroad Corporation

COMMITTEE: Administration, Finance & Audit

VOTE
 INFORMATION


Steven A. Remsberg
General Counsel

Sean R. Cordy, Senior Financial Analyst 
Matthew R. Horan, Treasurer 
Preparer/Title


Thomas J. Durkin
Director of Finance

RECOMMENDATION:

That the MWRA Board of Directors, as holder of all voting rights of all the issued and outstanding shares of stock of the Fore River Railroad Corporation, vote to appoint Kathy Soni, with the power of substitution, to vote as proxy at the next annual meeting and any special meeting of the stockholders for the Fore River Railroad Corporation in accordance with the form of proxy attached hereto and filed with the records of this meeting. In addition, the MWRA Board of Directors directs the proxy to elect the following board members:

Godfrey O. Ezeigwe
Thomas J. Durkin
Michele S. Gillen
John J. Walsh

Lisa R. Grollman
Michael J. Hornbrook
Frederick A. Laskey

Brian Peña
Steven A. Remsberg
John P. Vetere

DISCUSSION:

In 1987, MWRA purchased the Fore River Staging Area from General Dynamics. Included in the sale was the purchase of the Fore River Railroad Corporation (FRRC). The railroad operates during weekdays and services MWRA's Residuals Plant and Twin Rivers Technologies, Inc. Since July 2001, FRRC has leased its operating rights to Fore River Transportation Corp., a short-line railroad operator. Pursuant to the by-laws of the FRRC, an annual meeting of the shareholders must be held in the first quarter of each calendar year to elect the Board of Directors. MWRA is the sole stockholder of the Fore River Railroad Corporation.

The primary purpose of the proxy for the stockholders at the Annual Stockholders' meeting is to elect the FRRC Board of Directors as set forth on the Shareholder's Annual Meeting Agenda. Each Director's term extends until the next annual meeting. The FRRC by-laws state that the

Board shall consist of a minimum of five members.

The current Board Members are listed below:

Godfrey O. Ezeigwe
Thomas J. Durkin
Michele S. Gillen
John J. Walsh

Lisa R. Grollman
Michael J. Hornbrook
Frederick A. Laskey

Brian Peña
Steven A. Remsberg
John P. Vetere

Staff recommend that all current members be reappointed to serve on the FRRRC Board in 2016.

Attachment: Form of Proxy

FORE RIVER RAILROAD CORPORATION
PROXY

The undersigned, on behalf of MWRA's Board of Directors and duly representing the holder of all the issued and outstanding shares of stock of the Fore River Railroad Corporation hereby appoints Kathy Soni to vote as proxy for the undersigned at the upcoming Annual Meeting of the Stockholders and at any Special Meeting of the Stockholders of the Fore River Railroad Corporation. The proxy is instructed to vote on all business as may properly come before the stockholders meetings and to sign any waivers of notice to be taken thereat, with all the powers the undersigned would possess if personally present.

Godfrey O. Ezeigwe
Thomas J. Durkin
Michele S. Gillen
John J. Walsh

Lisa R. Grollman
Michael J. Hornbrook
Frederick A. Laskey

Brian Peña
Steven A. Remsberg
John P. Vetere

MASSACHUSETTS WATER RESOURCES
AUTHORITY

By: _____
Matthew A. Beaton
Chairman
Board of Directors

Dated: Boston, Massachusetts
March 16, 2016

Massachusetts Water Resources Authority: 1,470 Shares

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: March 16, 2016
SUBJECT: Managed Security Services
NWN Corporation
Contract 7499



COMMITTEE: Administration, Finance & Audit

 INFORMATION
 X VOTE

David Stokes, Sr. Project Manager, IS Security
Paula Weadick, Manager, IT Security, Architecture,
and Engineering
Russell J. Murray, Jr., Director, MIS
Preparer/Title

Carolyn Francisco Murphy
Director of Procurement


Michele S. Gillen
Director of Administration

RECOMMENDATION:

To approve the recommendation of the Consultant Selection Committee to award Contract 7499, Managed Security Services, to NWN Corporation to provide cyber security services for the Authority, and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the amount of \$2,109,842, for a contract term of thirty-nine months from the Notice to Proceed, with an option to renew for two additional twelve-month periods, subject to further Board approval.

BACKGROUND:

MWRA's cyber security program focuses on the protection of computer assets used in support of the safe delivery of high quality water and wastewater services. It incorporates the process monitoring and control systems as well as business administrative systems. Of growing concern around cyber security are threats to critical infrastructure, which is increasingly subjected to sophisticated cyber intrusions.

On average MWRA receives 80 million logged events per month as reported by our third party Managed Security Service Provider (MSSP), this includes business as usual and "suspicious" events (any computer log entry that looks like it might be part of a cyber security attack). Of those 80 million events, just under a half million are flagged as suspicious. After further review by the MSSP, this typically results in about 21,000 events per month that remain suspicious

enough to warrant further analysis. After further analysis, MWRA receives approximately 260 incidents each month for which our MSSP recommends that some sort of human action be taken.

MWRA's current MSSP contract with Integralis, Inc. (now NTT Com Security US, Inc.) was awarded in 2011 for cyber security hardware, maintenance and monitoring services. On May 15, 2015, the Board approved Amendment 3 to Contract WRA 3224 providing an additional year of related maintenance and monitoring services, extending the contract for a fifth year with an expiration date of June 30, 2016 and increasing the contract amount from \$1,115,715 to \$1,377,590. In addition, during the term of this contract, MWRA purchased separate from this contract, Security Information and Event Management (SIEM), Reverse Proxy and Anti-Malware technologies at a total cost of \$683,128.

On October 14, 2015, in Executive Session, staff presented to the Board an update to MWRA's cyber security posture that included recommendations on MWRA's future cyber security needs. Consistent with that briefing, staff recommend that the Board approve Contract 7499 which would replace "end of life"¹ security hardware and equipment and would provide all of the monitoring services that the incumbent vendor provides as well as additional monitoring and other services that are described in more detail in the discussion section below.

At that briefing, staff described the Authority's Defense-in-Depth strategy which includes multi-layered, cyber security protections recommended by the Department of Homeland Security. This strategy relies on the intelligent application of techniques and technologies at numerous layers, to prevent cyber intruders from accessing valuable assets and proprietary information of the organization. The Board was also briefed on future plans for cyber security within the Authority which included the implementation of Data Diodes, Active Directory and Centralized Endpoint Protection within the SCADA and PICS networks, and managed security services and hardware upgrade and refresh efforts within the MIS network.

This contract includes the upgrade and or replacement of all "end of life" products included in the current contract and those that were purchased separately. It further includes all of the managed services associated with the original contract and adds the managed services for SIEM and Anti-Malware technologies as well as allowances for Incident Response Services (\$120,000) and Design/Consultation Services (\$132,000). Finally, this contract, unlike the original one which allowed for only a discrete number of device logs to be monitored, provides for unlimited device logs to be analyzed under the security monitoring services.

DISCUSSION:

As discussed in the cyber security update to the Board, all cyber security equipment owned by the Authority and managed under WRA-3224 will be end of life within the next 12 months by the respective manufacturers and should be replaced. This contract will provide new, "next generation" replacement cyber security equipment that will survive through the life of the contract (including the two 12-month extensions). The following items will be replaced: SIEM, Firewalls, Intrusion Detection, and Reverse Proxy.

¹ manufacturer no longer provides security updates and replacement parts are increasingly difficult and more expensive to find and purchase.

In addition, this contract will provide essential cyber security protections, such as the continuous monitoring and 24/7 alerting of cyber security events. Unlike the previous contract MWRA will be allowed to forward unlimited device logs for analysis and correlation including but not limited to Anti-Malware (FireEye), Servers, Routers and Switches, and will provide MWRA with new abilities to incorporate up-to-the-minute threat intelligence from a variety of sources, including Federal Government-related entities (e.g., WaterISAC, MS-ISAC, and US-CERT) and expert cyber security research companies (e.g., FireEye and Symantec) which, in turn, will strengthen the MWRA's cyber security posture.

In order to provide the highest level of protection, MWRA staff continue to investigate alerts, review reports, and adjust the expanded array of intrusion prevention mechanisms in order to keep MWRA safe from cyber-hazards. However, as threats, investigations, and responses increase in quantity and complexity the Authority may require additional technical expertise and experience. Therefore, as part of the cyber security monitoring services purchased in this contract, staff included an option to purchase the following additional services on an as-needed Task Order basis:

- Incident Response Services (\$120,000), which will augment MWRA staff when responding to a cyber security breach or other event that requires additional expertise (e.g., maintaining an evidentiary chain of custody), additional analysis (e.g., at a forensic level), or additional manpower for restoration of normal computing operations; and
- Design/Consultation Services (\$132,000), to assist MWRA staff design and deploy other secure technological solutions for the Authority's operational needs, as they arise over the life of the contract.

Procurement Process

The procurement process to select a managed security services provider utilized a one-step Request for Qualification Statements/Proposals (RFQ/P), which was issued on December 21, 2015, with evaluation criteria weighted as follows:

- Cost - 30 points;
- Capacity/Qualifications and Key Personnel - 25 points;
- Technical Approach/Organization and Management Approach - 25 points; and
- Similar Experience/Past Performance on Authority/Non-Authority Projects - 20 points.

The RFQ/P required lump sum pricing for the designated scope of work.

In addition to the standard procurement advertising requirements, copies of the advertisement were sent directly to 17 firms to encourage competition. On February 3, 2016, MWRA received proposals from five firms: AT&T Inc. (AT&T); Integration Partners Corp. with Dell SecureWorks (IPC); NTT COM Security US, Inc. (NTT); NWN Corp. with Symantec (NWN); and Verizon.

On February 8, 2016, the Selection Committee met and began its review of the proposals, which were in depth and complex. On February 9 and 10, the Committee viewed product demonstrations, and requested clarification and additional information from Proposers regarding various aspects of their technical approaches. Because there were issues and questions related to each proposal, the Authority requested a "best and final offer" from Proposers, which was due on February 11th.

Verizon withdrew from further consideration, stating it could not meet the Authority's scope requirements. Specifically, Verizon would not include commercial off-the-shelf security information and event management hardware and software in its proposal, opting instead for a proprietary hosted solution. On February 11th, the following best and final prices were received from the remaining Proposers:

<u>Proposer:</u>	<u>Price:</u>
IPC	\$1,639,982
AT&T	\$1,801,939
NWN	\$2,109,842
NTT	\$2,788,452

The Selection Committee met on February 12th, to continue its review of the detailed materials and information furnished by the Proposers. Members then completed their final scoring and ranking and voted, reporting their points and order of preference scoring, the totals of which were as follows:

<u>Proposer</u>	<u>Total Points</u>	<u>Order of Preference Total Score</u>	<u>Final Ranking</u>
NWN	417	5	1
NTT	333	10	2
AT&T	234	15	3
IPC	163	20	4

*Order of Preference Total Score represents the sum of the individual Selection Committee members' rankings where the firm receiving the highest number of points is assigned a "1"; the firm receiving the next highest number of points is assigned a "2"; and so on.

The Selection Committee voted unanimously to recommend that NWN be first-ranked. NWN submitted the lowest price to perform all required scope items. NWN's product demonstration was very successful, its proposal included all required certifications, and its references were positive. NWN agreed to execute the MWRA's contract substantially as written, requesting few changes. Headquartered in Waltham, MA with 500 employees worldwide, NWN provides comprehensive information technology solutions which are proven, relevant and cost-effective. NWN offers qualified staff for performance, with the personal service of a local provider. NWN's subcontractor, Symantec Corporation, is a world-renowned Fortune 500 information security company, with more than 21,500 employees worldwide. Although Symantec has security operations centers around the globe to provide the highest level of 24/7 cyber security services, all MWRA data will remain secured simultaneously in two Symantec data centers

within the continental US. NWN will provide a single point of contact for the Authority and has the capacity, through its partner Symantec, to perform security monitoring and incident response services at reasonable rates.

Second-ranked NTT submitted the second lowest price to provide the required scope of work. NTT requested more exceptions and changes to the Authority's essential contract terms than NWN. NTT proposed a qualified team to perform the work, with good credentials and positive past performance references.

AT&T and IPC were ranked third and fourth respectively, and received the least amount of points, because their proposals did not include certain hardware and software required in the scope of work, which are critical components to the Authority's cyber security program, and did not identify key, certified personnel who would perform the work. AT&T's proposal included significant and extensive risk and cost shifting contract terms, revisions and substitutions, and its price was "subject to change ... upon further investigation(s) as to local conditions and the exact requirements of any future order." Finally, based upon financial information reviewed, the Selection Committee had concerns regarding IPC's capacity.


BUDGET/FISCAL IMPACT:

The FY16 CIP includes \$1,020,000 for the Information Security Program; however in the Proposed FY17 CIP the funding was increased to \$2,000,000. The maintenance and monitoring portion of this contract is budgeted at \$300,000 level in the FY16 Current Expense Budget. Adequate funds will be included in future Current Expense budgets for maintenance and monitoring services.


MBE/WBE PARTICIPATION:

Due to the limited subcontracting opportunities no MBE or WBE participation were established for this procurement.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: March 16, 2016
SUBJECT: Integrated Financial, Procurement and Human Resources/Payroll Management System Maintenance and Support
Infor Global Solutions (formerly Lawson Associates, Inc.)

COMMITTEE: Administration, Finance, & Audit

Janice Watts, Buyer
Russell J. Murray, MIS Director 
Joseph S. Barrett, Custom Support Manager
Preparer/Title

 INFORMATION

 X VOTE


Thomas Durkin
Director, Finance


Michele S. Gillen
Director, Administration

RECOMMENDATION:

To approve the award of a sole source purchase order contract for the annual maintenance and support of the integrated financial, procurement and human resources/payroll management system to Infor Global Solutions (formerly Lawson Associates, Inc.), and to authorize the Executive Director to execute said purchase order contract in an amount not to exceed \$380,173.37 for a period of one year, from June 1, 2016 through May 31, 2017.

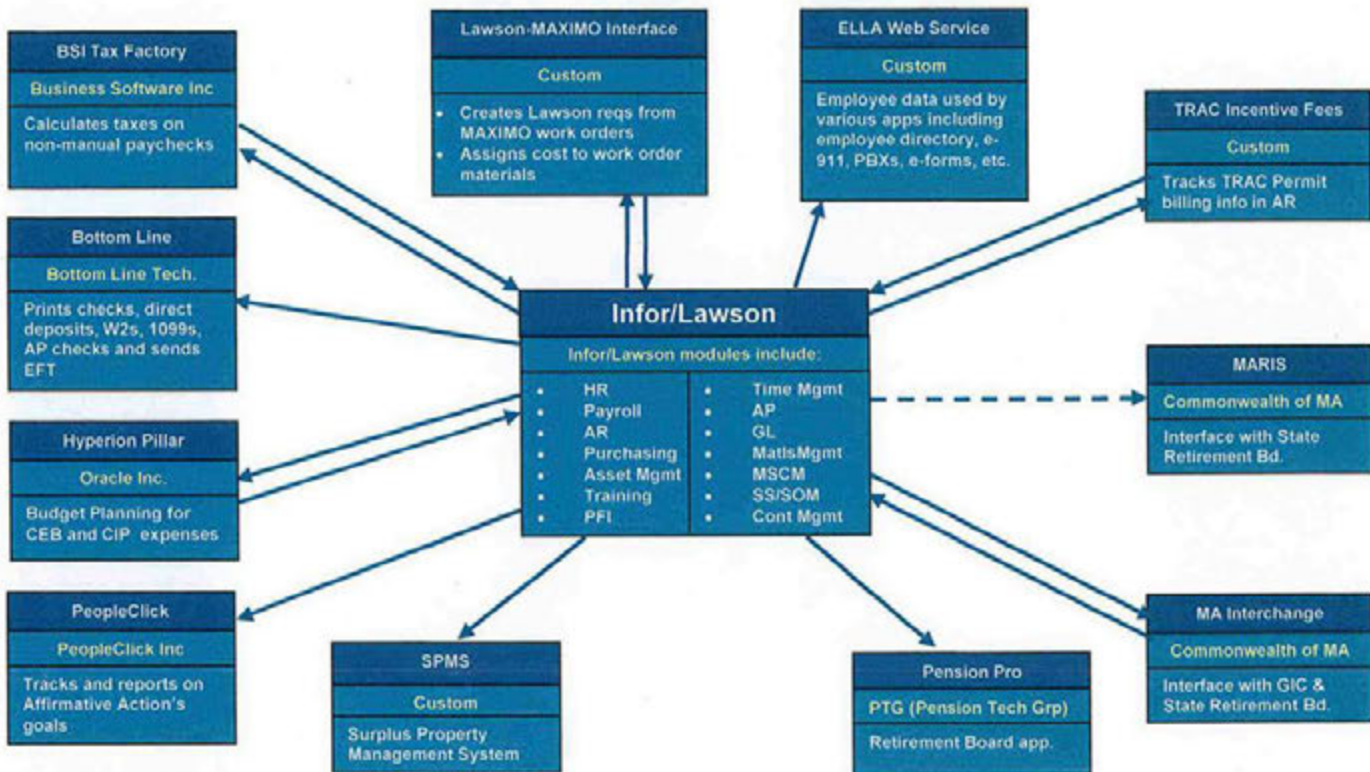
DISCUSSION:

On March 24, 1999, the Board of Directors approved Contract 6362 with Lawson Associates (now Infor Global Solutions) to implement an integrated financial and procurement management system. In May 2000, the implementation of a Human Resources/Payroll module was included as part of the Lawson System. Today this set of application modules represents the core administrative and financial management functionality for the MWRA (Human Resources, Payroll, Finance, Procurement, and Materials Management). In addition, the Commonwealth of Massachusetts Records Conservation Board has approved this system as the "system-of-record" for the associated electronic information thus reducing the need for paper records.

In October 2012, as part of an effort to reduce the use of customized applications, use more off-the-shelf products, and respond to the MIS 5-Year Strategic Plan recommendations (including enhancing e-Procurement functionality and reducing paper), the Board of Directors approved the implementation of the Strategic Sourcing, Supplier Order Management and Contracts Management modules.

The illustration on the next page shows the significant Infor/Lawson modules in use and interfaces with other applications.

Infor/Lawson Dependent Systems



This maintenance and support agreement is an essential tool to protect the MWRA's Lawson software investment. The Lawson support agreement ensures that the MWRA receives vendor support including:

- Access to product patches, version releases, software upgrades and documentation; "How To" assistance, remote diagnosis, priority case queuing, e-mail notifications, Lawson Global Support, hot topics web discussion groups and electronic self-service case logging, tracking and management.
- Access to support engineers twelve hours a day, five days a week and twenty-four hour, seven day a week support for critical issues.

Staff have thoroughly reviewed the sole source nature of this procurement. Infor Global Solutions is the manufacturer of this software and while there are third party vendors who provide support for various applications, they do not have the ability to change standard code or provide upgrades or fixes to the application. This ability is important to the MWRA to ensure that it is able to maximize its use of Lawson.

Non-renewal of the maintenance and support agreement would place the MWRA at risk since no further support will be provided on the existing applications. Therefore, staff recommend that

the MWRA renew the annual maintenance agreement to provide ongoing support for the Lawson System.

BUDGET/FISCAL IMPACT:

This year's request of \$380,173.37 represents a 6% increase over last year's not-to-exceed amount of \$358,654.12. There are sufficient funds available in the FY16 CEB for this renewal.

MBE/WBE PARTICIPATION:

Infor Global Solutions is not a certified Minority or Woman Owned business.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: March 16, 2016
SUBJECT: Employee Assistance Program Services
AllOne Health
Contract A605



COMMITTEE: Administration, Finance, and Audit

INFORMATION
 VOTE

Emily Dallman
Emily Dallman, Manager, Benefits & HRIS
Preparer/Title

Michele S. Gillen
Michele S. Gillen
Director of Administration

RECOMMENDATION:

To approve the recommendation of the Selection Committee to select AllOne Health Resources, Inc., d/b/a AllOne Health, to provide Employee Assistance Program services including Substance Abuse professional referrals, training, and facilitation services as needed, and to authorize the Executive Director on behalf of the Authority to execute a contract with AllOne Health for a not-to-exceed amount \$28,675.20 for a one-year period, commencing April 1, 2016; and to further authorize the Executive Director to exercise a single three-year option to renew the contract if recommended by staff, in an amount not to exceed \$92,439.35. Actual annual cost is based on an established per employee unit rate and the total employee count as of January 1 of each year as well as the number of mandatory substance abuse professional referrals, and training and facilitation hours utilized.

BACKGROUND:

The MWRA has had an Employee Assistance Program (EAP) as part of its union and non-union benefit package since 1990. The EAP is designed to assist MWRA employees and their family members in recognizing and resolving personal problems that do, or might interfere, with employees' job performance. EAP services include:

- Alcoholism and substance abuse or dependency
- Emotional problems
- Family problems
- Depression and other mental health issues
- Stress
- Financial management problems
- Interpersonal relationship programs
- Comprehensive employee outreach
- Confidential diagnostic and counseling services

The firm further provides:

- Mandatory Substance Abuse Professional (SAP) referrals
- Training and facilitation services as requested by the Director of Human Resources

DISCUSSION

On April 25, 2015, the MWRA issued a Request for Qualifications/Proposal to firms who provide EAP services. On May 22, 2015, only one firm, Deer Oaks Services, LLC (Deer Oaks), the incumbent, submitted a proposal. The MWRA awarded a six-month time extension to the existing contract, from October 1, 2015 to March 31, 2016, during which time efforts were made to encourage more competition.

On January 16, 2016, the MWRA issued a Request for Qualifications/Proposal for EAP Services, mandatory SAP referrals, and as-needed training and facilitation services. The MWRA received proposals from Charles Nechtam Associates (CNA), Deer Oaks, and AllOne Health. The Selection Committee reviewed, discussed and scored each proposal based upon the following evaluation criteria: Cost (35 points), Qualifications and Key Personnel (20 points), Capacity/Technical Approach (20 points), Experience and Past Performance (15 points), and Organization and Management Approach (10 points). Between four and seven references were contacted for each proposer. In general, all proposers received favorable reviews and references indicated they would rehire the firms.

Below is a cost comparison of the three proposals which included distinct components for basic EAP services, mandatory SAP referrals, training, and facilitation services.

<u>Year</u>	<u>AllOne Health</u>	<u>CNA</u>	<u>Deer Oaks</u>
Year 1: 4/1/2016 – 3/31/2017	\$28,675.20	\$37,174.40	\$41,232.52
Year 2: 4/1/2017 – 3/31/2018	\$29,730.45	\$37,174.40	\$41,799.40
Year 3: 4/1/2018 – 3/31/2019	\$30,806.11	\$37,174.40	\$42,366.28
Year 4: 4/1/2019 – 3/31/2020	\$31,902.79	\$37,174.40	\$42,933.16
Years 2,3,4 Subtotal:	\$92,439.35	\$111,523.20	\$127,098.84
Total	\$121,114.55	\$148,697.60	\$168,331.36

AllOne Health was the lowest cost proposer and provided a comprehensive description of its services. AllOne has many public sector clients including MassPort and the City of Brockton both who have repeatedly hired AllOne and are extremely satisfied with its services. Further, AllOne Health provided EAP services for the MWRA from 1989 to 1998 and again from 2000 to 2004 and the MWRA found it to be very well qualified and responsive.

CNA provided a proposal that described in detail its EAP services but provided very little detail in terms of mandatory SAP referrals, training, and facilitation services. It was the second lowest cost proposal.

Deer Oaks, the incumbent, provided the highest cost proposal. MWRA has been generally satisfied with its performance; however, its high cost negatively affected its overall evaluation.

The committee scored and ranked the firms as indicated below:

Bidder	Total Points	Order of Preference* Total Score	Final Ranking
AllOne Health	437	7	1
CNA	374	11	2
Deer Oaks	353	12	3

* Order of preference represents the sum of the individual selection committee members' rankings, where the firm receiving the highest number of Total Points is assigned a "1", the firm receiving the next highest number of Total Points is assigned a "2", and so on.

AllOne Health received the highest ranking overall and the Committee voted to recommend the award of the contract to AllOne Health.


BUDGET/FISCAL IMPACT:

Funds have been allocated for this program in the FY16 Current Expense Budget. Additional funding will be included in future CEB requests to cover anticipated expenditures.

MBE/WBE PARTICIPATION:

There were no MBE/WBE participation requirements established for this contract due to the limited opportunities for subcontracting.



STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: March 16, 2016
SUBJECT: Groundskeeping Services – Metropolitan Boston
C&W Facility Services, Inc.
Contract OP-315

COMMITTEE: Administration, Finance and Audit

INFORMATION
 VOTE

Stephen Cullen, Director W.W. Operations & Maintenance
John P. Vetere, Deputy Chief Operating Officer
Preparer/Title


Michele S. Gillen
Director, Administration

Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To approve the award of Contract OP-315, Groundskeeping Services – Metropolitan Boston, to the lowest responsive bidder, C&W Facility Services, Inc., and authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of \$375,911.06 for a contract term of 730 calendar days from the Notice to Proceed.

DISCUSSION:

Contract OP-315 will provide grounds maintenance at 34 MWRA water and wastewater locations spread across the metropolitan Boston area (see attached map.)

MWRA has been contracting a portion of its grounds maintenance work for a number of years because it is the most cost-effective way to have these services completed. Contracted work includes basic grounds maintenance tasks, such as mowing and trimming at weekly or bi-weekly frequencies. It also includes fall clean-ups that entail removing leaves, dead branches, and other debris, inspecting the property for pests and/or diseases, and mulching planting beds. Several dams at the Fells Reservoir will be regularly mowed and vegetation that could affect their structural integrity will be removed.

The contract also includes small allowances (\$10,710) to provide additional services on an as-needed basis to allow MWRA to address grounds maintenance needs that occasionally arise but are not specifically identified in the scope of work, such as treating for unanticipated insects, pests, diseases, or invasive plants.

For the previous two years, the contracted grounds maintenance has been performed under two concurrent contracts. Contract OP-232 provided services at 23 facilities in Boston and metropolitan communities to the north and west. Contract OP-232A provided services at 19 facilities in Boston and metropolitan communities to the south. Prior to the OP-232 and OP-232A contract (2012 and 2013), a single contract, OP-183, provided these services to 51 facilities throughout metropolitan Boston. Over the last four years the number of facilities in the contract has been reduced due to MWRA employees taking on a greater number of less labor intensive facilities, as well as a slight reduction in total number of facilities.

This contract provides services to all sites in Boston and the surrounding metropolitan area. In the past, this work had been divided among two smaller contracts. The intent was to provide more opportunity for small firms to bid, but experience has shown smaller firms do not have the resources to complete the work. Staff have terminated contracts twice because of contractors' inability to complete the work on schedule (contracts OP-119 in 2010 and OP-232A in 2015). Staff have determined that bidding the work in a single contract is the best method for obtaining bids only from qualified firms with the resources necessary to complete the work as required.

Procurement Process

Contract OP-315 was advertised and bid as a non-professional services contract. Bids were received and opened on January 28, 2016 with the following results:

<u>Contractor</u>	<u>Bid Amount</u>
C&W Facility Services, Inc.	\$375,911.06
<i>Staff Estimate</i>	<i>\$450,000.00</i>
Upper Valley Landscape, Inc.	\$492,370.00
LEI	\$498,540.00
Leahy Landscaping, Inc.	\$571,500.00
Shady Tree Landscaping, Inc.	\$725,625.00
Anthony Vanaria & Sons, Inc.	\$936,460.00

Staff's estimate for this contract was developed based on past experience with contracted landscape and lawn maintenance contracts, factoring in a reduction in the number of facilities serviced, and a projected inflationary increase.

Staff interviewed a representative from C&W Facility Services who demonstrated a clear understanding of the scope of work and affirmed that the bid price included all work items. C&W Facility Services is familiar with the scope of work as it was the contractor for contract OP-232 under the name DTZ, Inc. C&W Facility Services also completed the final months of OP-232A after the original contract was terminated for non-performance. Prior to that, C&W Facility Services was the contractor for OP-183 under the name UGL Services. The name changes were the result of business mergers. This familiarity with the work allowed C&W Facility Services to provide competitive pricing.

C&W Facility Services' bid is 16.5% below staff's estimate. Upon review, staff's estimate of hours required for the work was higher than that used by C&W Facility Services. Also, after

accounting for the change in contract scope, the bid of C&W Facility Services is consistent with its bids on prior contracts.

Based on the interview and a review of C&W Facility Services' bid price, staff are of the opinion that the bid price is reasonable and complete.

References were checked and found to be favorable. C&W Facility Services meets the requirements for experience. In addition to the metropolitan Boston groundskeeping contracts, C&W Facility Services has successfully performed groundskeeping work at Deer Island under separate, competitively bid contracts for approximately six years. MWRA staff have reported the company's performance as excellent.

Staff are of the opinion that C&W Facility Services, Inc. possesses the skill, ability, and integrity necessary to perform the work under this contract and is qualified to do so. Therefore, staff recommend the award of Contract OP-315 to C&W Facility Services, Inc. as the lowest responsive bidder.

BUDGET/FISCAL IMPACT:

Sufficient funds for this contract have been included in the Operations Division FY16 Current Expense Budget. Sufficient funding will be included in subsequent CEB requests for the remaining term of the contract.

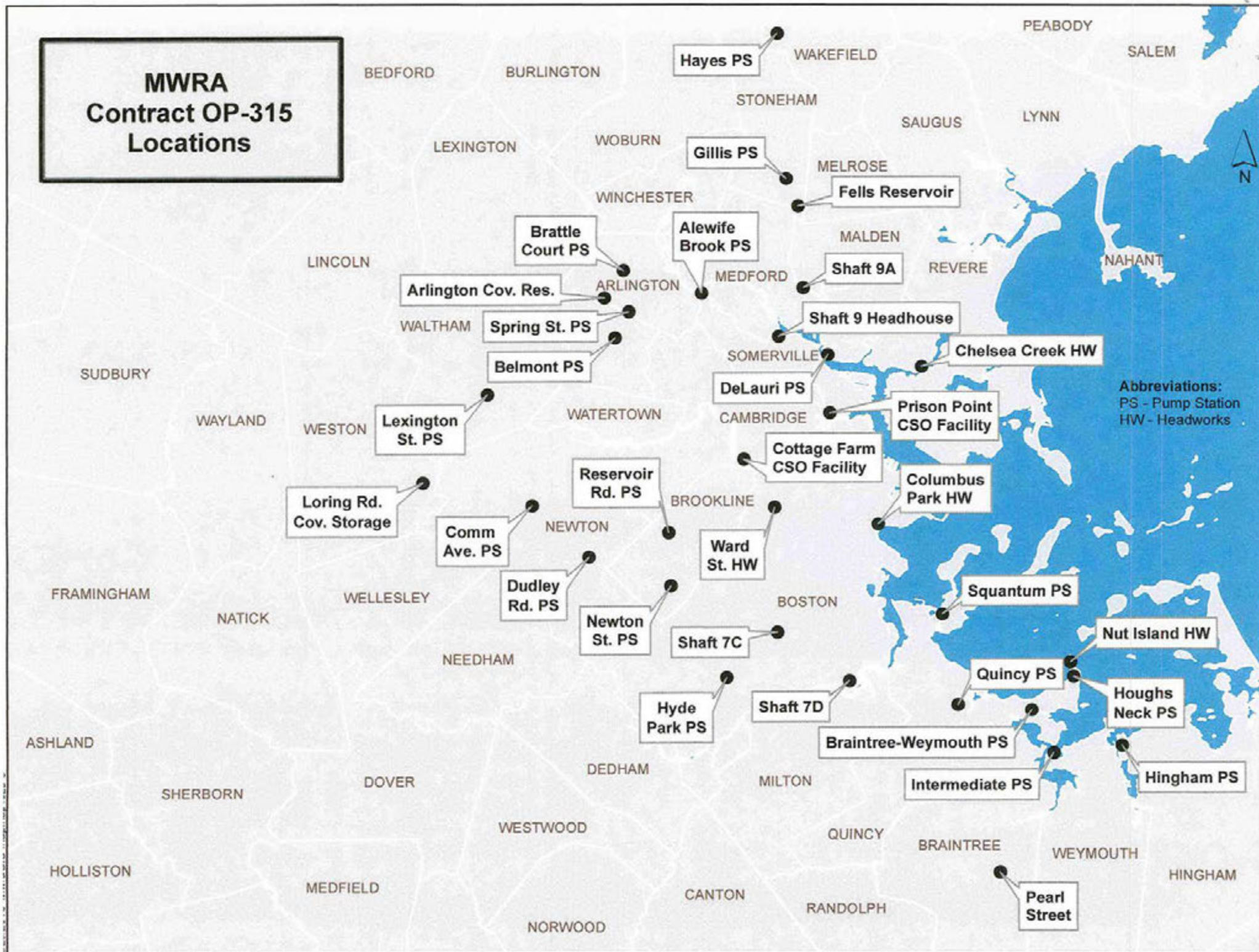
MBE/WBE PARTICIPATION:

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

ATTACHMENTS:

Map of Facility Locations

MWRA Contract OP-315 Locations





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

WASTEWATER POLICY & OVERSIGHT COMMITTEE MEETING

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

to be held on

Wednesday, March 16, 2016

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

Time: Immediately following AF&A Comm.

AGENDA

A. Information

1. Nut Island Odor Control Fire Update
2. Infiltration/Inflow Local Financial Assistance Program Annual Update

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the Wastewater Policy and Oversight Committee

February 10, 2016

A meeting of the Wastewater Policy and Oversight Committee was held on February 10, 2016 at the Authority headquarters in Charlestown. Chairman Flanagan presided. Present from the Board were Ms. Wolowicz and Messrs. Blackmon, Carroll, Foti, Pena, Pappastergion, Vitale and Walsh. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Mike Hornbrook, John Vetere, John Colbert, Paul Whelan, Pat Smith, Milan Horbaczewski, Dave Coppes, Dave Kubiak, and Bonnie Hale. The meeting was called to order at 10:55 a.m.

Information

Nut Island Odor Control Fire Update

Staff provided an update on the January 25 fire, including the good news that the hospitalized workers had been released and were imminently returning to work. There was a detailed presentation on the event, the cause, the damage, and the short- and long-term response. There was general discussion and question and answer. The discussion then turned to the proposed demolition contract award, item C.4 on the agenda. The Committee recommended approval of the contract award.*

Approvals

*CSO Annual Progress Report for 2015

There was general discussion, and the Committee recommended approval of submittal of the report to the Federal District Court by March 15, 2016 (ref. agenda item B.1).

Contract Awards

*Supply and Delivery of Hydrogen Peroxide for the Deer Island Treatment Plant: U.S. Peroxide, LLC, Bid WRA-4147

The Committee recommended approval of the contract award (ref. agenda item C.1).

* Approved as recommended at February 10, 2016 Board of Directors meeting.

*Clinton Wastewater Treatment Plant Phosphorus Reduction Facility: Daniel O'Connell's Sons, Inc., Contract 7411

The Committee recommended approval of the contract award (ref. agenda item C.2).

*Caruso Pump Station Improvements Waterline Industries Corp., Contract 7362

The Committee recommended approval of the contract award (ref. agenda item C.3).

*MWRA Nut Island Emergency Demolition and Duct Cleaning: Daniel O'Connell's Sons Contract OP-320

During the earlier discussion of the related information item on the fire, the Committee recommended approval of the contract award (ref. agenda item C.4).

The meeting adjourned at 11:50 a.m.

* Approved as recommended at February 10, 2016 Board of Directors meeting.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: March 16, 2016
SUBJECT: Nut Island Odor Control Fire Update



COMMITTEE: Wastewater Policy & Oversight

INFORMATION
 VOTE

John P. Vetere, Deputy Chief Operating Officer
A. Navanandan, P.E., Chief Engineer
John P. Colbert, P.E., Deputy Chief Engineer
Preparer/Title


Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

For information only.

DISCUSSION:

This staff summary provides a 50 day post-fire update on the progress made at Nut Island including short and long-term plans to restore odor control treatment to operational condition. The five MWRA staff involved in the event have all returned to work.

Cleaning and Demolition

Cleaning of walls, ceiling, floors, ductwork and equipment from heavy smoke and water damage has been progressing six days per week, ten hours per day. The cleaning of the main building, grit and screenings level, and the lower level (except the odor control room) has been completed.



An extensive temporary staging system has been erected in the large underground odor control chamber to clean smoke and soot damage from the upper interior ceiling and the ventilation and odor control duct work. The staging is also being used to replace damaged lighting and fire protection systems.

A critical step in the recovery process of the odor control system is to ensure that all ventilation and odor control duct work and wet scrubbers are free of any internal soot and dust potentially containing sulfur. As of March 10, 2016, internal cleaning of the large diameter odor control fiberglass ductwork is approximately 80% complete and the aluminum HVAC ducts are approximately 50% complete. Cleaning of the odor control ductwork continues and is expected to be completed by the end of March.



Odor Control Wet Scrubber # 4 and associated ductwork, fan and motor were destroyed or significantly damaged by the initial explosion and subsequent fire. The odor control scrubber, ductwork and fan have been demolished and removed. Wet Scrubber #4 air duct connections to the odor control system will be temporarily capped to allow start up of the remaining carbon odor control system.



Scrubber Post Fire



Scrubber Top Removed – Internal Material Exposed



Scrubber Materials Removed



The following additional recovery work has been completed by MWRA and contractor staff:

- All electrical cables have been tested;
- Remaining odor control fans and motors (#1, #2, #3) have been rebuilt. They will be installed after all cleaning activities are completed;
- Small motors outside of the odor control area have been replaced that were water damaged;
- All HVAC units, excluding the units in the odor control area, have been returned to service with new filters;
- The main building elevator have been repaired and returned to service;
- Fire protection sprinkler heads have been installed and tested over the odor control adsorbers. Replacement sprinkler heads over the odor control scrubbers are being replaced;
- Lighting has been restored to the odor control area which required replacement of fixtures and wiring;
- Replacement energy efficient lighting has been installed to replace damaged lighting above the odor control scrubbers; and
- Control components have been ordered to restore control logic to the odor control system and components.

Short-Term - Returning Odor Control System to Operation

The short-term goal is to test and safely restart the odor control ventilation and granular carbon units. This will allow air flow through the existing duct work from the process areas (rather than current temporary means) throughout the facility and reestablish odor control initially with the activated carbon units.

As previously stated, the cleaning, demolition and duct cleaning activities are expected to be completed by the end of March/early April. Following this work, the rebuilt odor control motors will be installed and the odor control fans tested. Minor repairs to the granular carbon units will also be completed. The goal is to have the odor control system operational with carbon only by the end of April. Staff believe that the carbon units alone will meet air permit requirements; however, the short-term system will not have the full redundancy previously available with odor control scrubber #4 and fan #4 removed. A spare rebuilt motor is available to replace fan #3 if needed. In addition, staff are investigating the possible reconfiguration of the suction ductwork to allow the use of the # 2 fan for redundancy to the #3 fan.

Long-Term Odor Control System

Restoration of the odor control wet scrubbers will require additional time and restoration activities and approvals by outside agencies. Prior to the fire, Hazen and Sawyer, P.C. had been awarded a contract (Contract 7494), to evaluate Nut Island's odor control system and to provide any recommendations for long-term rehabilitation, replacement or improvements. An accelerated draft report, just received, recommends that the carbon absorbers could be used as a single stand-alone odor control treatment process since actual hydrogen sulfide levels at Nut Island are lower than were anticipated with the original design. The lower hydrogen sulfide levels result in the use of carbon alone being able to meet all air permit requirements with carbon being the most cost-effective air treatment method. Carbon alone has previously been used at Nut Island through the entire summer of 2014 and all air permit levels were met. The draft report recommends the decommissioning and removal of the three remaining wet scrubbers. If this option is selected, an additional carbon absorber was recommended to be added to provide more redundancy. Staff will monitor the performance of the carbon absorbers in the short-term to confirm this recommendation and will return later to the Board on the long-term issue of the wet scrubbers.

For the short-term, the scrubbers have been emptied of their media and cleaned, and will essentially function as ductwork to convey air to the carbon units. The carbon will be tested periodically for remaining life and carbon replacement will be planned prior to carbon exhaustion.

Staff are preparing a new scope of design and construction services for the long-term repair/rehabilitation/enhancement to Nut Island Odor Control system and facility. This scope will also include an evaluation of replacement of fire and non-fire damaged equipment and systems deemed appropriate (e.g. nearing end of useful life) to replace. The scope will include evaluations, recommendations and the preparation of final design documents.

BUDGET/FISCAL IMPACT:

MWRA purchases and maintains property insurance coverage (including Boiler and Machinery) as part of its overall property and casualty insurance program. The policy includes various limits of coverage with a \$2.5 million self-insured retention. The Nut Island fire event has been reported to FM Global as an event triggering coverage under the policy and Risk Management has received written acknowledgement of coverage for this event. Damage to Real and Personal Property resulting from the fire will be covered subject to the terms and conditions of the policy and the self-insured retention mentioned above.

It is expected that costs to repair fire-related damage will exceed the insurance policy self-insured retention of \$2.5 million. MWRA will absorb this cost in the FY16 Current Expense Budget. Amounts in excess of this self-retention will be paid by MWRA and then be reimbursed by the insurance company on a periodic basis as they are expended. The total estimated repair cost has not yet been determined and will be provided in a future update to the Board.

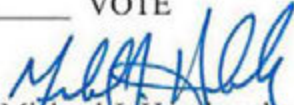
STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: March 16, 2016
SUBJECT: Infiltration/Inflow Local Financial Assistance Program Annual Update

COMMITTEE: Wastewater Policy & Oversight

INFORMATION
 VOTE

Carolyn M. Fiore, Deputy Chief Operating Officer
Jon F. Szarek, Project Manager
Carl H. Leone, Senior Program Manager
Preparer/Title


Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

For information only. MWRA's Infiltration/Inflow (I/I) Local Financial Assistance Program was initiated in May 1993 to provide funding to member sewer communities to perform I/I reduction and sewer system rehabilitation projects within their locally-owned collection systems. The program's goal is to assist member communities in improving local sewer system conditions to reduce I/I and ensure ongoing repair/replacement of the collection system. All forty-three sewer customer communities are participating in the financial assistance program.

BACKGROUND:

A total of \$460.75 million in grant and loan funds have been allocated to member sewer communities based on their respective share of sewer charges. Through February 2016, a total of \$304.9 million has been distributed to member communities to fund 501 local sewer rehabilitation projects over 24 years. The remaining \$155.8 million is approved for distribution through FY25. Attachment 1 provides a summary of funds allocated, distributed and remaining for each member community. Attachment 2 provides more detail on community distributions by program phase including the most recent addition of Phases 9 and 10 funds at \$80 million each. All scheduled community loan repayments have been made, a total of \$144.4 million to date.

Wastewater discharged by member sewer communities to MWRA is influenced by seasonal and wet-weather conditions related to I/I. I/I is extraneous water that enters all wastewater collection systems through a variety of sources.

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



Infiltration in a Sanitary Sewer

Inflow is extraneous flow entering the collection system through point sources and may be directly related to storm water run-off from sources such as roof leaders, yard and area drains, basement sump pumps, manhole covers, cross connections from storm drains or catch basins, leaking tide gates, etc. Inflow causes a rapid increase in wastewater flow that occurs during and after storms. The volume of inflow entering a collection system typically depends on the magnitude and duration of a storm event, as well as related impacts such as snowmelt and storm tides.



Private Inflow from a Sump Pump

MWRA's I/I Local Financial Assistance Program is a critical component of MWRA's Regional I/I Reduction Plan.¹ Specifically, local sewer system rehabilitation projects are intended to at least offset ongoing collection system deterioration to prevent a net increase in regional I/I. In the long-term, system rehabilitation should result in lower I/I, which will allow for future increases in sanitary flows (residential, commercial, industrial, and institutional) without a net increase in total wastewater flow to the Deer Island Treatment Plant. The program fosters efficient operation and maintenance of local sewer systems.



Inflow into a Manhole

DISCUSSION:

In FY15, the addition of Phases 9 and 10 funds as recommended by the MWRA Advisory Board (total of \$160 million for combined grants and loans) increased the total program budget to \$460.75 million and extended the distribution of grants and loans through FY25. The grant/loan split was reconfigured for Phases 9 and 10 to 75% grant and 25% interest-free loan (previously 45% grant and 55% loan) and the loan repayment period was extended to 10 years (previously 5 years). Program funds are allocated among the 43 MWRA sewer communities based on respective share of wholesale sewer charges. Phase 9 funds began to be distributed in FY15. Phase 10 funds become available to each community in the fiscal year following distribution of 50% or more of that community's Phase 9 funds.

The Advisory Board also recommended that the I/I Local Financial Assistance Program be modified by the addition of sunset provisions for the grant portion of funding for Phases 1 through 7. The sunset provisions have proven successful in motivating communities to continue to invest in local sewer rehabilitation projects. All funds budgeted by MWRA for community I/I reduction grants and loans for Phases 1 through 5 have been distributed to fund local projects. The grant portion of Phase 6 and 7 funds will sunset at the end of FY18 and FY21, respectively. A status update on community funding is provided in the table below.

¹ As required by the National Pollutant Discharge Elimination System (NPDES) Permit for the Deer Island Plant, MWRA's Regional Infiltration/Inflow Reduction Plan was approved by MassDEP in November 2002. MWRA is required to report annually on the I/I Reduction Plan and present estimates of I/I. The Regional I/I Reduction Plan and Annual I/I Reduction Report are online at: <http://www.mwra.com/comsupport/communitysupportmain.html>.

Funding Phases	Year Initiated	Total Funding (\$ millions)	Funds Distributed (\$ millions)	Funds Remaining (\$ millions)	Number of Communities with Funds Remaining
1-5	FY93-FY05	\$ 180.75	\$ 180.75	\$ 0.00	0 of 43
6	FY07	\$ 40.00	\$ 38.21	\$ 1.79	5 of 43
7	FY10	\$ 40.00	\$ 34.61	\$ 5.39	7 of 43
8	FY13	\$ 40.00	\$ 27.44	\$ 12.56	18 of 43
9	FY15	\$ 80.00	\$ 16.89	\$ 63.11	33 of 43
10	FY15	\$ 80.00	\$ 7.00	\$ 73.00	39 of 43
TOTAL		\$ 460.75	\$ 304.90	\$ 155.85	

Grant and loan funding is provided to local communities for eligible I/I reduction projects including planning, design, construction, and engineering services during construction. These projects generally take one to three years to complete. Seventy-six percent of the funds distributed to date have financed local construction projects. The table below details funds distributed by project phase for both completed and ongoing projects.

PROJECT PHASE	COMPLETED PROJECTS (\$ millions)	ONGOING PROJECTS (\$ millions)	TOTAL (\$ millions)
Planning/Study:	\$ 36.5	\$ 5.6	\$ 42.1 (14%)
Design:	11.7	2.5	14.2 (5%)
Construction:	169.8	63.1	232.9 (76%)
Eng. Services During Const.:	11.3	4.4	15.7 (5%)
TOTAL	\$ 229.3 (75%)	\$ 75.6 (25%)	\$ 304.9 (100%)

Program Results

Through February 2016, a total of 501 local I/I reduction and sewer system rehabilitation projects have been funded through the MWRA's grant/loan program. Cumulative results for the program are summarized below.

Results for planning/inspection projects:

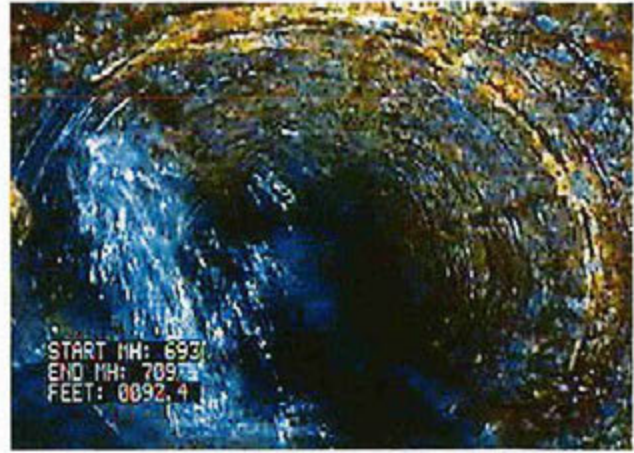
- 1,752 miles of sewer TV inspected
- 1,239 miles of sewer flow isolated
- 1,265 miles of sewer smoke tested
- 50,484 sewer manholes inspected
- 77,894 buildings inspected



Smoke Testing of Sewer Confirms Catch Basin and Open Service Connection Clean-Out are Inflow Sources



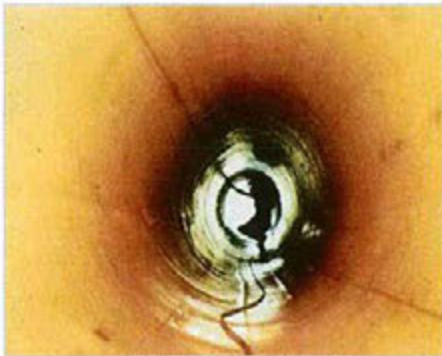
Sewer TV Inspection



Infiltration Source Identified by Sewer TV Inspection

Results for projects targeting infiltration reduction:

- 56 miles sewer replaced
- 143 miles cured-in-place (CIP) pipe liner
- 140 miles sewer tested/chemically sealed
- 2,354 sewer spot repairs
- 11,092 service connection repairs
- 4.8 miles underdrains sealed



Cured-In-Place Pipe Liner



Installation of Cured-In-Place Pipe Liner

Results for projects targeting inflow reduction:

- 1,017 catch basins disconnected
- 43 miles of new or replaced storm drains
- 14,847 manholes rehabilitated/sealed
- 2,462 manhole covers replaced or inflow seals installed
- 433 sump pumps redirected
- 5,209 downspouts/area drains disconnected



Sewer Manhole in Wetland - Raised and Sealed

Stormwater and I/I Impacts to the Collection System

Attachment 3 provides a graph of long-term regional flow data for the Deer Island Treatment Plant collection system and annual rainfall. The long-term average daily flow for the total system is 360 mgd and the average annual rainfall is 44 inches (Boston Logan Airport Data). Total system minimum dry-weather flows drop to 215 mgd; peak wet-weather flow during significant rainfall exceeds the 1,270 mgd plant capacity (more than 3.5 times the average flow), and significant additional system capacity is available at combined sewer overflow (CSO) outfalls and storage facilities. Few problems exist within local and regional sewer systems during dry weather or as a result of small and medium storm events. However, high levels of I/I (as well as stormwater from combined sewers) reduce pipeline capacity in the collection system that would otherwise be available to transport sanitary flow. The result, during extreme storm events, may be sewer system surcharging and sanitary sewer overflows (SSOs). I/I also results in the transport of groundwater and surface water out of the natural watershed.

Over the last four years (2012-2015), MWRA's average daily flow of 300 mgd has been well below the long-term average (60 mgd or 17% below average); while the four-year average rainfall has been 11% below average at 39 inches.

Attachment 4 displays the five-year running averages (flow and rainfall) as a means of smoothing the annual variability in the long-term data displayed in Attachment 3. The five-year running average daily flow has declined from approximately 390 mgd to approximately 315 mgd, a reduction of 75 mgd or 19% of wastewater flow tributary to the Deer Island Treatment Plant.

The estimated average daily flow reduction associated with completed local I/I reduction projects that have received MWRA financial assistance is about 86 million gallons per day (mgd). This flow reduction "ballpark" figure is based on the communities' (or their consultants') peak I/I reduction estimates, which have been prorated by MWRA staff to estimate an annual average I/I reduction. The estimated I/I reduction represents groundwater and stormwater that no longer enter the collection system at the point of repair. Regional wastewater flow reductions resulting from specific local I/I reduction projects are difficult to substantiate through end-of-the-collection-system meter data, due to factors noted below:

- Wastewater flows within the collection system vary dramatically due to changes in precipitation. For example, annual average daily flow for MWRA's system varies up to 100 mgd from year to year (from a low of less than 300 mgd to a high of more than 400 mgd). Small flow reductions for individual projects (typically much less than one mgd) are dwarfed by regional flow fluctuations;
- Sewer capacity gained by elimination of I/I in one subsystem may, in some cases, allow for other I/I to enter the collection system at a different location, resulting in less net flow reduction at the end of the collection system;
- MWRA's numerous pumping and interceptor upgrades, as well as combined sewer overflow and system optimization projects result in an increase in the capture and treatment of wastewater flow and the reduction of raw sewage discharges. When

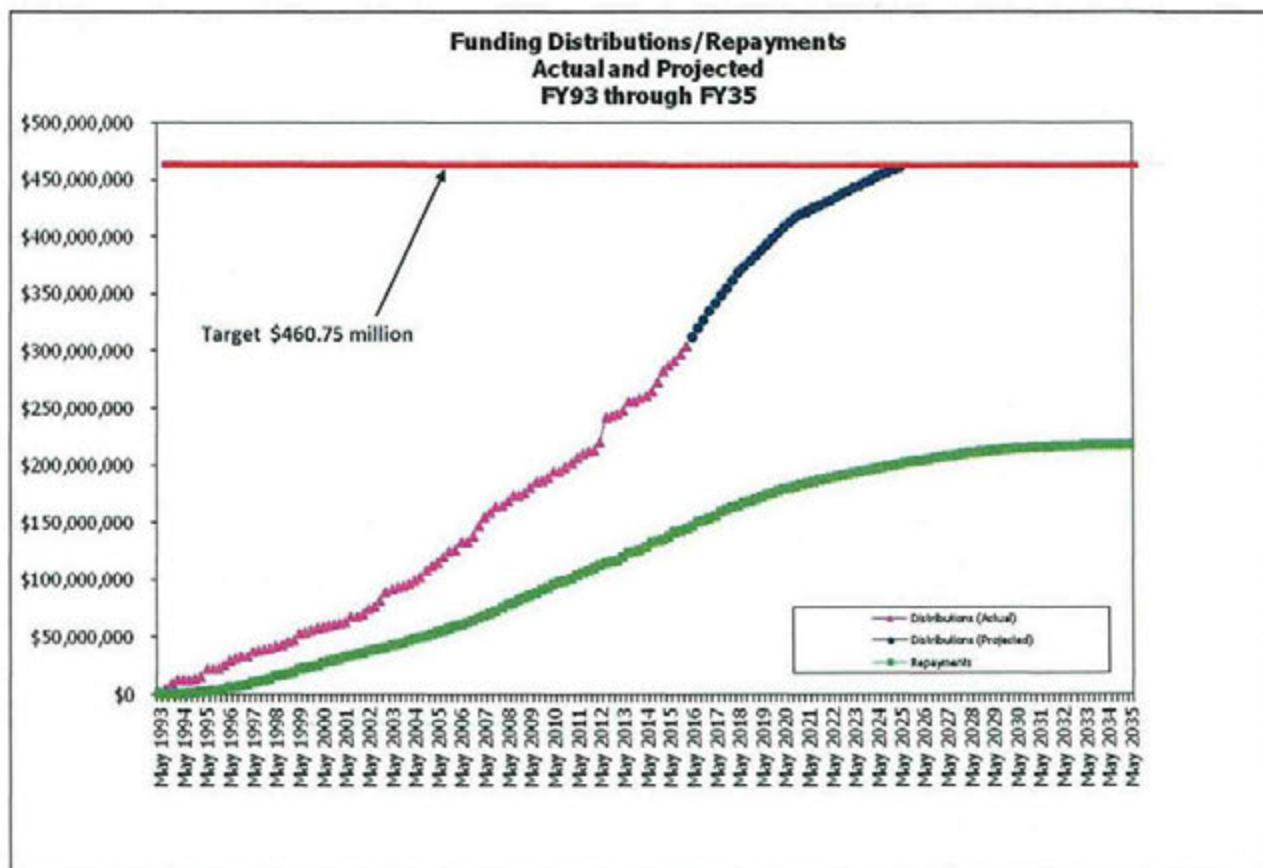
reviewing end-of-the-collection system meter data, these increased flows to the Deer Island Treatment Plant offset upstream I/I reductions; and,

- Over the last 20 years sewered population in the service area has increased by about 150,000 leading to an increase in sanitary sewage. Conversely, during the same 20 year period, per capita water use returned to the sewer system has decreased due to installation of low-flow plumbing fixtures and appliances leading to a decrease in sanitary sewage.

Taking these factors into account, long-term metering records will continue to be analyzed to monitor regional wastewater flow trends.

BUDGET/FISCAL IMPACT:

The FY16 CIP includes an overall budget of \$242.6 million for the grant portion of the I/I Local Financial Assistance Program. An additional \$218.2 million is budgeted for the loan portion of the program. However, this amount is offset by an equal amount of loan repayments over time. Depending on the timing and level of community loan requests, annual loan distributions can fluctuate, sometimes causing over-spending or under-spending (versus budget) for any particular quarter or year. The graph below presents grant and loan distributions and loan repayments (actual and projected) for all ten phases of the program – FY93 through FY35.



For the total program, the budget target is \$460.75 million for grant and loan distributions. To date, \$304.9 million in grants and loans have been distributed and the program has a remaining balance of \$155.8 million in future community grants and loans through FY25. Community loan repayments to date are \$144.4 million, leaving a remaining balance of \$73.8 million in future repayments through FY35. As community loans are repaid, the funds are deposited into MWRA's construction fund. Community grants and loans are financed through MWRA 30-year bonds.

MBE/WBE PARTICIPATION:

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

ATTACHMENTS:

Attachment 1 – Community Funding Summary

Attachment 2 – Community Funding Summary by Program Phase

Attachment 3 – Long-Term Regional Flow Data

Attachment 4 – Long-Term Regional Flow Data: 5-Year Running Average

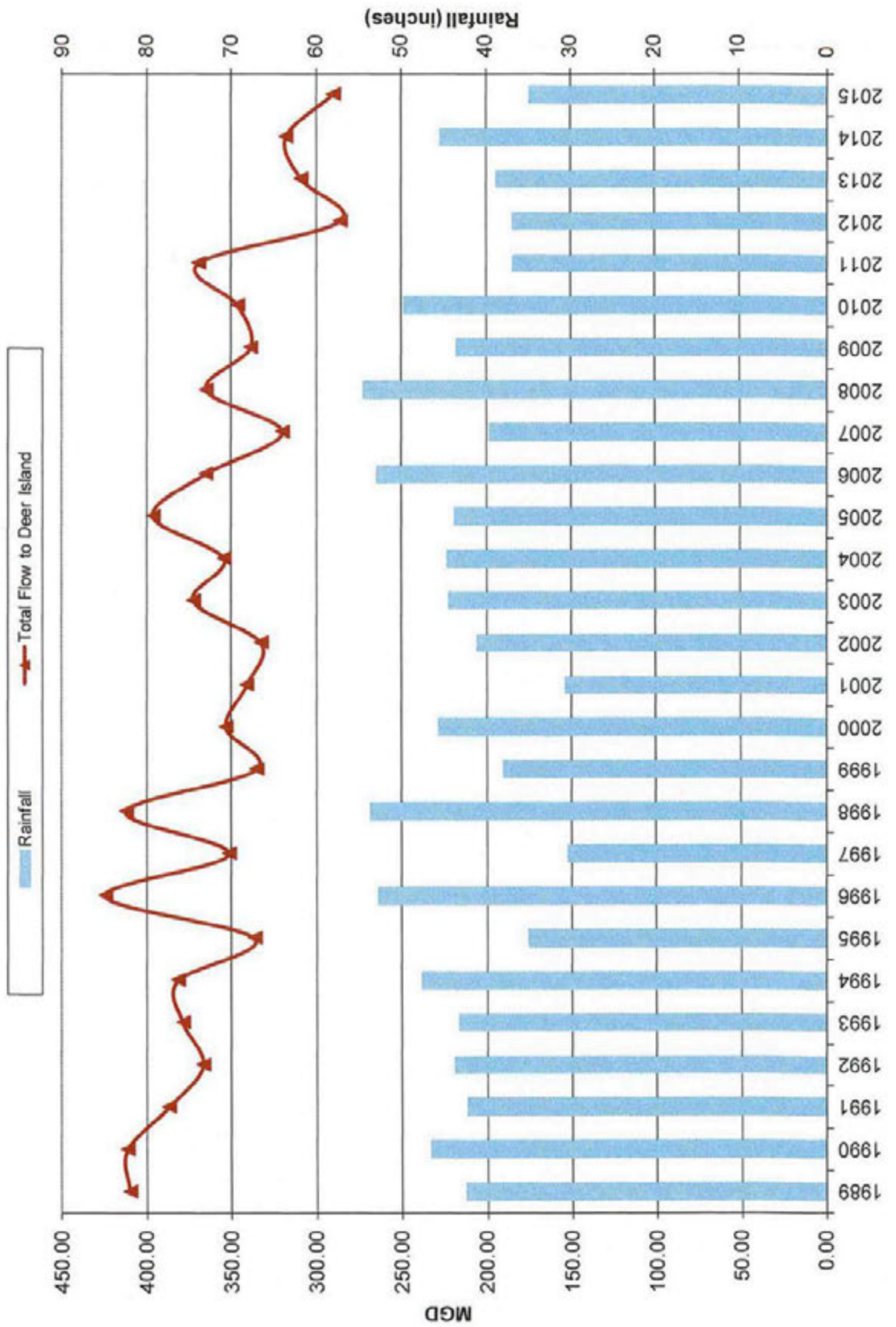
**ATTACHMENT 1
MWRA // LOCAL FINANCIAL ASSISTANCE PROGRAM
FUNDING SUMMARY AS OF MARCH 2016**

Community	Total Allocations (Phases 1 - 10)	Total Distributions (Phases 1 - 10)	Percent Distributed	Funds Remaining
Arlington	\$8,423,000	\$7,413,000	88%	\$1,010,000
Ashland	\$2,168,500	\$1,328,500	61%	\$840,000
Bedford	\$3,404,600	\$1,999,600	59%	\$1,405,000
Belmont	\$5,135,100	\$2,992,100	58%	\$2,143,000
Boston	\$132,171,200	\$83,711,976	63%	\$48,459,224
Braintree	\$8,359,000	\$5,915,800	71%	\$2,443,200
Brookline	\$13,165,200	\$7,666,200	58%	\$5,499,000
Burlington	\$5,102,800	\$3,285,800	64%	\$1,817,000
Cambridge	\$23,620,100	\$11,077,055	47%	\$12,543,045
Canton	\$3,965,900	\$2,675,900	67%	\$1,290,000
Chelsea	\$6,870,100	\$4,232,100	62%	\$2,638,000
Dedham	\$5,740,000	\$4,827,000	84%	\$913,000
Everett	\$8,071,500	\$5,229,500	65%	\$2,842,000
Framingham	\$12,125,000	\$5,874,650	48%	\$6,250,350
Hingham	\$1,632,500	\$1,632,500	100%	\$0
Holbrook	\$1,639,600	\$896,562	55%	\$743,038
Lexington	\$7,445,300	\$7,445,300	100%	\$0
Malden	\$12,283,900	\$4,593,900	37%	\$7,690,000
Medford	\$11,987,600	\$6,914,600	58%	\$5,073,000
Melrose	\$6,076,300	\$3,914,300	64%	\$2,162,000
Milton	\$5,564,500	\$3,251,500	58%	\$2,313,000
Natick	\$5,582,600	\$4,452,800	80%	\$1,129,800
Needham	\$6,257,600	\$2,892,150	46%	\$3,365,450
Newton	\$21,197,400	\$21,197,400	100%	\$0
Norwood	\$6,879,400	\$4,233,499	62%	\$2,645,901
Quincy	\$19,790,000	\$12,882,000	65%	\$6,908,000
Randolph	\$6,050,800	\$3,894,800	64%	\$2,156,000
Reading	\$4,629,100	\$2,941,100	64%	\$1,688,000
Revere	\$10,130,900	\$5,502,900	54%	\$4,628,000
Somerville	\$15,515,800	\$10,117,800	65%	\$5,398,000
Stoneham	\$4,919,900	\$4,919,900	100%	\$0
Stoughton	\$4,722,900	\$4,440,100	94%	\$282,800
Wakefield	\$5,966,900	\$4,659,800	78%	\$1,307,100
Walpole	\$3,680,000	\$3,042,000	83%	\$638,000
Waltham	\$13,732,400	\$11,377,400	83%	\$2,355,000
Watertown	\$6,285,800	\$3,111,800	50%	\$3,174,000
Wellesley	\$5,709,700	\$3,256,224	57%	\$2,453,476
Westwood	\$2,532,300	\$1,425,300	56%	\$1,107,000
Weymouth	\$11,480,900	\$7,490,900	65%	\$3,990,000
Wilmington	\$2,462,000	\$1,388,000	56%	\$1,074,000
Winchester	\$4,183,000	\$3,448,000	82%	\$735,000
Winthrop	\$3,393,400	\$2,380,400	70%	\$1,013,000
Woburn	\$10,695,500	\$8,962,500	84%	\$1,733,000
Totals	\$460,750,000	\$304,894,616	66%	\$155,855,384

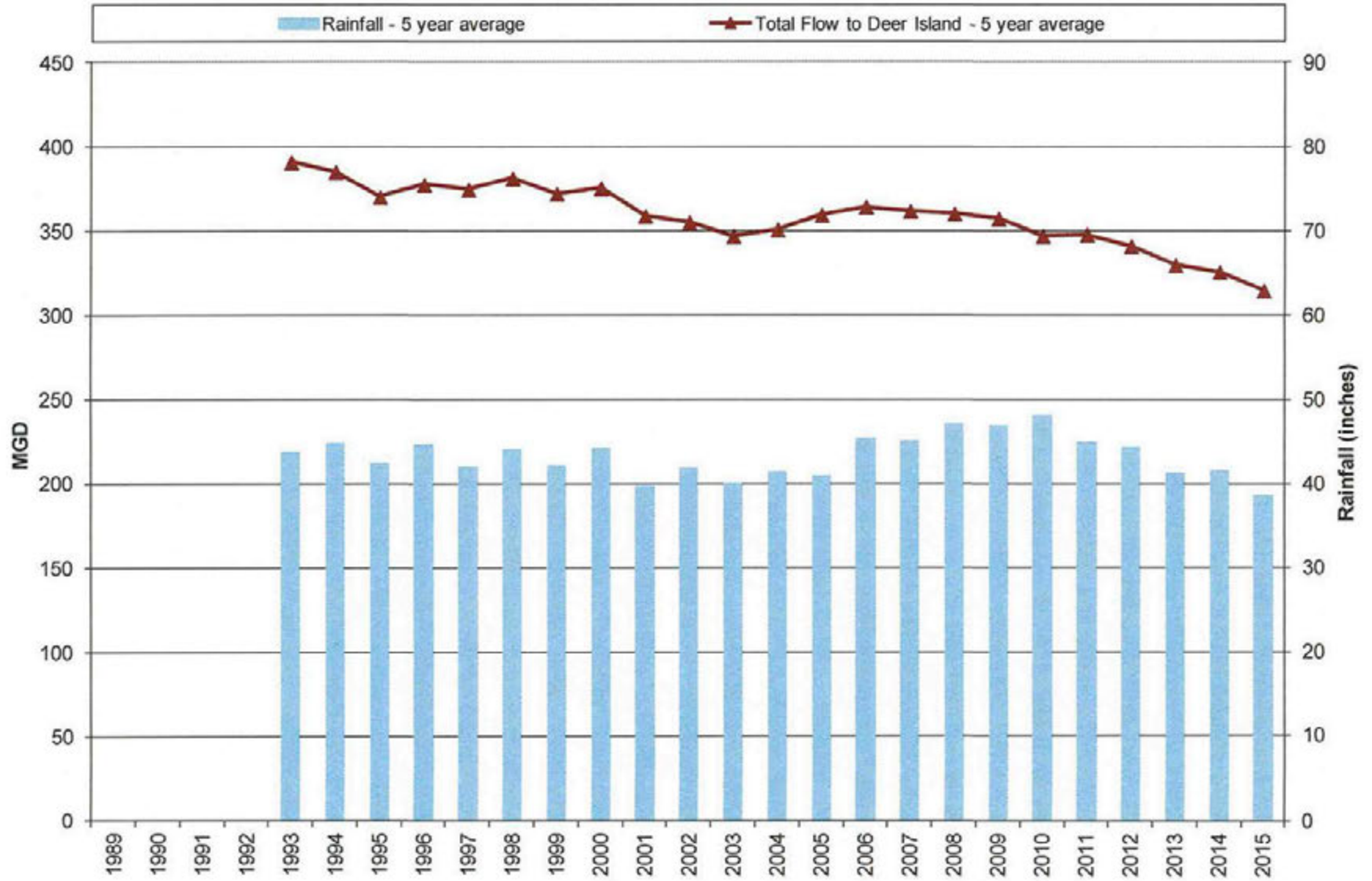
ATTACHMENT 2
MWRA I/ LOCAL FINANCIAL ASSISTANCE PROGRAM
FUNDING SUMMARY BY PROGRAM PHASE (AS OF MARCH 2016)

Community	Phase 10 Funds Distributed	Phase 10 Funds Remaining	Phase 9 Funds Distributed	Phase 9 Funds Remaining	Phases 6 - 8 Funds Distributed	Phases 6 - 8 Funds Remaining
Arlington	\$395,000	\$1,010,000	\$1,405,000	\$0	\$2,164,000	\$0
Ashland	\$0	\$420,000	\$0	\$420,000	\$594,000	\$0
Bedford	\$0	\$561,000	\$0	\$561,000	\$616,000	\$283,000
Belmont	\$0	\$848,000	\$0	\$848,000	\$884,000	\$447,000
Boston	\$0	\$23,293,000	\$0	\$23,293,000	\$32,093,776	\$1,873,224
Braintree	\$0	\$1,520,000	\$596,800	\$923,200	\$2,210,000	\$0
Brookline	\$0	\$2,280,000	\$0	\$2,280,000	\$2,554,000	\$939,000
Burlington	\$0	\$899,000	\$0	\$899,000	\$1,336,000	\$19,000
Cambridge	\$0	\$4,027,000	\$0	\$4,027,000	\$1,753,955	\$4,489,045
Canton	\$0	\$645,000	\$0	\$645,000	\$1,030,000	\$0
Chelsea	\$0	\$1,319,000	\$0	\$1,319,000	\$1,763,000	\$0
Dedham	\$0	\$913,000	\$913,000	\$0	\$1,533,000	\$0
Everett	\$0	\$1,421,000	\$0	\$1,421,000	\$2,088,000	\$0
Framingham	\$0	\$2,050,000	\$0	\$2,050,000	\$871,650	\$2,150,350
Hingham	\$300,000	\$0	\$300,000	\$0	\$443,000	\$0
Holbrook	\$0	\$290,000	\$0	\$290,000	\$255,962	\$163,038
Lexington	\$1,305,000	\$0	\$1,305,000	\$0	\$2,008,000	\$0
Malden	\$0	\$2,229,000	\$0	\$2,229,000	\$0	\$3,232,000
Medford	\$0	\$2,013,000	\$0	\$2,013,000	\$2,120,000	\$1,047,000
Melrose	\$0	\$1,081,000	\$0	\$1,081,000	\$1,613,000	\$0
Milton	\$0	\$914,000	\$0	\$914,000	\$972,000	\$485,000
Natick	\$0	\$969,000	\$808,200	\$160,800	\$1,374,000	\$0
Needham	\$0	\$994,000	\$0	\$994,000	\$261,550	\$1,377,450
Newton	\$3,668,000	\$0	\$3,668,000	\$0	\$5,596,000	\$0
Norwood	\$0	\$1,180,000	\$0	\$1,180,000	\$1,518,100	\$285,900
Quincy	\$0	\$3,454,000	\$0	\$3,454,000	\$5,217,000	\$0
Randolph	\$0	\$1,078,000	\$0	\$1,078,000	\$1,540,000	\$0
Reading	\$0	\$844,000	\$0	\$844,000	\$1,205,000	\$0
Revere	\$0	\$1,853,000	\$0	\$1,853,000	\$1,752,000	\$922,000
Somerville	\$0	\$2,699,000	\$0	\$2,699,000	\$3,962,000	\$0
Stoneham	\$814,000	\$0	\$814,000	\$0	\$1,248,000	\$0
Stoughton	\$515,200	\$282,800	\$798,000	\$0	\$1,274,000	\$0
Wakefield	\$0	\$1,017,000	\$726,900	\$290,100	\$1,576,000	\$0
Walpole	\$0	\$638,000	\$638,000	\$0	\$957,000	\$0
Waltham	\$0	\$2,355,000	\$2,355,000	\$0	\$3,630,000	\$0
Watertown	\$0	\$1,050,000	\$0	\$1,050,000	\$530,000	\$1,074,000
Wellesley	\$0	\$970,000	\$0	\$970,000	\$1,000,524	\$513,476
Westwood	\$0	\$441,000	\$0	\$441,000	\$452,000	\$225,000
Weymouth	\$0	\$1,995,000	\$0	\$1,995,000	\$2,961,000	\$0
Wilmington	\$0	\$428,000	\$0	\$428,000	\$420,000	\$218,000
Winchester	\$0	\$703,000	\$671,000	\$32,000	\$1,073,000	\$0
Winthrop	\$0	\$586,000	\$159,000	\$427,000	\$879,000	\$0
Woburn	\$0	\$1,733,000	\$1,733,000	\$0	\$2,927,000	\$0
Totals	\$6,997,200	\$73,002,800	\$16,890,900	\$63,109,100	\$100,256,517	\$19,743,483

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



ATTACHMENT 4
MWRA Long-Term Regional Flow Data
5-year Running Averages
5 year running NOAA Rainfall Average at Logan Airport





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

REVISED

WATER POLICY AND OVERSIGHT COMMITTEE MEETING

Chair: A. Blackmon
Vice-Chair: B. Pena
Committee Members:
J. Carroll
J. Foti
A. Pappastergion
H. Vitale
J. Walsh
J. Wolowicz

to be held on

Wednesday, March 16, 2016

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

Time: Immediately following Wastewater Comm.

AGENDA

A. Information

1. Local Pipeline and Water System Assistance Program Annual Update
2. Metropolitan Water Transmission Tunnel Redundancy: Decision Making Process (verbal)
3. Update on Lead (verbal)

B. Approvals

1. Proposed Community Loan Program for Lead Service Line Replacement

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the
Water Policy and Oversight Committee

February 10, 2016

A meeting of the Water Policy and Oversight Committee was held on February 10, 2016 at the Authority headquarters in Charlestown. Chairman Blackmon presided. Present from the Board were Ms. Wolowicz and Messrs. Carroll, Flanagan, Foti, Pappastergion, Pena, Vitale and Walsh. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Steve Estes-Smargiassi, Nava Navanandan, Pam Heidell, and Bonnie Hale. The meeting was called to order at 11:50 a.m.

Information

The Need for Metropolitan Tunnel Redundancy

This item was referred to the full Board.

Update on Unregulated Contaminants Monitoring Rule Sampling

Staff provided an update.

Contract Awards

*Rosemary Brook Siphon Buildings Repair and Stabilization: Calhess Restoration and Waterproofing Corp., Contract 7472

The Committee recommended approval of the contract award (ref. agenda item B.1).

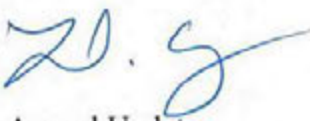
*Hatchery Pipeline and Hydroelectric Project: Waterline Industries Corp, Contract 7235

At Mr. Pappastergion's request, staff provided a brief review on the funding for this project. The Committee recommended approval of the contract award (ref. agenda item B.2).

The meeting adjourned at 11:55 a.m.

* Approved as recommended at February 10, 2016 Board of Directors meeting.


STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: March 16, 2016
SUBJECT: Local Water System Assistance Program Annual Update

COMMITTEE: Water Policy & Oversight

INFORMATION
 VOTE

Carolyn M. Fiore, Deputy Chief Operating Officer
Elaine M. Donahue, Project Manager
Carl H. Leone, Senior Program Manager
Preparer/Title


Michael J. Hombrook
Chief Operating Officer

RECOMMENDATION:

For information only. Thirty-eight of the 45 eligible member water communities¹ have participated in MWRA's \$432 million Local Pipeline and Water System Assistance Program. Through February 2016, \$318 million in interest-free loans has been distributed to member communities to finance 359 projects that will help maintain high water quality in local distribution systems. Community loans are repaid to MWRA over a ten-year period. All scheduled community loan repayments have been made, more than \$192 million to date.

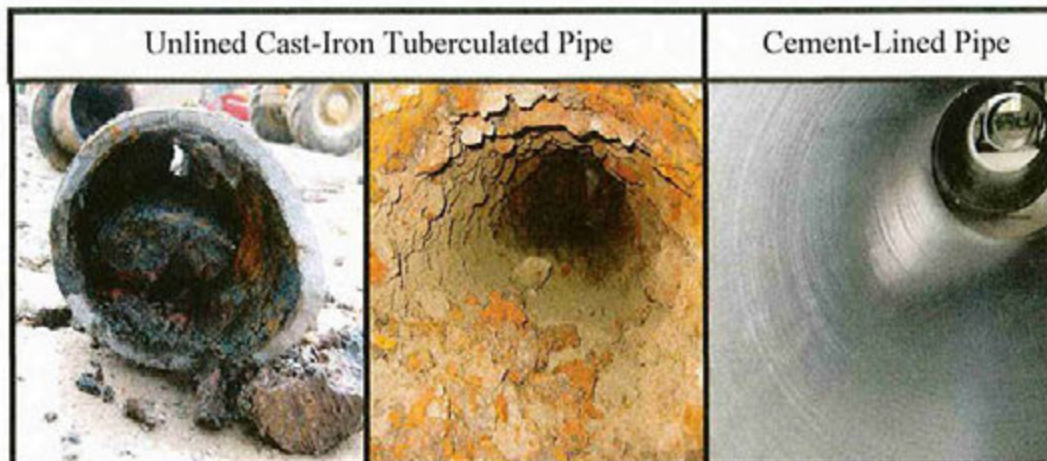
BACKGROUND:

MWRA's goal in providing financial assistance to member communities is to improve local water systems to help maintain high water quality as it passes from MWRA's facilities through local pipelines to customers' taps. Continued improvement of local water systems was a critical element of MWRA's Integrated Water Supply Improvement Program, which focused on cost-effective investment in water quality upgrades. Older water mains, particularly those constructed of unlined cast-iron pipe, need to be replaced or cleaned and lined to prevent tuberculation (rust build-up), loss of disinfectant residual, and potential bacteria growth.

The Phase 1 - Local Pipeline Assistance Program (LPAP) began in FY01 and was completed at the end of FY13. It provided \$222 million in interest-free loans to water system communities for water main replacement, cleaning and lining projects, and lead service line replacements. The Program guidelines were modified in 2004 to allow for replacement of both public and private lead service lines (see detail on page 3).

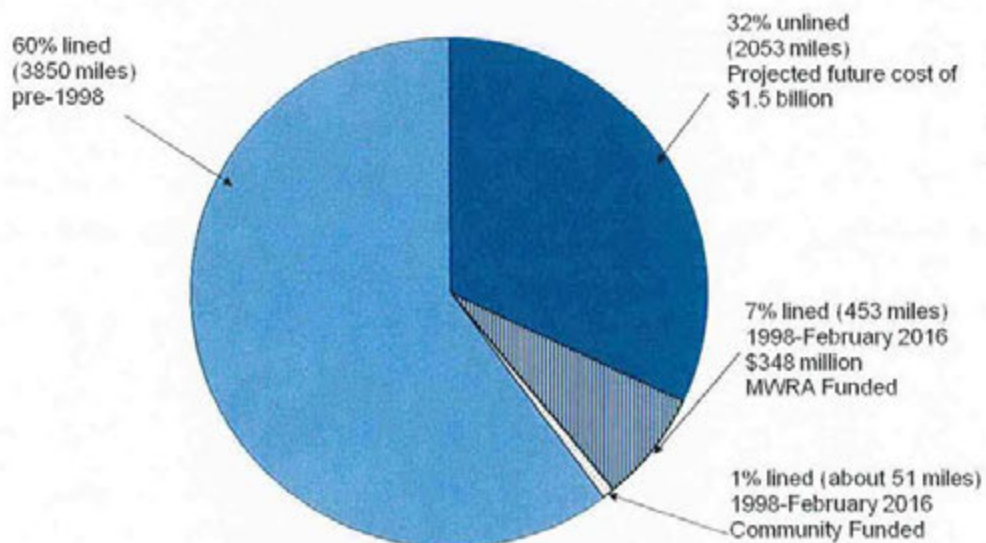
¹ MWRA has a total of 50 water communities (with Dedham/Westwood Water District counted as one), of which 45 are allocated loan funds under the Local Water System Assistance Program. The five ineligible water communities have special case considerations; these include: Clinton, Leominster, and Worcester (emergency only), that receive untreated water from the Wachusett Reservoir; Cambridge, that receives water on an emergency-only basis; and Lynn, that receives water for the GE plant only. The three Chicopee Valley Aqueduct (CVA) communities (Chicopee, South Hadley FD#1, and Wilbraham) are allocated funds under the Phase 2 loan Program, but were not allocated loan funds under the Phase 1 - Local Pipeline Assistance Program, as that program was initiated as part of the treatment decision for the John J. Carroll Water Treatment Plant.

The Phase 2 - Local Water System Assistance Program (LWSAP) commenced in FY11 and is approved through FY20. The Phase 2 expansion of the water loan program added \$210 million in interest-free loans for member water communities (including a \$10 million allocation for the three Chicopee Valley Aqueduct communities – Chicopee, South Hadley FD#1, and Wilbraham).



Prior to 1998, 60% (3,850 miles) of the 6,407-mile regional water system was lined pipe. Since 1998, MWRA's community financial assistance programs (including the \$30 million pilot program in 1998/99) have led to the investment of \$348 million in local water distribution systems and resulted in the replacement or cleaning and lining of 453 miles of water mains. Approximately 32% (2,053 miles) of locally-owned distribution systems remain unlined, representing a regional need of about \$1.5 billion for future water main rehabilitation.

**Regional Water System Lined and Unlined Pipe
6407 Miles of Community Water Mains
Updated February 2016**



DISCUSSION:

Local Water System Assistance Program loan funds are allocated to member water communities based on a combination of their percent share of unlined pipe and wholesale water charge (see Attachments 1 and 2). MWRA's partially supplied communities received pro-rated shares based on their percentage use of MWRA water. Attachment 3 provides individual statistics for the total miles of lined and unlined water main in each member water community.

The Phase 1 - LPAP was completed at the end of FY13 (June 2013). Thirty-five of the forty-two eligible communities participated in the Phase 1 loan program, with a total of 87% of total allocated funds (\$222 million) utilized for local water projects. Under Phase 2 - LWSAP (FY11-FY20), \$95 million has been distributed to 36 member communities to fund local water system projects. The majority of financial assistance loans (93 percent) under Phase 2 LWSAP have continued to fund replacement/rehabilitation of unlined water mains, lead service line replacements, water tank rehabilitation, and other water quality projects. In addition, some communities have undertaken system efficiency projects (Tier Two Projects) such as water meter replacements, automated meter reading systems, and booster pump station rehabilitation. Through February 2016, seven communities have been distributed their entire funding allocation under Phase 2 of the LWSAP program (see Attachment 2).

MWRA Funding for Lead Water Service Lines:

Lead service lines have recently been a recurring topic in the news. The replacement of lead service lines is eligible for funding under MWRA's community water loan program. At the community's discretion, the community-owned portion and/or the privately-owned portion of lead services can be included for loan funding.

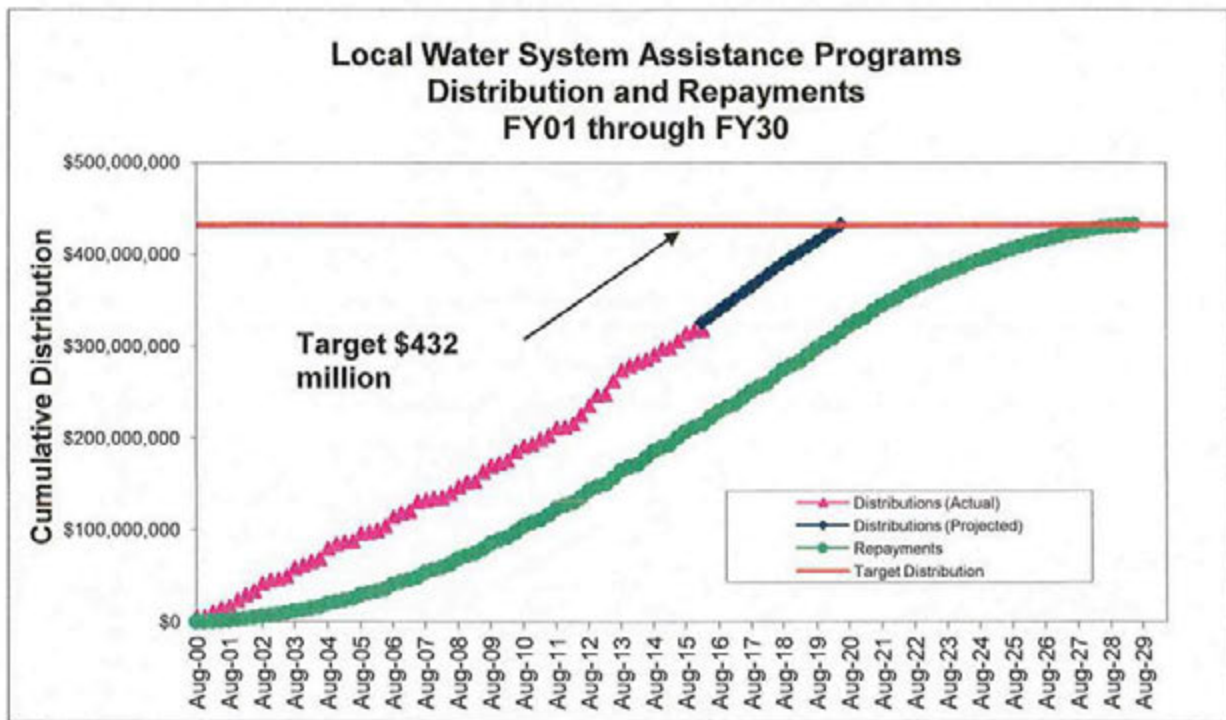
Beginning with MWRA's \$30 million community financial assistance pilot program in 1998/99, the replacement of lead service lines has been eligible. The March 2000 approval of additional water loan funding included replacement of lead services integral to a water main replacement/rehabilitation projects as eligible costs. In June 2004, the community water loan program eligibility guidelines were expanded to include all projects targeting identification, inspection, and replacement of lead services, including both public and privately-owned portions. In December 2014, the water loan program guidelines were again expanded to allow communities to draw from future year funding allocations (up to their total remaining total allocation) specifically to fund replacement of lead services. From 1998 through 2015, community projects that were funded by MWRA water loans included at least partial replacement of more than 6,000 lead service lines. In conformance with EPA's current Lead and Copper Rule (LCR), local projects generally remove the community-owned portion of lead service lines and provide outreach/education to customers so they may replace the privately-owned portion at the same time.

As discussed in the January 13, 2016 Staff Summary – *Update on Potential Lead and Copper Rule Revisions*, the EPA continues to review the LCR and is expected to propose a number of substantial changes. With future LCR changes and overall community water system needs in mind, MWRA staff will continue to work closely with the Advisory Board to develop sound recommendations for future community water system funding.

BUDGET/FISCAL IMPACT:

The FY16 CIP includes an overall net budget of zero dollars for water system financial assistance because community loans are offset by repayments over time. However, depending on the timing and level of community loan requests, annual loan distributions can fluctuate, sometimes causing over-spending or under-spending (versus budget) for any particular year. The graph below presents loan funding distributions (actual and projected) and corresponding repayments for the program - FY01 through FY30.

The program budget target is \$432 million for both loan distributions and repayments. To date, \$318 million in loans have been distributed and the program has a remaining balance of \$114 million in future community loans (through FY20). Community loan repayments to date are \$192 million, leaving a remaining balance of \$240 million in future repayments (through FY30). As community loans are repaid, the funds are deposited into MWRA's construction fund. The FY16 CEB budget includes \$4.1 million for the cost of the interest as a separate line item under Debt Service.



MBE/WBE PARTICIPATION:

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

ATTACHMENTS:

- Attachment 1 – Phase 1 - LPAP Allocation and Fund Utilization by Community
- Attachment 2 – Phase 2 - LWSAP Allocation and Fund Utilization by Community
- Attachment 3 – Lined and Unlined Pipe by Community

ATTACHMENT 1
MWRA PHASE 1 LOCAL PIPELINE ASSISTANCE PROGRAM
ALLOCATION AND FUND UTILIZATION BY COMMUNITY
THROUGH JUNE 2013

THE PHASE 1 PROGRAM IS COMPLETE

Community	Community Total Allocation	Funds Distributed Thru Jun 13	Percent Distributed	Unutilized Funds
Arlington	\$9,723,620	\$6,099,000	63%	\$3,624,620
Bedford*	\$1,018,610	\$1,018,610	100%	\$0
Belmont	\$4,213,570	\$4,213,570	100%	\$0
Boston	\$61,571,330	\$61,571,330	100%	\$0
Brookline	\$625,090	\$0	0%	\$625,090
Canton*	\$2,080,380	\$0	0%	\$2,080,380
Chelsea	\$5,023,870	\$4,825,468	96%	\$198,403
Dedham/Westwood* **	\$7,500	\$7,500	100%	\$0
Everett	\$5,429,020	\$5,429,020	100%	\$0
Framingham	\$8,681,800	\$8,681,800	100%	\$0
Lexington	\$1,539,570	\$1,539,570	100%	\$0
Lynnfield WD	\$320,000	\$320,000	100%	\$0
Malden	\$10,244,520	\$10,244,520	100%	\$0
Marblehead	\$6,320,350	\$0	0%	\$6,320,350
Marlborough*	\$1,166,200	\$1,166,200	100%	\$0
Medford	\$9,723,620	\$7,212,923	74%	\$2,510,697
Melrose	\$6,586,590	\$6,586,590	100%	\$0
Milton	\$6,771,800	\$6,771,800	100%	\$0
Nahant	\$1,331,210	\$1,111,242	83%	\$219,968
Needham*	\$1,286,520	\$257,304	20%	\$1,029,216
Newton	\$25,860,190	\$25,860,190	100%	\$0
Northborough*	\$97,180	\$0	0%	\$97,180
Norwood	\$5,139,630	\$5,139,630	100%	\$0
Peabody*	\$838,030	\$838,030	100%	\$0
Quincy	\$15,835,600	\$15,835,600	100%	\$0
Reading ***	\$1,916,000	\$1,916,000	100%	\$0
Revere	\$5,371,140	\$3,500,000	65%	\$1,871,140
Saugus	\$9,029,070	\$9,029,070	100%	\$0
Somerville	\$9,480,530	\$9,480,530	100%	\$0
Southborough	\$81,030	\$0	0%	\$81,030
Stonham	\$1,736,360	\$1,736,360	100%	\$0
Stoughton* #	\$4,480,000	\$4,480,000	100%	\$0
Swampscott	\$5,602,660	\$5,602,660	100%	\$0
Wakefield*	\$2,524,950	\$0	0%	\$2,524,950
Waltham	\$13,636,210	\$2,552,968	19%	\$11,083,242
Watertown	\$1,736,360	\$1,736,360	100%	\$0
Wellesley*	\$1,279,280	\$1,279,280	100%	\$0
Weston	\$127,330	\$127,330	100%	\$0
Wilmington* ****	\$73,000	\$0	0%	\$73,000
Winchester*	\$665,190	\$665,190	100%	\$0
Winthrop	\$4,167,260	\$2,027,600	49%	\$2,139,660
Woburn*	\$3,454,330	\$3,454,330	100%	\$0
TOTAL	\$256,796,500	\$222,317,575	87%	\$34,478,926

* Partially Served Communities

Stoughton's total allocation is for eight years; the Town was not an MWRA member water community for the first two years of the Program.

** Dedham/Westwood's total allocation is for five years; the Town was not an MWRA member water community for the first five years of the Program.

*** Reading's total allocation is for five years; FY06 and FY07 as a partially supplied MWRA water community at \$142,000/year and FY08, FY09, and FY10 as a fully supplied MWRA water community at \$544,000/year.

**** Wilmington's total allocation is for one year - FY10.

ATTACHMENT 2
MWRA PHASE 2 LOCAL WATER SYSTEM ASSISTANCE PROGRAM
ALLOCATION AND FUND UTILIZATION BY COMMUNITY
THROUGH FEBRUARY 2016

Community	Community Total Allocation	Community Annual Allocation	Allocation To Date (Year 6)	Funds Distributed Thru Feb 16	Percent Distributed (Year 6)	Total Remaining Funds	Funds Currently Available
Arlington	\$6,225,000	\$622,500	\$3,735,000	\$1,300,000	35%	\$4,925,000	\$2,435,000
Bedford *	\$2,418,000	\$500,000	\$2,418,000	\$2,418,000	100%	\$0	\$0
Belmont	\$3,477,000	\$500,000	\$3,000,000	\$3,000,000	100%	\$477,000	\$0
Boston	\$38,754,000	\$3,875,400	\$23,252,400	\$23,252,400	100%	\$15,501,600	\$0
Brookline	\$3,426,000	\$500,000	\$3,000,000		0%	\$3,426,000	\$3,000,000
Canton *	\$3,216,000	\$500,000	\$3,000,000	\$2,000,000	67%	\$1,216,000	\$1,000,000
Chelsea	\$3,814,000	\$500,000	\$3,000,000	\$1,441,200	48%	\$2,372,800	\$1,558,800
Dedham/Westwood *	\$503,000	\$503,000	\$503,000	\$503,000	100%	\$0	\$0
Everett	\$4,672,000	\$500,000	\$3,000,000	\$2,500,000	83%	\$2,172,000	\$500,000
Framingham	\$7,357,000	\$735,700	\$4,414,200	\$3,678,500	83%	\$3,678,500	\$735,700
Lexington	\$3,024,000	\$500,000	\$3,024,000	\$1,145,015	38%	\$1,878,985	\$1,878,985
Lynnfield Water Dist.	\$1,396,000	\$500,000	\$1,396,000	\$250,000	18%	\$1,146,000	\$1,146,000
Malden	\$7,272,000	\$727,200	\$4,363,200	\$1,774,000	41%	\$5,498,000	\$2,589,200
Marblehead	\$4,237,000	\$500,000	\$3,000,000		0%	\$4,237,000	\$3,000,000
Marlborough *	\$1,917,000	\$500,000	\$1,917,000	\$1,283,800	67%	\$633,200	\$633,200
Medford	\$6,959,000	\$695,900	\$4,175,400		0%	\$6,959,000	\$4,175,400
Melrose	\$3,988,000	\$500,000	\$3,000,000	\$2,440,000	81%	\$1,548,000	\$560,000
Milton	\$4,123,000	\$500,000	\$3,000,000	\$850,000	28%	\$3,273,000	\$2,150,000
Nahant	\$1,490,000	\$500,000	\$1,490,000	\$884,000	59%	\$606,000	\$606,000
Needham *	\$794,000	\$500,000	\$794,000		0%	\$794,000	\$794,000
Newton	\$13,602,000	\$1,360,200	\$8,161,200	\$6,801,000	83%	\$6,801,000	\$1,360,200
Northborough *	\$1,048,000	\$500,000	\$1,048,000		0%	\$1,048,000	\$1,048,000
Norwood	\$4,395,000	\$500,000	\$3,000,000	\$3,000,000	100%	\$1,395,000	\$0
Peabody *	\$1,089,000	\$500,000	\$1,089,000	\$1,089,000	100%	\$0	\$0
Quincy	\$10,505,000	\$1,050,500	\$6,303,000	\$4,651,835	74%	\$5,853,165	\$1,651,165
Reading	\$4,146,000	N/A **	\$4,146,000	\$4,146,000	100%	\$0	\$0
Revere	\$5,034,000	\$503,400	\$3,020,400	\$1,850,000	61%	\$3,184,000	\$1,170,400
Saugus	\$6,621,000	\$662,100	\$3,972,600	\$3,529,844	89%	\$3,091,156	\$442,756
Somerville	\$7,419,000	\$741,900	\$4,451,400	\$1,557,234	35%	\$5,861,766	\$2,894,166
Southborough	\$1,512,000	\$500,000	\$1,512,000		0%	\$1,512,000	\$1,512,000
Stonham	\$2,339,000	\$500,000	\$2,339,000	\$2,339,000	100%	\$0	\$0
Stoughton*	\$2,506,000	\$500,000	\$2,506,000	\$2,506,000	100%	\$0	\$0
Swampscott	\$3,755,000	\$500,000	\$3,000,000	\$1,849,468	62%	\$1,905,532	\$1,150,532
Wakefield *	\$2,325,000	\$500,000	\$2,325,000	\$1,400,000	60%	\$925,000	\$925,000
Waltham	\$10,293,000	\$1,029,300	\$6,175,800	\$1,798,370	29%	\$8,494,630	\$4,377,430
Watertown	\$2,978,000	\$500,000	\$2,978,000	\$2,000,000	67%	\$978,000	\$978,000
Wellesley *	\$2,350,000	\$500,000	\$2,350,000	\$241,569	10%	\$2,108,431	\$2,108,431
Weston	\$1,625,000	\$500,000	\$1,625,000	\$1,005,000	62%	\$620,000	\$620,000
Wilmington *	\$611,000	\$500,000	\$611,000		0%	\$611,000	\$611,000
Winchester *	\$882,000	\$500,000	\$882,000	\$500,000	57%	\$382,000	\$382,000
Winthrop	\$3,312,000	N/A **	\$3,312,000	\$3,312,000	100%	\$0	\$0
Woburn *	\$2,591,000	\$500,000	\$2,591,000	\$1,000,000	39%	\$1,591,000	\$1,591,000
Chicopee	\$7,153,000	\$715,300	\$4,291,800	\$2,085,000	49%	\$5,068,000	\$2,206,800
South Hadley F.D. 1	\$1,538,000	\$500,000	\$1,538,000		0%	\$1,538,000	\$1,538,000
Wilbraham	\$1,309,000	\$500,000	\$1,309,000		0%	\$1,309,000	\$1,309,000
TOTAL	\$210,000,000			\$95,381,235		\$114,618,765	\$54,638,165

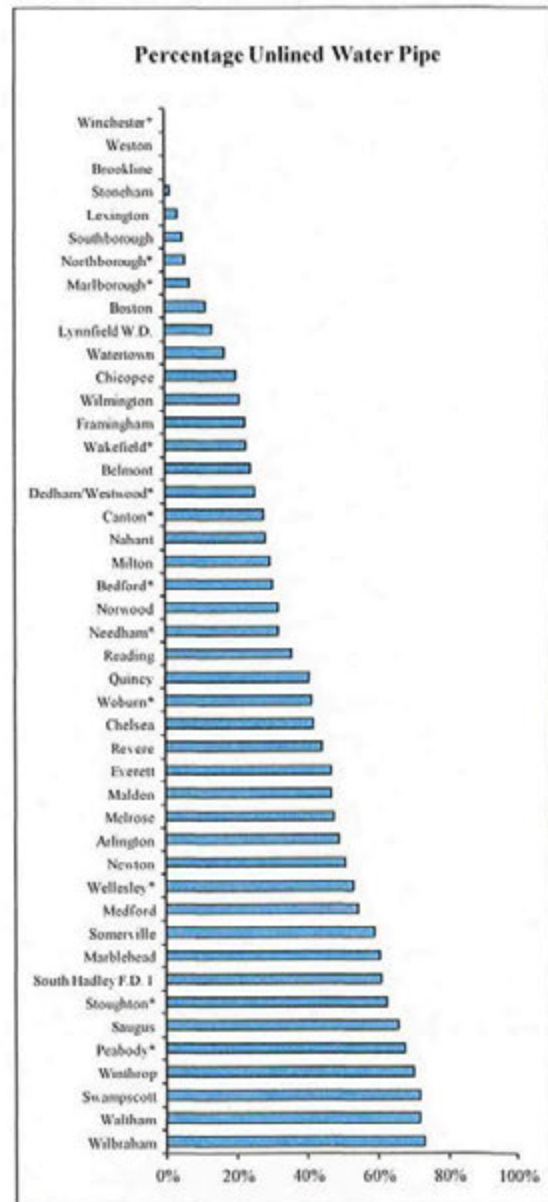
* Partially Served Communities

** Exempt by Board Approval


ATTACHMENT 3
MWRA LOCAL PIPELINE AND WATER SYSTEM ASSISTANCE PROGRAMS
LINED AND UNLINED PIPE BY COMMUNITY
THROUGH FEBRUARY 2016

Community	Total Miles of Pipe	Miles of Lined Pipe	Miles of Unlined Pipe	Percent Unlined
Arlington	132	67	65	49%
Bedford*	85	59	26	30%
Belmont	88	67	21	24%
Boston	1009	891	118	12%
Brookline	140	140	0	0%
Canton*	121	87	34	28%
Chelsea	59	34	25	42%
Chicopee	262	209	54	21%
Dedham/Westwood*	190	141	49	26%
Everett	68	36	32	47%
Framingham	274	212	62	23%
Lexington	157	151	6	4%
Lynnfield W.D.	29	25	4	14%
Malden	118	62	56	47%
Marblehead	80	31	48	61%
Marlborough*	168	156	12	7%
Medford	121	55	66	54%
Melrose	80	42	38	48%
Milton	138	97	41	30%
Nahant	23	16	7	29%
Needham*	133	90	43	32%
Newton	319	156	163	51%
Northborough*	65	61	4	6%
Norwood	118	80	38	32%
Peabody*	170	56	114	67%
Quincy	238	141	97	41%
Reading	110	71	39	36%
Revere	91	51	40	44%
Saugus	125	43	82	66%
Somerville	120	49	71	59%
South Hadley F.D. 1	82	32	50	61%
Southborough	87	82	5	5%
Stonham	78	77	1	1%
Stoughton*	148	55	92	62%
Swampscott	55	16	40	72%
Wakefield*	114	88	26	23%
Waltham	157	44	113	72%
Watertown	80	66	14	17%
Wellesley*	136	64	72	53%
Weston	105	105	0	0%
Wilbraham	74	20	54	73%
Wilmington	126	99	27	21%
Winchester*	105	105	0	0%
Winthrop	45	14	31	70%
Woburn*	182	106	76	42%
TOTAL	6,407	4,354	2,053	32%

* Partially Served Communities



STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: March 16, 2016
SUBJECT: Proposed Community Loan Program for Lead Service Line Replacement

COMMITTEE: Water Policy & Oversight

Carl H. Leone, Senior Program Manager
Carolyn M. Fiore, Deputy Chief Operating Officer
Stephen Estes-Smargiassi, Dir. Of Planning and Sustainability
Preparer/Title

 INFORMATION

 X VOTE


Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To approve a revision of the Local Water System Assistance Program to provide an additional \$100 million in zero-interest loans to communities solely for efforts to fully replace lead service lines.

If approved, the program would be announced at the upcoming *Forum on Lead in Drinking Water* on March 21st and brought back to the Board for formal approval of the program guidelines as part of the Capital Improvement Program in June.

DISCUSSION:

In an effort to proactively take additional action to reduce the potential for elevated lead levels, the Advisory Board's Executive Committee suggested, and MWRA staff are now proposing, a new financial assistance program focused solely on lead service line replacements. As currently conceived, the program would provide zero-interest loans to communities to create local programs to fully remove lead service lines from the community water main all the way to the home. Partial replacements which remove only the portion in the street, but leave the portion on private property would not be eligible for the new program, as current research clearly indicates little public health benefit from partial replacement. Each community would develop its own program, tailored to their local circumstances. Staff anticipate that there will be a range of different approaches to encourage homeowners to participate in the program. Some communities might adopt a program similar to the Boston Water and Sewer Commission Lead Replacement Incentive Program which funds the first \$1,000 of the cost, with the homeowner paying back the rest over 24 months at zero interest in their monthly water bill. Others might use redevelopment or community development funds to assist low income residents with the cost, or choose to fund both the public and the private portion as a way to get full participation.

The details of the program guidelines will need to be worked out in consultation with the Advisory Board and subsequently approved by the Board. Staff are considering an approach which provides funds on an as needed basis as communities make progress with their lead service line replacement programs. This will allow communities which are successful in getting homeowners to participate to move quickly in replacing those lines. Considering the number of

lead service lines, staff are recommending a program of \$100 million in loans, to be paid back by communities over 10 years at zero interest.

The pace of spending, and thus MWRA borrowing for the program, will depend on the level of interest by both communities and homeowners, and on any future regulatory requirements for lead service line replacement.

Staff are in the process of updating a survey of community lead service lines, but current estimates are that as many as 28,000 are still in existence (5.6 percent of the 500,000 total service lines). Based on the National Drinking Water Advisory Council's recommendations to EPA, and current indications from staff interactions with EPA, EPA will very likely amend the Lead and Copper Rule to require removal of all lead services when it publishes the draft regulations in 2017. The attached Op-Ed article by the Executive Director of the American Water Works Association clearly articulates that need to remove lead service lines to protect public health.

The estimated average cost to replace a lead service is typically between \$3,000 and \$5,000. Based on that, staff believe that the \$100 million program should result in removal of all lead services in the MWRA service area.

Staff anticipate announcing the concept of this program at the upcoming *Forum on Lead in Drinking Water* on March 21. Program details will be finalized in time to be included in the Capital Improvement Program budget discussions and approval in June.

As discussed in another staff summary at this meeting, MWRA's goal in providing financial assistance to member communities has been to improve local water systems so that the high quality water that MWRA delivers can make it all the way to the consumer's taps. As has been well documented in the news recently with the water quality issues in Flint Michigan and elsewhere, the presence of a lead service line connecting a home to the main in the street can lead to elevated lead levels in tap water, especially if that water sits stagnant for an extended period. As reported to the Board in January, the situation in Flint was caused by ill-considered changes in source water and treatment, without consideration of appropriate corrosion control, combined with the fact that perhaps half of homes had lead service lines. MWRA's stable water quality and effective corrosion control treatment reduce the risk that a lead service line will cause elevated lead levels, and measured lead levels in high risk homes have decreased by 90 percent since corrosion control was brought on-line in 1996. However, the risk of elevated levels remains as long as lead service lines remain.

BUDGET/FISCAL IMPACT:

The CIP includes an overall net budget of zero dollars for water system financial assistance programs because community loans are offset by repayments over time, and are not included within the CIP cap.

As with current Local Water System Assistance Program, the cost of interest will included in each year's Current Expense Budget. Assuming a yearly borrowing of \$10 million, implementation of a \$100 million zero interest loan program for lead service line removal would have a first year interest cost of approximately \$450,000. Over the life of the program, it would cost the Authority an estimated total of \$11 to \$26 million in interest expenses depending on market conditions at the time of borrowing.

By David LaFrance CEO, American Water Works Association

If there is one lesson to be learned from the Flint crisis, it is this: Our communities will be safer in the long run with no lead pipes in the ground.

That's why the board of the American Water Works Association – recognizing our first core principle is the protection of public health -- voted unanimously on March 7 to forge on a path toward the removal of all lead service lines. AWWA believes that as water professionals and a broader society, we should seize this moment of increased awareness to develop solutions for eliminating all risks from lead in water.

To be clear, most water professionals are perplexed – even stunned -- at what transpired in Flint. They take seriously their obligation to protect the families in their communities. They know in most cases lead risks in tap water can be effectively managed through corrosion control at the treatment plant. They monitor water for changes in water chemistry and quality. They are not satisfied to simply meet minimum regulatory requirements.

But the Flint crisis lays bare a simple fact: As long as there are lead pipes in the ground or lead plumbing in homes, some risk remains.

A survey published March 10 by the American Water Works Association suggests there are about 6.1 million lead service lines nationwide. If the average cost of replacing each one is \$5,000 – a reasonable estimate – the collective cost could easily top \$30 billion. This is in addition to \$1 trillion needed over 25 years to repair and expand buried drinking water mains.

There is an added complication in that most lead service lines are owned partially by the utility and partially by the property owner, and in many cases property owners would be challenged to meet their portion of this unexpected expense. So as communities and as a broader society, we must now advance a serious discussion on how we pay to replace those lead pipes.

Some utilities have already overcome barriers to lead service line removal. The Boston Water and Sewer Commission, for example, offers customers \$1,000 direct credits toward the cost of removing lead service lines and two-year, interest free payment schedules for the balance of the work. In Lansing, Michigan, just 50 miles from Flint, the utility is in the uncommon position of owning its service lines from the main to the home. By January 2016, it had replaced all but 650 of its 14,000 lead service lines in just over a decade, using money generated from general ratepayers. Across America, there may also be opportunities to learn from and expand existing government assistance programs that address more common sources of exposure such as lead paint, dust and soil.

There is good news in the broader battle against lead in water. Even before the Flint situation was widely known, the U.S. Environmental Protection Agency was in the process of revising the Lead and Copper Rule, which requires utilities to collect samples at high-risk homes in order to determine if lead is leaching into the water. On Dec. 15, the National Drinking Water Advisory

Council recommended that utilities create plans for engaging customers to remove all lead service lines in their entirety from their systems. It also advised that utilities should do more outreach to customers on lead, including assisting them with testing their water. By formally supporting the council's recommendations, AWWA is declaring a bold new front in the battle against lead exposure.

For those of us in the water profession, Flint reminds us that our first and most important job is to protect the families we serve. A lack of money or political will or technical resources can never be an excuse to put people at risk. From public officials, to water utility managers, to regulators, to chemists, to every operator at the treatment plant and throughout the distribution system, we must renew our commitment daily to providing safe water to our communities.

Part of that commitment implies that we actively communicate with consumers, and about lead in particular. So even if there are plans to remove all lead service lines in the future, consumers should understand how to protect their families today. Homeowners should know how to determine if they have lead service lines, the benefits of removing those lines, and the steps to protect themselves and their families from all sources of lead exposure from water.

As water professionals, we should help at-risk consumers protect themselves. We should provide information on how to sample for lead at the tap and get samples analyzed by certified laboratories. Where lead is a concern, customers should understand their options for limiting exposure, such as purchasing a home filter certified to remove lead, or flushing out the lines after a period of stagnation in order to get fresh water that is coming from the main, or avoiding consuming hot water from the tap, where lead is more likely to be present. AWWA makes tips available at www.drinktap.org.

And of course, if a home has a lead service line, we as water professionals should be committed to working collaboratively with customers, property owners and government to get it out.

In North America, no one should have to question the safety of water at the tap. It's not a matter of whether our communities should get the lead out; it's a question of how and how long it will take. For the sake of public health, let's figure that out and get on with it.

Established in 1881, the American Water Works Association is the largest nonprofit, scientific and educational association dedicated to managing and treating water, the world's most important resource. With approximately 50,000 members, AWWA provides solutions to improve public health, protect the environment, strengthen the economy and enhance our quality of life.



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

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

to be held on

Wednesday, March 16, 2016

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

Time: Immediately following Water Comm.

AGENDA

A. Approvals

1. PCR Amendments – March 2016
2. Appointment of Systems Analyst Programmer III (GIS)
3. Appointment of Construction Coordinator

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the
Personnel and Compensation Committee

February 10, 2016

A meeting of the Personnel and Compensation Committee was held on February 10, 2016 at the Authority headquarters in Charlestown. Chair Wolowicz presided. Present from the Board were Messrs. Blackmon, Carroll, Flanagan, Foti, Pappastergion, Pena, Vitale and Walsh. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Pat Riley, Michele Gillen, Karen Gay-Valente, and Bonnie Hale. The meeting was called to order at 11:55 a.m.

Approvals

*2016 Affirmative Action Plan

The Committee recommended approval of the Plan (ref. agenda item A.1).

PCR Amendments – February 2016

The Committee recommended approval of amendments to the Position Control Register (ref. agenda item A.2).

Appointment of Warehouse Manager, Deer Island

The Committee recommended approval of the appointment of Mr. Stephen Coffey (ref. agenda item A.3).

Appointment of Deputy Director, Deer Island Treatment Plant

The Committee recommended approval of the appointment of Mr. Ethan Wenger (ref. agenda item A.4).

Appointment of Program Manager, Environmental Compliance & Monitoring

The Committee recommended approval of the appointment of Mr. David Wu (ref. agenda item A.5).

Appointment of IT Architect, MIS

The Committee recommended approval of the appointment of Mr. Shantanu Patil (ref. agenda item A.6).

* Approved as recommended at February 10, 2016 Board of Directors meeting.

Appointment of IT Architect, MIS

The Committee recommended approval of the appointment of Mr. Sean Thomas (ref. agenda item A.3).

The meeting adjourned at 12:00 noon.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: March 16, 2016
SUBJECT: March PCR Amendments



COMMITTEE: Personnel and Compensation

 INFORMATION
 X VOTE

Karen Gay-Valente, Director of Human Resources
Joan C. Carroll, Manager Compensation
Preparer/Title


Michele S. Gillen
Director, Administration

RECOMMENDATION:

To approve the amendments to the Position Control Register (PCR) included in the attached chart.

DISCUSSION:

The Position Control Register lists all positions of the Authority, filled and vacant. It is updated as changes occur and it is published at the end of each month. Any changes to positions during the year are proposed as amendments to the PCR. All amendments to the PCR 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 Committee.

March PCR Amendments

There are two PCR amendments related to changes within the Administration Division.

The amendments are:

1. Title change to a vacant position, Program Manager, Network Services to Network Administrator III, in the MIS Department, to align position with organizational structure as recommended in the MIS 5 Year Strategic Plan.
2. Title change to a vacant position, Senior Systems Manager to Systems Administrator III, in the MIS Department, to align position with organizational structure as recommended in the MIS 5 Year Strategic Plan.

These amendments require approval by the Personnel and Compensation Committee.

BUDGET/FISCAL IMPACT:

There is no budgetary impact for these PCR amendments.

ATTACHMENTS:


New/Old Job Descriptions

MASSACHUSETTS WATER RESOURCES AUTHORITY
 POSITION CONTROL REGISTER AMENDMENTS
 FISCAL YEAR 2016

PCR AMENDMENTS REQUIRING PERSONNEL & COMPENSATION COMMITTEE APPROVAL - March 16, 2016

Number	Current PCR #	V/F	Type	Current Title	UN	GR	Amended Title	UN	GR	Current/Budget Salary	Estimated New Salary	Estimated Annual \$ Impact	Reason For Amendment
P16	Administration MIS 8610036	V	T	Program Manager, Network Services	6	12	Network Administrator III	6	12	N/A	N/A - N/A	\$0 - \$0	To align position with organizational structure as recommended in the MIS 5 Year Strategic Plan
P17	Administration MIS 8610037	V	T	Senior Systems Manager	6	12	Systems Administrator III	6	12	N/A	N/A - N/A	\$0 - \$0	To align position with organizational structure as recommended in the MIS 5 Year Strategic Plan
PERSONNEL & COMP COMMITTEE TOTAL =					2		SUBTOTAL:					\$0 - \$0	
PCR AMENDMENTS REQUIRING BOARD APPROVAL - March 2016													
BOARD TOTAL =					0		SUBTOTAL:					\$0 - \$0	
GRAND TOTAL =					2		TOTAL ESTIMATED COSTS:					\$0 - \$0	

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: March 16, 2016
SUBJECT: Appointment of Systems Analyst Programmer III (GIS)

COMMITTEE: Personnel & Compensation

INFORMATION
 VOTE

Karen Gay-Valente, Director, Human Resources
Russell J. Murray, Jr., Director, MIS
Michael Farmer, Program Manager, Technical Services
Preparer/Title


Michele S. Gillen
Director, Administration

RECOMMENDATION:

That the Board approve the appointment of Mr. Gordon Hamilton to the position of System Analyst Programmer, III (GIS) in the MIS Department (Union 6, Grade 11), at an annual salary of \$87,944.67 on a date to be determined by the Executive Director.

DISCUSSION:

The position reports to the Technical Services Program Manager and is responsible for design, operation, oversight and maintenance of MWRA's Geographic Information System. The MWRA uses Environmental Systems Research Institute (ESRI) Geographic Information System (GIS) software for the geospatial needs of the Operations Division. In addition to mapping, the database supports applications that integrate SCADA, metering, and TV inspection data for day-to-day operational needs, modeling/planning efforts and emergency response.

The incumbent will retire in April. Because this position provides critical support to the daily needs of the Operations Division, staff recommend that Mr. Hamilton begin prior to the retirement of the incumbent allowing for a smooth transition and minimizing any disruption in service.

Selection Process

The position was posted internally and externally. A total of three candidates applied. Two candidates were determined to have met the minimum qualification for this position and were referred for an interview. One applicant withdrew prior to the interviews being conducted. A three-person interview panel including the Program Manager, Technical Services, the incumbent, and a representative from the Affirmative Action and Compliance Unit interviewed the candidate. Upon completion of the interview, Mr. Hamilton was selected as the qualified candidate.

Mr. Hamilton has over 15 years of experience working with GIS systems of similar architecture to that used at the MWRA. For the past ten years, Mr. Hamilton has served as the Senior GIS Analyst/Task Leader as a contractor for the U.S. Environmental Protection Agency where he is responsible for the design and development of mapping and database applications. In that role, Mr. Hamilton also has acquired experience with all aspects of custom web application development and has provided training to the GIS application users.

In addition, Mr. Hamilton is experienced in several programming languages including Python, which MWRA currently uses in its GIS implementation.

Mr. Hamilton possesses a Bachelor Degree in Environmental Science/Geology from the University of Massachusetts Lowell and a Master of Science Degree in GIS from Salem State University.

BUDGET/FISCAL IMPACT:

Sufficient funds are included in the FY16 CEB for this position.

ATTACHMENTS:

Resume of Gordon Hamilton
Position Description
Organizational Chart

Gordon Hamilton

Summary of Qualifications

A highly skilled expert in database development, geospatial analysis and data visualization. Specialties include environmental data management and subsurface visualization. Highly skilled in building custom web applications to analyze spatial data. Experienced with processing GPS data as well as training personnel in the use of GPS equipment. Strong commitment to customer satisfaction.

Accomplishments

2013 ESRI Federal GIS Conference: Presented "EPA Region 1 Emergency Response Mapping Applications"
2006 and 2009 EPA GIS Mason Hewitt Award for technical excellence .

Professional Experience

Contractor to the U.S. EPA Region 1-Vistrionix, Inc., 2005 to Present

Senior GIS Analyst/ Task Leader

- Day-to-day management of GIS Staff.
- Responsible for the design and development of mapping and database applications using tools such as Visual Basic, ASP.NET, ESRI JavaScript API, and Oracle.
- Experienced in all aspects of custom web application development providing users with a rich web experience.
- Highly experienced in data creation and data processing including national data sets, field data, geophysical and LIDAR data .
- Provide GIS, GPS, and ESRI software training to EPA personnel.
- Automated map production for commonly requested maps.
- Skilled with producing high quality geospatial analysis and map products including paper and electronic deliverables.

Contractor to the U.S. EPA Region 1- various companies, 2000 to 2005

GIS Programmer/ Database Analyst

- Interacted with clients to determine data analysis, data visualization, and map design.
- Evaluated and maintain data quality within the U.S. EPA facility database system.

Harding Lawson Associates 1994 to 1999

Geologist

- Managed Environmental site investigations, collected and analyzed data, wrote reports.
- Managed subcontractors.

Technical Skill

Software: ESRI ArcGIS Desktop, ArcServer, SDE, ArcGIS.com, MS Office, Trimble Pathfinder Office

Database: Oracle, MS Access, PostGRES

Development: Visual Studio 2013, SQL Developer, Adobe Flex Builder

Programming: Visual Basic.NET, ASP.NET, SQL, JavaScript, Flex, Python

Education

MS Geo Information Science •Salem State College (2005)

BS Geology/ Environmental Science •University of Massachusetts at Lowell (1993)

**MWRA
POSITION DESCRIPTION**

POSITION: Systems Analyst/Programmer III (GIS)
DIVISION: Administration
DEPARTMENT: Management Information Systems (MIS)

BASIC PURPOSE:

Under the direction of the Technical Services Program Manager, designs, operates, oversees and maintains the MWRA Geographic Information System (GIS), coordinates GIS activities among all Departments, between the cities and towns within the MWR Service area and with the Commonwealth of Massachusetts. Coordinates, manages, and directs GIS database/applications development, definitions, maintenance, and implementation. Manages and prepares general planning for the GIS system. Provides assistance and coordinates drafting, mapping, graphic illustrations, and related report preparation for the Authority. Provides training for GIS operators.

Responsible for translating business case analysis into functional requirements. Identifies potential opportunities to enhance business processes, improve efficiencies and reduce costs. Requires a broad knowledge of the organization and business functions.

SUPERVISION RECEIVED:

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

SUPERVISION EXERCISED:

Exercises supervision of assigned vendor resources and IT Project Team(s).

ESSENTIAL DUTIES AND RESPONSIBILITIES:

Application Development

- Reviews GIS application design prior to buy or build decision to ensure service levels can be met and recommend any performance enhancements prior to implementation

- Codes, configures, implements, maintains and supports, new and upgrades to GIS software applications (in-house and third party software) and interfaces to ensure processes and functionality of the applications comply with the organization's requirements, processes and standards.
- Develops and maintains technical documentation for GIS applications as follows:
 - Design Model - Description of the system design. Comprised of a variety of work products, potentially including a deployment model, an object model, a physical data model (PDM), a security threat model, a system overview document, and a user interface model.
 - Source Code – The program code for the system.
 - Regression Test Suite - Collection of test cases, and the code to run them in the appropriate order. The regression test suite will include a wide range of tests, including acceptance tests, unit tests, system tests, etc.
 - Installation Scripts - Code for installing the system into pre- and post-production environments.
 - Release Notes - Summarize the things to know pertaining to the current release of the system.
 - Operations Procedure - Procedures and supporting information to operate the system once it is in production including continuity and disaster recovery procedures.
 - Support Reference- Used by support staff, such as trouble shooting guides, contact information for the development team, which enables them to support end users
 - Asset & Configuration Management – Assist in determining and maintaining adequate license counts and system configurations
- Responsible for developing a release package for all systems changes when transitioning to the production environments.

Post Implementation Support

- Supports the resolution of incidents and problems with GIS software application functionality.
- Researches and corrects problems with the GIS system applications code during production processing in an efficient and timely manner ensuring system recovery and integrity.
- Coordinates technical support with the GIS vendor
- Is available to execute and carry out IT Continuity and Disaster Recovery Plans
- Is a Technical Member of the Change Advisory Board (CAB) as needed.

- Serves as team lead for assigned projects and updates/maintains project plans and schedules as required.
- Manages and administers the GIS relational database (ArcSDE)

Mentoring & Professionalism

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

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A four (4) year college program in management science, engineering management, computer science or related fields; and
- (B) Five (5) to seven (7) years experience supporting enterprise wide applications as well as tier two applications.
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Strong knowledge of ESRI software (ArcGIS, ArcServer, ArcGIS Online)
- (B) Working knowledge of ESRI 'ModelBuilder' and 'ToolBoxes'
- (C) Possesses a working knowledge of ITIL
- (D) Extensive knowledge of programming languages, troubleshooting techniques, database structures, triggers and procedures, application server platforms, middleware and operating systems.
- (E) Knowledge of the following is desirable: MS .Net, J2EE, Crystal Reporting, ORACLE 11g, SQL Server and PL/SQL, Python.
- (F) Analytical and interpersonal skills
- (G) Written and oral communication skills.

SPECIAL REQUIREMENTS:

- Information Technology Infrastructure Library (ITIL) Foundation Certification is required or the ability to obtain within 6 months.
- Formal training or certification in programming methodologies and System Development Life Cycle methodologies
- Esri Technical Certifications: At least one of the following or the ability to obtain within one year
 1. ArcGIS Desktop
 2. ArcGIS Desktop Developer
 3. Web Application Developer
 4. Enterprise Geodata Management
 5. Enterprise System Design
 6. Enterprise Administration

TOOLS AND EQUIPMENT USED:

Office machines as normally associated with the use of telephone, personal computer, mobile devices, printers 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 is frequently required to sit, stand, walk, talk and listen.

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

WORK ENVIRONMENT:

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

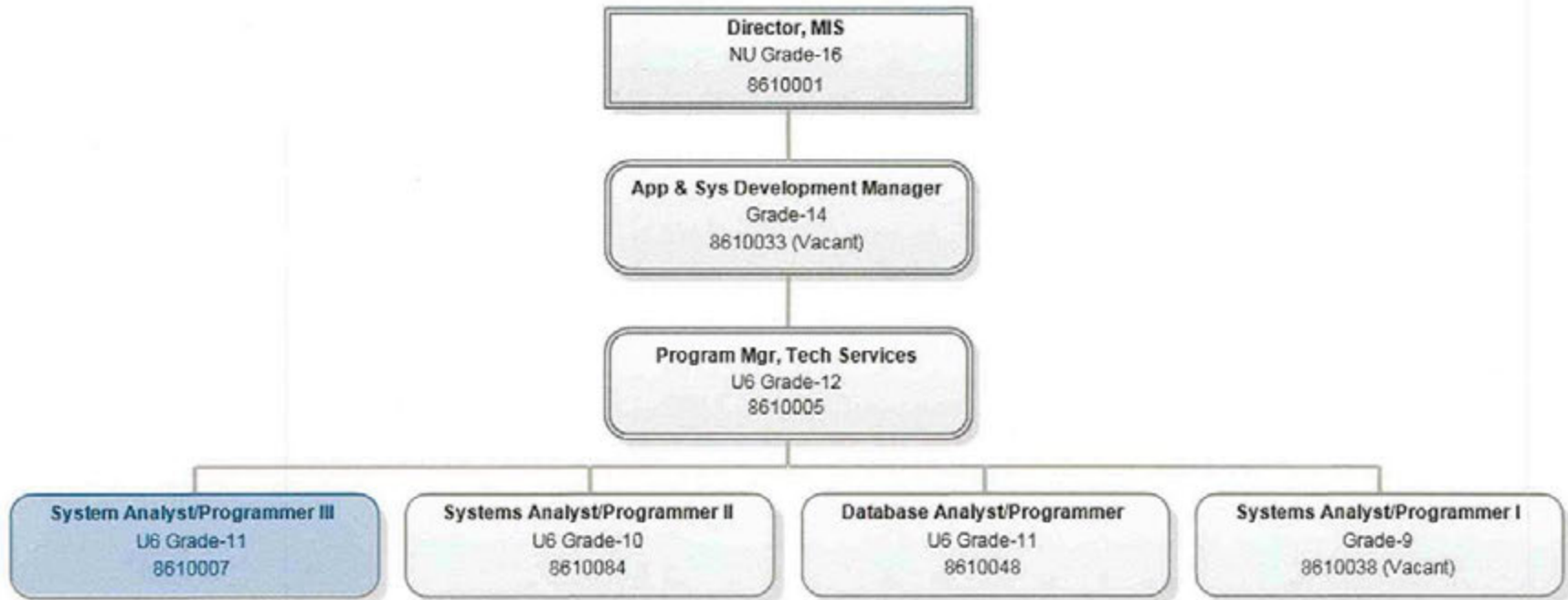
While performing the duties of this job, the employee works in a computer center, network

closet, and/or or office environment and occasionally works in various field settings. The employee regularly works near moving mechanical parts and is occasionally exposed to risk of vibration and electromagnetic radiation. The employee is occasionally exposed to risk of electrical shock. The Computer Center also uses automatically discharging chemicals to suppress fire.


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

November 2015

Management Information Systems Department Organization 2016




STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: March 16, 2016
SUBJECT: Appointment of Construction Coordinator
Engineering & Construction Department

COMMITTEE: Personnel and Compensation

INFORMATION
 VOTE


Karen Gay-Valente, Director, Human Resources
Corinne M. Barrett, Director, Construction
Preparer/Title


Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To approve the appointment of Ms. Jami Walsh, P.E. to the position of Construction Coordinator in the Engineering & Construction Department (Unit 9, Grade 30), at the recommended salary of \$109,845.31 to be effective on a date to be determined by the Executive Director.

DISCUSSION:

The Construction Coordinator position reports to the Assistant Director, Construction and can supervise up to five field staff (see attached organization chart).

The position of Construction Coordinator is MWRA's key point person on every construction project and is responsible for managing all aspects of each project. The Construction Coordinator takes the lead role in all communication with contractors and design engineers; negotiating change order costs and determining the necessity and reasons for the changes; and ensuring that MWRA's best interests are served during the construction of any project. Depending upon the size of the project, a Construction Coordinator may be assigned to a single project or multiple projects that could include new building or facility construction or the rehabilitation and improvement of MWRA's existing water and wastewater facilities and pipelines. Construction Coordinators also perform constructability reviews of contract plans and specifications prior to bidding. Additional responsibilities include, but are not limited to, supervision of field engineers and inspectors, assignment of projects, performance evaluations and staff development, and provision of technical and administrative assistance to staff assigned to the construction projects as required.

Selection Process

This position was posted internally and externally. Seven qualified candidates (two internal, five external) applied and were referred to be interviewed. The Director, Construction, Assistant Director, Construction and the Workforce Development Coordinator for Affirmative Action interviewed six of the seven candidates (one candidate subsequently withdrew from consideration) and determined that Ms. Jami Walsh was the most qualified candidate to fill this position based upon her combination of experience, abilities, knowledge, and education.

Ms. Walsh has over 15 years experience with environmental engineering projects with various private and public clients including MWRA. She has extensive experience overseeing construction projects in the drinking water, stormwater, and wastewater arenas. Ms. Walsh was the Resident Engineer on MWRA's John J. Carroll and William A. Brutsch Ultraviolet (UV) Disinfection Facilities projects gaining valuable experience and knowledge regarding MWRA's construction policies and procedures.

In addition to her construction management experience, she has been involved in a variety of design and permitting projects, including the design of MWRA's John J. Carroll UV Disinfection Facility. She is currently employed as Senior Environmental Engineer with AECOM. Where she manages and provides technical direction and expertise, develops team organization and resources, and participate in projects with public service clients. In her last project, she served as Deputy Project Manager for the design of gravity and low pressure sewers for the Tiverton Wastewater District, Tiverton, RI. She was responsible for preparing subcontracts for surveying, subsurface excavation, CCTV inspection and archaeological survey.

Ms. Walsh holds both a Bachelor of Science Degree in Civil Engineering and a Master of Science in Environmental Engineering from Worcester Polytechnic Institute. She also holds a Massachusetts Registered Professional Engineering license.

BUDGET/FISCAL IMPACT:

There are sufficient funds in the Operations Divisions FY16 Current Expense Budget for this position. The recommended salary is commensurate with Ms. Walsh's experience, and is in accordance with guidelines established in Unit 9's collective bargaining agreement.

ATTACHMENTS:

Resume of Jami Walsh
Position Description
Organizational Chart

Jami Walsh

Senior Project Engineer/Project Manager

Professional History

07/2004 - Present, AECOM Senior Environmental Engineer

01/2000 - 04/2004, Prism Environmental Inc. Project Engineer

Education

MS, Environmental Engineering, Worcester Polytechnic Institute, 1999

BS, Civil Engineering, Worcester Polytechnic Institute, 1997

Registrations

Professional Engineer, Massachusetts

Years of Experience

With AECOM: 11

With Other Firms: 4

Professional Affiliations

New England Water Works Association

Certifications

40 Hour HAZWOPER

8 Hour HAZWOPER Refresher

10 Hour OSHA Construction

Ms. Walsh is a senior project engineer/project manager for the design and permitting of drinking water, wastewater, and stormwater systems. She has acted as deputy project manager and project manager on a variety of design and permitting projects including the addition of ultraviolet disinfection to a 425-million-gallon-per-day drinking water facility. Ms. Walsh also has extensive experience in the oversight of construction projects in the drinking water, stormwater, and wastewater arenas. In addition, she has knowledge of computer modeling of drinking water systems, as well as computer-assisted design and drafting (CADD).

Experience

Tiverton Wastewater District, Sewer Expansion Phase 1, Tiverton, Rhode Island. Deputy Project Manager for the design of approximately 5,000 lf of gravity and approximately 5,000 lf of low pressure sewers. Prepared subcontracts for surveying, subsurface excavation (e.g. borings), CCTV inspection, and archaeological survey. Liaised with Clients and assisted in the preparation of engineering reports for Phase 1 and Phase 2 of the project for submission to USDA.

City of Bangor, Wastewater Treatment Plant Upgrades, Bangor, ME. Senior Project Engineer for the preliminary design report and design of upgrades to the Bangor Wastewater Treatment Facility. Upgrades include replacement of trickling biofilter media, dissolved oxygen controls, and plant water controls. Prepared cost estimates for upgrades for the preliminary design report and oversaw preparation of design specifications and drawings.

The Pointe At Hills Farm, Sewer Capacity Analysis, Roderick A. St. Pierre. Acted as Sr. Project Engineer for the peer review of previous sewer capacity analysis the client had requested. Provided comments on the report and was asked to perform independent capacity analysis. Additional field work including survey and drawdown tests were required to complete the analysis.

Massachusetts Water Resources Authority (MWRA), Ware, Massachusetts. Resident Engineer for the addition of UV Disinfection to the William A. Brutsch Water Treatment Plant located in Ware, Massachusetts. The facility had the capability to treat up to 16 MGD. Over saw all aspects of construction, conducted progress meetings, prepared change orders, reviewed shop drawings, and responded to requests for information. Served as primary liaison between the contractors, design team, and MWRA.

Massachusetts Water Resources Authority, Ultraviolet Disinfection Facility, Marlborough, Massachusetts. Resident Engineer for the final portion of the UV Disinfection Facility upgrade at the John. J. Carroll facility. Oversaw the removal of temporary slide gates and replacement of walls to pre-construction condition. Prepared reports, ran construction meetings, prepared meeting minutes and acted as client liaison. Worked with Project Manager to finalize remaining change orders and close out the construction contract.

Jordan Water Reuse and Environmental Conservation Project, USAID, Amman, Jordan. Assisted in the preparation of the final report to upgrade an existing wastewater treatment facility in Amman, Jordan. Provided QA/QC review of portions of the report, not directly involved with.

City of Worcester, Elm Park Pond Water Supply Alternatives Feasibility Evaluation, Worcester, MA. Evaluated alternative Stormwater pumping and storage alternatives and their feasibility as an alternative water source for the pond located in Elm Park. Provided preliminary sizing and cost estimate for the alternatives evaluated.

Town of Blackstone, Stormwater Management Program, Blackstone, Massachusetts. Project Manager for the implementation of the Town's MS4 National Pollutant Discharge Elimination System (NPDES) compliance program. Reviewed existing Town maps for existing stormwater distribution system information. Worked with the Town to inventory and GPS locate 96 outfalls. Inspected and sampled the 96 outfalls in accordance with the Town's 2003 NPDES permit. Worked with the Town Manager and DPW Director to develop a Stormwater Management Program (SWMP) and an Illicit Discharge Detection and Elimination (IDDE) plan. Prepared multiple NPDES Annual reports for submission.

Tiverton Wastewater District, Facilities Plan Update, Tiverton, Rhode Island. Project Engineer for the update to the Town's Wastewater Facilities Plan. Duties included: meeting with Wastewater Superintendent and Wastewater Commission, using existing GIS and CAD information to determine the extents of the existing sewer system, reviewing and identifying needs areas, determination of existing ADF, projecting future flows based on build-out potential, preparation of GIS maps, presentations to Town Council, planning and leading Public Meetings, Participating in Public Hearings, and interfacing with various departments within the Rhode Island Department of Environmental Management.

Town of Plymouth, Route 44 Sewer Design, Plymouth, MA. Provided QA/QC review of design specifications for the sewer expansion into the Route 44 area of Plymouth.

Town of Westborough, Flanders Road Sewer Rehabilitation, Westborough, Massachusetts. Senior Project Engineer for the evaluation and design phase of the Flanders Road Sewer Rehabilitation. Design includes replacement of 8 sewer manholes, pipe bursting of approximately 1,200 lf of gravity sewer main, and completion of necessary permitting. Duties included: meeting with the Town Engineer, interfacing with the Conservation Commission, preparing Notice of Intent, and preparation of plans and specifications for the sewer rehabilitation.

Town of Plymouth, Comprehensive Wastewater Management Plan Update, Plymouth Massachusetts. Project Engineer for the update to the Town's Comprehensive Wastewater Management Plan. Duties included: meeting with the Town Engineer and Department of Public Works Director, using existing GIS and CAD information to determine the extents of the existing sewer system, establishing potential expansion areas based on need, determination of existing ADF, determination of future flows based on build out potential, preparation of letter report stating findings, development of 10 year capital improvement plan, and development of presentation on subject for Board of Selectmen.

City of Lawrence, Route 114 Pump Station Rehabilitation, Lawrence, Massachusetts. Sr. Project Engineer for the design, bidding, and construction of the renovation of the Route 114 Pump Station. The Route 114 Pump Station is a below grade wet/dry pit centrifugal pump station that is located within the 100 year flood plain of the Shawsheen River. Duties included: overseeing permitting, preparation of Notice of Intent, meeting with the Conservation Commission, meeting with the Department of Public Works, preparation of bid documents, overseeing of bid process, acting as resident engineer for construction, reviewing shop drawings and maintaining construction records. Project included the renovation of two manholes located within a wetland through cleaning and lining, addressing flooding concerns, removing and replacing existing pumps and appurtenances, and installation of emergency generator.

Town of Dighton, Lincoln Avenue Pump Station Rehabilitation, Dighton, Massachusetts. Sr. Project Engineer for the design, bidding and construction of the renovation of the Lincoln Avenue Pump Station. The Lincoln Avenue Pump Station is a wet/dry pit centrifugal pump station. The project included removal and replacement of the existing pumps and appurtenances, new flow controls, removing existing generator from inside of the building and relocating to the exterior of the building, retrofitting a grinder into the wet well and renovating the existing wetwell access hatch and ladder. Duties included: meeting with the sewer department, preparation of bid documents, overseeing of bid process, acting as resident engineer for construction, reviewing shop drawings and maintaining construction records.

Massachusetts Water Resources Authority, Ultraviolet Disinfection Facility, Marlborough, Massachusetts. Deputy project manager for design, construction administration, and resident inspection services for the addition of UV disinfection to a 405-mgd drinking water facility. Duties included reviewing invoices, managing the overall design schedule and budget, coordinating the design leads, coordinating and attending expert panels, attending progress meeting with the client, preparing monthly reports, reviewing all submittals prior to submission, and assisting the project manager in various other duties.

Town of Westborough, Water Distribution System Improvements, Westborough, Massachusetts. Project engineer for design, and construction oversight assistance of water main improvements for Nourse Street (Route 30).

Town of Westborough, Beachmont Street and East Main Street Pump Stations Evaluation Study, Westborough, Massachusetts. Project engineer for evaluation of two sewer pump stations, one a dry pit-wet pit set up and a submersible pumps station. Conducted pump tests at both stations. Determined sewer shed area for both stations. Using data from the CWMP, pump run times, and water meter readings determined the ADF and PDF for both stations. Evaluated various pump options at both stations (replace in kind or suction lift). Evaluated the size of the existing wet wells at both locations. Evaluated the size of the force mains at both locations. Put together a preliminary cost estimate for all options at both project sites.

Town of Westborough, Beachmont Street and East Main Street Pump Stations Rehabilitation, Westborough, Massachusetts. Project engineer for the design phase of renovation of two sewer pump stations; one a dry pit-wet pit set up, the other a submersible pump station. The project consisted of replacing all mechanical and electrical equipment in the Beachmont Street pump station and East Mains Street pump station. The project also included pipe bursting approximately 1,000 linear feet of existing force main.

Town of Nantucket, Stormwater Improvements Phase IA, Nantucket, Massachusetts. Project engineer for the construction phase of the rehabilitation/renovation of approximately one mile of stormwater piping ranging in size from 12-inch to 48-inch round pipe. Designed stormwater pumps for drainage system located in the Children's Beach area of Nantucket. Other duties included evaluating the stormwater treatment system submitted by the contractor, evaluating changes in design and piping size changes, conducting monthly progress meetings, processing change orders, and keeping the project manager and client apprised of the progress on the project.

Town of Palmer, National Pollutant Discharge Elimination System Permit Compliance, Palmer, Massachusetts. Project manager for the preparation of the 2009 and 2010 NPDES annual report.

Town of Carver, National Pollutant Discharge Elimination System Permit Compliance, Carver, Massachusetts. Project manager for the preparation of the 2009 and 2010 NPDES annual report.

Town of Millville, National Pollutant Discharge Elimination System Permit Compliance, Millville, Massachusetts. Project manager for the preparation of the 2009 and 2010 NPDES annual report.

Town of Lanesborough, National Pollutant Discharge Elimination System Permit Compliance, Lanesborough, Massachusetts. Project manager for the preparation of the 2009, 2010, 2011, and 2012 NPDES annual report.

Town of Schuylerville, Emergency Drainage Repair, Schuylerville, New York. Project engineer for emergency repair of a failure of a large-diameter storm drainage pipe. Reviewed existing plans. Reviewed photographs of the failure. Provided design specifications and plans for the repair of the drainage line which included abandoning a portion of the drainage pipe in place and re-routing the pipe from one stormwater manhole to a different manhole hole located downstream.

Town of Monson, National Pollutant Discharge Elimination System Permit Compliance, Monson, Massachusetts. Project manager for the preparation of the 2009, 2010, 2011, and 2012 NPDES annual report.

Town of Nantucket, Stormwater Improvements Phase IB, Nantucket, Massachusetts. Provided design review, inclusive of plans, specifications and sizing, of the design of several small stormwater system improvements including new drainage piping, hydraulic evaluation of the piping systems, and design of best management practices.

Town of Sherborn, Stormwater Management Program, Sherborn, Massachusetts. Project manager for implementation of the town's MS4 National Pollutant Discharge Elimination System (NPDES) compliance program. Worked with the town to assess the needs with regard to the MS4 stormwater program. Prepared the 2010, 2011 and 2012 NPDES annual reports.

Town of Seabrook, Stormwater Management Program, Seabrook, New Hampshire. Project engineer for implementation of the town's MS4 National Pollutant Discharge Elimination System (NPDES) compliance program. Working with the town to prepare the 2012 NPDES annual report.

Seabrook Water Department, Seabrook Transfer Station NPDES Permit Compliance, Seabrook, New Hampshire. Provided inspection and review of the Seabrook Transfer Station with regard to compliance with the station's NPDES permit. Identified areas where possible contamination may be present and suggested mitigation options. Assisted the town with implementation of the recommendation as necessary and as requested.

Pawtucket Water Supply Board, New Water Treatment Facilities, Pawtucket, Rhode Island. Staff engineer for this design-build-operate project to replace existing water treatment facilities with a new 25-mgd water treatment plant, 25-mgd raw water pumping station, approximately 12,000 linear feet of pipelines (ranging in diameter from 12 to 42 inches), and a 5-million-gallon prestressed concrete storage tank. Designed yard piping ranging in size from 12 to 42 inches, inclusive of both gravity and pressure lines for new water treatment facilities. Reviewed design of two 36-inch transmission mains. Coordinated pipe jacking requirements between the design team and the railroad whose tracks the main was being installed beneath. Office liaison to the field crew. Coordinated correspondence, shop drawing submittals, and requests for information. Prepared construction stormwater pollution prevention plan (SWPPP) and worked with Rhode Island Department of Environmental Management to obtain a stormwater NPDES permit for the facility.

Pawtucket Water Supply Board, New Water Treatment Facilities, Pawtucket, Rhode Island. Quality assurance and quality control (QA/QC) manager for the build team. Oversaw construction activities to ensure a high-quality end product. Maintained communications with the design team; processed and answered requests for information (RFIs), processed shop drawings, and acted as liaison to the design team. Resident engineer that oversaw pipe jacking of two 36-inch transmission mains beneath railroad tracks and oversaw all hydrostatic testing of pipe lines and tanks. Worked with operations staff to prepared stormwater pollution prevention plan (SWPPP) and spill prevention, control, and countermeasure (SPCC) plan for the facility.

Pawtucket Water Supply Board, New Water Treatment Facilities, Pawtucket, Rhode Island. Member of the start-up and commissioning team responsible for taking regulatory and contractual water quality samples. Conducted a four flow-rate tracer study on the clearwell to determine the baffling factor of the clear well. Operated the water treatment facility during the start-up and commissioning phase. Assisted the start-up manager with various engineering and operational tasks.

Pawtucket Water Supply Board, New Water Treatment Facilities, Pawtucket, Rhode Island. Trained plant operators in the daily operations of the new water treatment facility.

University of Connecticut, Water Distribution System Modeling, Storrs, Connecticut. Staff engineer for development and maintenance of hydraulic distribution system model using Water CAD. Obtained and input data related to system pipes, pumps, sources and campus demands; performed flow tests for calibration; performed model evaluations to identify system deficiencies and assess potential system performance and improvements.

Charlton Water & Sewer Commission, New Town Water System, Charlton, Massachusetts. Staff engineer for permitting, design, bidding and construction services for new town water system including 28,000 feet of water mains, a 750-gallon storage tank and a booster pumping station. Prepared permit applications, developed and prepared bidding documents including plans and specifications, resident inspector, and provided shop drawing review during construction.

Swansea Water District, New Water Treatment Facility, Swansea, Massachusetts. Staff engineer for permitting, design, bidding and construction phases for 500-gpm plant treating a highly colored groundwater high in iron and manganese and considered to be under the influence of surface water. Worked on a design for a treatment process that includes aeration tanks, dissolved air flotation units, filtration units which have an oxide-coated filter media and disinfection process. Prepared permit applications, developed and prepared bidding documents including plans and specifications, and provided resident inspection and shop drawing review during construction.

Westfield Water Department, Water Distribution System Model, Westfield, Massachusetts. Staff engineer for development and maintenance of hydraulic distribution system models. Obtained and input data related to system pipes, pumps, sources, and customer demands; performed flow tests for calibration; performed model evaluations to identify system deficiencies and assess potential improvements; and developed model documentation and report.

Charlton Water & Sewer Commission, Hydraulic Distribution System Models, Charlton, Massachusetts. Staff engineer for development and maintenance of hydraulic distribution system models. Obtained and input data related to system pipes, pumps, sources, and customer demands; performed flow tests for calibration; performed model evaluations to identify system deficiencies and assess potential improvements; and developed model documentation and report.

Aquarion Water Company of Massachusetts, Water Distribution System Model, Hingham, Massachusetts. Staff engineer for development and maintenance of hydraulic distribution system models. Obtained and input data related to system pipes, pumps, sources, and customer demands; performed flow tests for calibration; performed model evaluations to identify system deficiencies and assess potential improvements; and developed model documentation and report.

Aquarion Water Company of Massachusetts, Oxford and Millbury Water Systems - Distribution System Model, Millbury, Massachusetts. Staff engineer for development and maintenance of hydraulic distribution system models. Obtained and input data related to system pipes, pumps, sources, and customer demands; performed flow tests for calibration; performed model evaluations to identify system deficiencies and assess potential improvements; and developed model documentation and report.

Littleton Light & Water Department, Distribution System Model, Littleton, Massachusetts. Staff engineer for development and maintenance of hydraulic distribution system models. Obtained and input data related to system pipes, pumps, sources, and customer demands; performed flow tests for calibration; performed model evaluations to identify system deficiencies and assess potential improvements; and developed model documentation and report.

**MWRA
POSITION DESCRIPTION**

POSITION: Construction Coordinator

DIVISION: Operations

DEPARTMENT: Engineering and Construction

BASIC PURPOSE:

Supervises office and field engineers to oversee and manage construction contracts and professional engineering contracts in the construction, rehabilitation, improvements, and start-up of Waterworks and Wastewater facilities and infrastructure.

SUPERVISION RECEIVED:

Works under the general supervision of the Assistant Director, Construction.

SUPERVISION EXERCISED:

Exercises close supervision of office and field employees including professional and technical staff, resident engineers, and inspectors.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Oversees and manages a program of construction projects, including the rehabilitation and improvement of waterworks and wastewater facilities and pipelines.
- Supervises and manages office and field engineers, including assignment of projects, evaluation of performance, and staff development planning. Provides technical and administrative assistance to staff during the construction, startup, and warranty of projects.
- Oversees and directs consultant engineering services and contracts during construction, including all work for quality of work, budget, schedule, and compliance with contractual terms and MWRA objectives and policies. Negotiates and reviews construction services in consultant contracts.
- Acts as liaison with engineering, operations, and maintenance staff to ensure the smooth construction and start-up of new or rehabilitated facilities.

- Ensures contractor compliance with construction documents, MWRA procedures and policies, regulatory requirements, and applicable engineering standards.
- Supervises the development and maintenance of construction tracking and reporting procedures. Prepares and updates construction budget and schedule projections.
- Performs constructability reviews of construction plans and specifications.
- Reviews, negotiates and processes change orders and claims in accordance with MWRA policies and procedures.
- Reviews and processes pay estimates and final payment and construction closeout documents in a timely manner. Oversees preparation and submittal of accurate record drawings upon construction completion.
- Oversees office and field project files, ensuring that all project documentation is complete, up-to-date, and in accordance with MWRA policies and procedures.
- Prepares staff summaries for the Executive Director and Board for construction contract and engineering agreement changes, and project status.

SECONDARY DUTIES:

- Participates in preparing for collective bargaining and hears Step-One grievances.
- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Completion of a four (4) year college program in civil engineering or a related field; and
- (B) Eight (8) to (10) ten years experience in the construction of water and wastewater facilities and infrastructure, of which four (4) years should be in a supervisory capacity and four (4) years should include a project management experience; or
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Demonstrated ability to work effectively as part of a project team and also to function

independently with minimal supervision.

- (B) Knowledge of Massachusetts laws, including MGL Chapter 30 and Chapter 149 construction regulations.
- (C) Familiarity with computer software, such as Word and Excel.
- (D) Excellent interpersonal, managerial, oral and written communication skills are required.

SPECIAL REQUIREMENTS:

Registration as a 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 use hands to finger, handle, feel or operate objects, tools or controls and frequently required to reach with hands and arms. The employee regularly is required to talk or hear. The employee is occasionally required to walk; stand; climb or balance; stoop, kneel, crouch, or crawl; or sit.

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

WORK ENVIRONMENT:

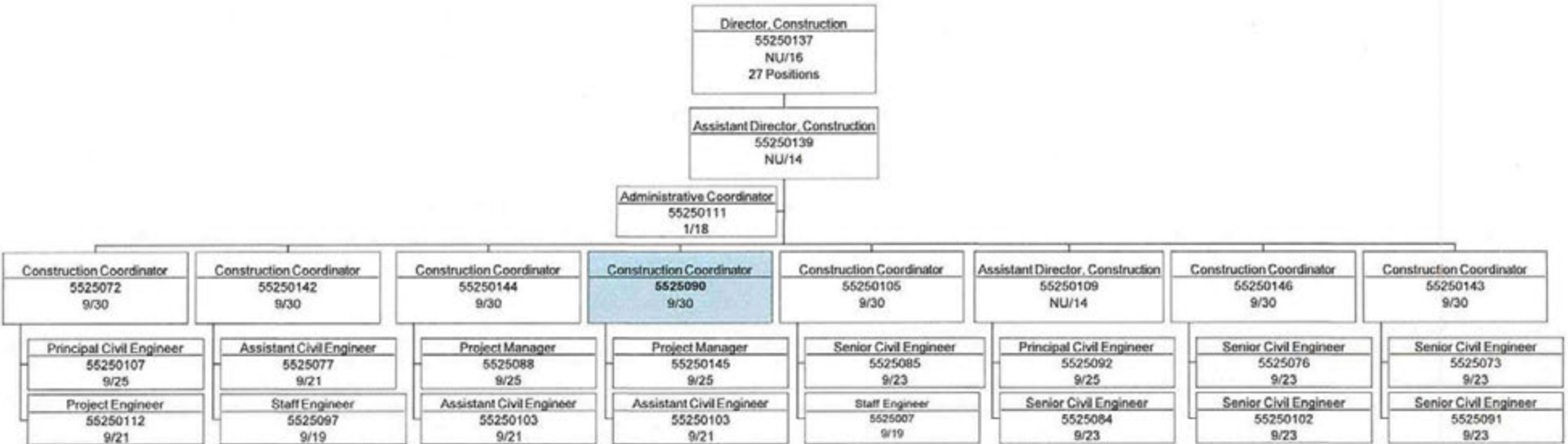
The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job.

While performing the duties of this job, the employees frequently 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, extreme heat or extreme cold, and the risk of electrical shock.

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

Engineering & Construction
Construction
 March 2016





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

REVISED

BOARD OF DIRECTORS' MEETING

to be held on

Wednesday, March 16, 2016

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
- III. REPORT OF THE EXECUTIVE DIRECTOR
- IV. BOARD ACTIONS
 - A. Approvals
 1. Amendments to Capital Finance Management Policy (ref. AF&A B.1)
 2. Appointment of Proxy for Fore River Railroad Corporation (ref. AF&A B.2)
 3. PCR Amendments – March 2016 (ref. P&C A.1)
 4. Appointment of Systems Analyst Programmer III (GIS) (ref. P&C A.2)
 5. Appointment of Construction Coordinator (ref. P&C A.3)
 6. Proposed Community Loan Program for Lead Service Line Replacement (ref. W B.1)

B. Contract Awards

1. Managed Security Services: NWN Corporation, Contract 7499 (AF&A C.1)
2. Integrated Financial, Procurement and Human Resources/Payroll Management System Maintenance and Support: Infor Global Solutions (AF&A C.2)
3. Employee Assistance Program Services: AllOne Health, Contract A605 (AF&A C.3)
4. Groundskeeping Services – Metropolitan Boston: C&W Facility Services, Contract OP-315 (AF&A C.4)

V. CORRESPONDENCE TO THE BOARD

- A. Letter from NAGE

VI. OTHER BUSINESS

VII. EXECUTIVE SESSION

A. Real Estate:

1. Watershed Land Acquisition Approval

B. Litigation:

1. Cross-Harbor Cable – MA DPU and Superior Court Proceedings

VIII. ADJOURNMENT

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the Board of Directors

February 10, 2016

A meeting of the Board of Directors of the Massachusetts Water Resources Authority was held on February 10, 2016 at the Authority headquarters in Charlestown. Vice-Chair Carroll presided. Present from the Board were Ms. Wolowicz and Messrs. Blackmon, Flanagan, Foti, Pappastergion, Pena, Vitale and Walsh. Messrs. Beaton and Cotter were absent. Among those present from the Authority staff were Frederick Laskey, Executive Director, Steven Remsberg, General Counsel, Michael Hornbrook, Chief Operating Officer, Thomas Durkin, Director of Finance, Michele Gillen, Director of Administration, David Coppes, Waterworks Director, Stephen Estes-Smargiassi, Director of Planning and Sustainability, and Bonnie Hale, Assistant Secretary. The meeting was called to order at 1:00 p.m.

APPROVAL OF MINUTES

Upon a motion duly made and seconded, it was

Voted to approve the minutes of the Board of Directors meeting of January 13, 2016, as presented and filed with the records of the meeting.

REPORT OF THE CHAIR

Mr. Carroll sadly reported on the passing of Mary Ann McClellan, office manager for the MWRA Advisory Board for the last 18 years. He and Mr. Favaloro spoke of the important work she did, her unfailingly sweet and kind nature, and how much she would be missed, and a moment of silence was observed in her honor.

REPORT OF THE EXECUTIVE DIRECTOR

Mr. Laskey reported on various matters, including the continuing national press coverage of the issue of lead in drinking water in Flint, Michigan and other locations.

BOARD ACTIONS

APPROVALS

FY17 Proposed Current Expense Budget

Upon a motion duly made and seconded, it was

Voted to approve transmittal of the FY17 Proposed Current Expense Budget to the MWRA Advisory Board for its 60 day review and comment period.

Approval of the Seventy-Second Supplemental Resolution

Upon a motion duly made and seconded, it was

Voted to adopt the Seventy-Second Supplemental Resolution authorizing the issuance of up to \$550,000,000 of Massachusetts Water Resources Authority General Revenue Bonds and Massachusetts Water Resources Authority General Revenue Refunding Bonds and the supporting Issuance Resolution.

Assignment and Consent to Assignment, Stantec Consulting Services, Inc.

Upon a motion duly made and seconded, it was

Voted to authorize the Executive Director, on behalf of the Authority, to approve the assignment of contracts from Fay Spofford & Thorndike, LLC, Fay, Spofford & Thorndike, Inc. and Fay, Spofford & Thorndike, Corp., as presented and filed with the records of the meeting, to Stantec Consulting Services, Inc. with no changes to the contracts and to further authorize the Executive Director to execute an Assignment and Consent to Assignment Agreement.

CSO Annual Progress Report for 2015

Upon a motion duly made and seconded, it was

Voted to authorize staff to submit the Combined Sewer Overflow Annual Progress Report 2015 to the Federal District Court by March 15, 2016, in compliance with Schedule Seven of the Boston Harbor Case.

2016 Affirmative Action Plan

Upon a motion duly made and seconded, it was

Voted to approve the Massachusetts Water Resources Authority's Affirmative Action Plan effective for a one-year period from January 1, 2016 through December 31, 2016.

PCR Amendments – February 2016

Upon a motion duly made and seconded, it was

Voted to approve amendments to the Position Control Register, as presented and filed with the records of the meeting.

Appointment of Warehouse Manager, Deer Island

Upon a motion duly made and seconded, it was

Voted to approve the Executive Director's recommendation to appoint Mr. Stephen Coffey to the position of Warehouse Manager (Unit 6, Grade 12) at an annual salary of \$91,604 to be effective on the date designated by the Executive Director.

Appointment of Deputy Director, Deer Island Treatment Plant

Upon a motion duly made and seconded, it was

Voted to approve the Executive Director's recommendation to appoint Mr. Ethan Wenger to the position of Deputy Director, Deer Island Wastewater

Treatment Plant (Non-Union, Grade 15), at an annual salary of \$127,374, to be effective on the date designated by the Executive Director.

Appointment of Program Manager, Environmental Compliance & Monitoring

Upon a motion duly made and seconded, it was

Voted to approve the Executive Director's recommendation to appoint Mr. David Wu, to the position of Program Manager, Environmental Compliance and Monitoring (Unit 9, Grade 29), at an annual salary of \$93,102 to be effective on the date designated by the Executive Director.

Appointment of IT Architect, MIS

Upon a motion duly made and seconded, it was

Voted to approve the Executive Director's recommendation to appoint Mr. Shantanu Patil to the position of IT Architect in the MIS Department (Unit 6, Grade 13), at an annual salary of \$121,913, to be effective on the date designated by the Executive Director.

Appointment of IT Architect, MIS

Upon a motion duly made and seconded, it was

Voted to approve the Executive Director's recommendation to appoint Mr. Sean Thomas to the position of IT Architect in the MIS Department (Unit 6, Grade 13), at an annual salary of \$117, 179, to be effective on the date designated by the Executive Director.

CONTRACT AWARDS

Miscellaneous Fencing: Premier Fence LLC, Contract 6760X

Upon a motion duly made and seconded, it was

Voted to approve the award of Contract 6760X, Miscellaneous Fencing, to the lowest eligible and responsible bidder, Premier Fence LLC., and to authorize

the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of \$708,000, for a term of 730 calendar days from the Notice to Proceed.

Supply and Delivery of Hydrogen Peroxide for the Deer Island Treatment Plant: U.S. Peroxide, LLC, Bid WRA-4147

Upon a motion duly made and seconded, it was

Voted to approve the award of Purchase Order Contract WRA-4147, for the supply and delivery of hydrogen peroxide to the Deer Island Treatment Plant, to the lowest eligible and responsible bidder, U.S. Peroxide, LLC, and to authorize the Director of Administration, on behalf of the Authority, to execute and deliver said contract in an amount not to exceed \$1,122,000 for a period of two years, from April 1, 2016 through March 31, 2018.

Clinton Wastewater Treatment Plant Phosphorus Reduction Facility: Daniel O'Connell's Sons, Inc., Contract 7411

Upon a motion duly made and seconded, it was

Voted to approve the award of Contract 7411, Clinton Wastewater Treatment Plant Phosphorus Reduction Facility, to the lowest eligible and responsible bidder, Daniel O'Connell's Sons, Inc., and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of \$7,272,432 for a term of 540 calendar days from the Notice to Proceed.

Caruso Pump Station Improvements: Waterline Industries Corp., Contract 7362

Upon a motion duly made and seconded, it was

Voted to approve the award of Contract 7362, Caruso Pump Station Improvements, to the lowest eligible and responsible bidder, Waterline Industries Corp., and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of \$4,097,097.00 for a term of 365 calendar days from the Notice to Proceed.

MWRA Nut Island Emergency Demolition and Duct Cleaning: Daniel O'Connell's Sons, Contract OP-320

Upon a motion duly made and seconded, it was

Voted to approve the award of Contract OP-320, MWRA Nut Island Emergency Demolition, Duct Cleaning and Related Services, to the lowest eligible and responsible bidder, Daniel O'Connell's Sons, and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of \$723,400, for a term of 30 calendar days from the Notice to Proceed.

Rosemary Brook Siphon Buildings Repair and Stabilization: Calhess Restoration and Waterproofing Corp., Contract 7472

Upon a motion duly made and seconded, it was

Voted to approve the award of Contract 7472, Rosemary Brook Siphon Buildings Repair and Stabilization, to the lowest eligible and responsible bidder, Calhess Restoration and Weatherproofing Corporation, and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of \$1,696,700 for a term of 260 calendar days from the Notice to Proceed.

Hatchery Pipeline and Hydroelectric Project: Waterline Industries Corp, Contract 7235

Upon a motion duly made and seconded, it was

Voted to approve the award of Contract 7235, Hatchery Pipeline and Hydroelectric Project, to the lowest eligible and responsible bidder, Waterline Industries Corp., and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of \$3,657,677, for a term of 545 calendar days from the Notice to Proceed.

OTHER BUSINESS – The Need for Metropolitan Tunnel Redundancy

Mr. Laskey noted that this item, which was referred to the Board by the Water Policy and Oversight Committee, was the first of three planned briefings on the topic. Staff gave a presentation on why redundancy for the Metropolitan Tunnels is essential and depicted the condition of the system, potential failure scenarios, the difficulty of recovering from any failure and restoring service, and the inability to shut down the system for either inspection or maintenance.

EXECUTIVE SESSION

It was moved to enter executive session to discuss litigation and real estate.

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

YesNoAbstain

Blackmon
Flanagan
Foti
Pappastergion
Pena
Vitale
Walsh
Wolowicz
Carroll

Voted to enter executive session for the purpose of discussing strategy with respect to litigation and to consider the purchase, exchange, lease or value of real property in that such discussion in open session may have a detrimental effect on the litigating and negotiating positions of the Authority.

It was stated that the meeting would return to open session solely for the consideration of adjournment.

EXECUTIVE SESSION

The meeting returned to open session at 2:25 p.m. and adjourned.

DRAFT



3/11/16

To: Bonnie Hale, MWRA Assistant to the Board

I am writing on behalf of the hard working men and women of the National Association of Government Employees who serve in non-clerical positions at the MWRA to request a meeting with the MWRA Board of Directors in order to seek the Board's endorsement of, and active support for, House Bill 2249, "An Act Relative to the Massachusetts Water Resources Authority." House Bill would move non-clerical workers of the MWRA into Group 2 of the state retirement classification system.

There is no denying that the work we do each day to provide clean water and sanitary living to the men and women in Massachusetts is dangerous. The recent events at Nut Island are an important reminder of the occupational dangers that come with manual labor, and the long term impact that such work has on the human body after many years, not to mention the hidden dangers that lurk in the exposures we face to viruses, bacteria and harmful chemicals each day. The effective lifespan of an MWRA worker is limited by the very nature of the work we do. House Bill 2249 is both an acknowledgment of those limitations and a corrective solution to an aging workforce that will ensure that capable individuals continue to do the work that is so critical to the health and welfare of our citizens.

The Group 2 classification exists because there are some jobs in state and municipal government that are inherently dangerous and limited in lifespan by their very requirements. The non-clerical workers of the MWRA meet this standard. In fact, comparable positions throughout state government can be found not only in group 2, but also in group 4, including electrician and maintenance worker titles.

The transition to Group 2 is good public policy for both the MWRA and the Commonwealth of Massachusetts. It will ensure that we focus on sound recruitment and retention of an able bodied workforce that can learn their work from those that have been doing it the longest while ensuring a responsible cycle of employment and minimizing the long term cost impacts like workers' comp and disability. We welcome the opportunity to meet with the Board to discuss this issue in greater detail.

Sincerely,

Bill Lane
President

159 Burgin Parkway | Quincy, MA 02169 | phone: 617.376.0220 | fax: 617.376.0285 www.nage.org