



# MASSACHUSETTS WATER RESOURCES AUTHORITY

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

Frederick A. Laskey  
Executive Director

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## COMMITTEE OF THE WHOLE

### HEARINGS ON THE DRAFT FINAL FY18 CAPITAL IMPROVEMENT PROGRAM AND CURRENT EXPENSE BUDGET

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

to be held on

Wednesday, June 7, 2017

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

Time: 10:00 a.m.

## AGENDA

- Advisory Board Integrated Comments and Recommendations on the MWRA's Proposed FY2018 CIP and CEB
- MWRA's FY2018 Draft Final Budget Hearings Presentation



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## **ADMINISTRATION, FINANCE & AUDIT COMMITTEE MEETING**

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

to be held on

Wednesday, June 7, 2017

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

Time: Immediately following Budget Hearings

### **AGENDA**

#### **A. Information**

1. Third Quarter FY17 Orange Notebook

#### **B. Contract Awards**

1. Revenue Bond Consulting Engineer Services: CDM Smith Inc.
2. MWRA FY2018 Insurance Program Renewal

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the  
Administration, Finance and Audit Committee

May 8, 2017

A meeting of the Administration, Finance and Audit Committee was held on May 8, 2017 at the Authority headquarters in Charlestown. Chairman Vitale presided. Present from the Board were Messrs. Blackmon, Carroll, Cotter, Peña, and Walsh; Mr. Pappastergion joined the meeting in progress. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Michele Gillen, Carolyn Francisco Murphy, Russ Murray, Tom Durkin, Kathy Soni, and Bonnie Hale. The meeting was called to order at 10:10 a.m.

**Information**

Delegated Authority Report – April 2017

There was question and answer on some items listed in the report.

FY17 Financial Update and Summary as of April 2017

Mr. Vitale congratulated Mr. Laskey and the Finance team on the recent successful bond transaction. Staff summarized the financial update. (Mr. Pappastergion joined the meeting during the discussion.)

**Approvals**

\*Bond Defeasance of Future Debt Service

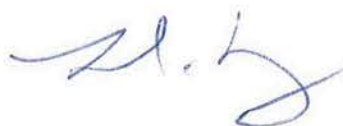
There was general discussion and question and answer. The Committee recommended approval of the bond defeasance (ref. agenda item B.1).

The meeting adjourned at 10:25 a.m.

\* Approved as recommended at May 8, 2017 Board of Directors meeting.

## STAFF SUMMARY

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** June 7, 2017  
**SUBJECT:** FY17 Third Quarter Orange Notebook

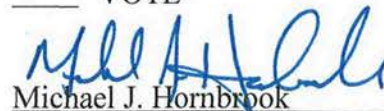


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COMMITTEE: Administration, Finance & Audit

INFORMATION  
 VOTE

Carolyn M. Fiore, Deputy Chief Operating Officer  
Stephen Estes-Smargiassi, Director, Planning & Sustainability  
Preparer/Title



Michael J. Hornbrook  
Chief Operating Officer

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### RECOMMENDATION:

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

### DISCUSSION:

The Orange Notebook presents performance indicators for operational, financial, workforce, and customer service parameters tracked by MWRA management each month. Significant outcomes for the third quarter are highlighted below.

#### Deer Island Overtime

Overtime spending at the Deer Island Wastewater Treatment Plant returned to budgeted levels after having been substantially over in December and January. Overtime had increased substantially, as previously reported to the Board, in December 2016 and January 2017 due to the use of the CTGs (combustion turbine generators) to provide electric power to the plant while EverSource de-energized the cable for the location survey dive work. With that work completed, total Deer Island monthly overtime spending returned to budgeted levels in February and March, with year to date spending of \$202,000 over the budgeted amount. (Page 42)

#### Laboratory Services

Performance metrics for laboratory services returned to more typical levels by the end of this quarter as the effects of the very high volume of school lead samples subsided. The monthly value of services rendered continues to be higher than budget and the three-year average due primarily to the addition of the school lead program. (Page 15)

### Source Water Algae

Algae monitoring at Wachusett Reservoir, including testing for those particular species of algae which may cause taste and odor or other consumer complaints is conducted on a regular basis. As is typical during winter into spring, during the third quarter, levels of diatoms increased. While they do not cause any taste or odor concerns, the silica containing diatoms can cause consumers who use filters to notice a need for more frequent filter changes. A small number of complaints likely related to the increased diatom levels were reported by communities during the quarter. (Page 23)

### NPDES Permit Compliance – Clinton Wastewater Treatment Plant

The third quarter acute toxicity test for effluent from the Clinton Wastewater Treatment Plant passed, but the chronic test did not. The toxicity of the effluent is required to be tested quarterly, using an EPA test which compares the reproduction and health of *daphnid*, a small active water flea, in samples of river water (the control) and diluted effluent. Although *daphnid* reproduction in the effluent dilution samples was at normal levels, exceptional reproductive success of the organisms in this quarter's control sample created a statistically significant difference between the samples. This statistical difference caused the failure of the chronic toxicity test. This failure of the chronic test seems likely to be an analytical fluke as no operational or process anomalies have been found. (Page 28)

### Molybdenum Concentrations in Biosolids

Molybdenum levels in the fertilizer pellets made from biosolids were elevated during the first and second quarters, possibly related to the hot dry summer, as reported to the Board in November. At the end of the second quarter and through third quarter, levels dropped substantially. Levels during the third quarter were similar to those in the same months of 2016. Staff continue to monitor levels closely. (Page 12)

### Workforce Management

Staff turnover continues to be higher than it has been in recent years. Through the first three quarters of Fiscal Year 2017, there have been a total of 173 promotions, transfers, or external hires. If this pace continues through the end of the fiscal year, total number of positions filled will be about 230 positions, higher than any recent year. (Page 42) As of late May, total number of positions filled was 206 positions, with 32 percent external hires, and 68 percent internal promotions or transfers.

At the end of the third quarter, MWRA had 1,139.3 Full Time Equivalent (FTEs), compared with the budgeted target of 1150 FTEs. As of late May, the level had risen to 1144.6 FTEs.

MASSACHUSETTS WATER RESOURCES AUTHORITY

**Board of Directors Report**  
On  
**Key Indicators of MWRA Performance**  
For  
Third Quarter FY2017

Q1	Q2	Q3	Q4

Frederick A. Laskey, Executive Director  
Michael J. Hornbrook, Chief Operating Officer  
June 7, 2017

# Board of Directors Report on Key Indicators of MWRA Performance

## Third Quarter FY17

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

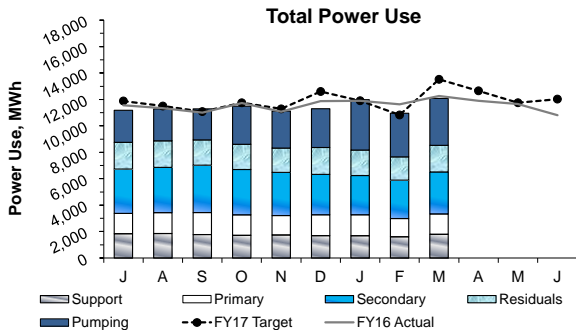
Frederick A. Laskey, Executive Director  
Michael J. Hornbrook, Chief Operating Officer  
June 7, 2017

# OPERATIONS AND MAINTENANCE



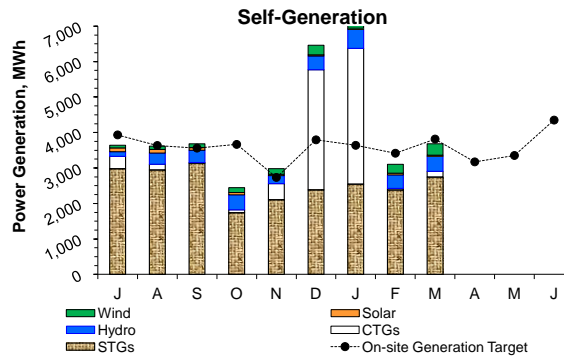
# Deer Island Operations

3rd Quarter - FY17

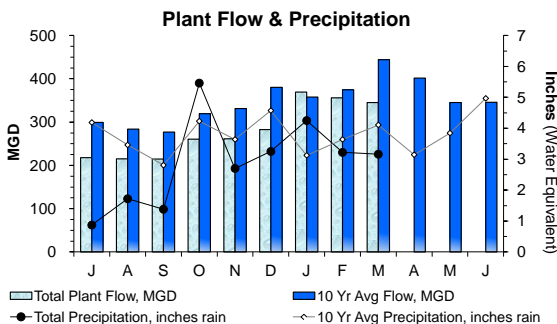


Total power usage in the 3rd Quarter was 3.4% below target as Total Plant Flow was 1.3% below target with the 3 year average plant flow. Power used in all plant processes were below their individual targets for the quarter. Power used in wastewater pumping operations was 6.1% below target.

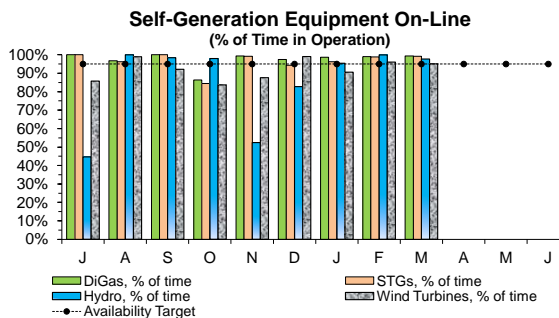
Note: Power usage projections are based on 3 year averages.



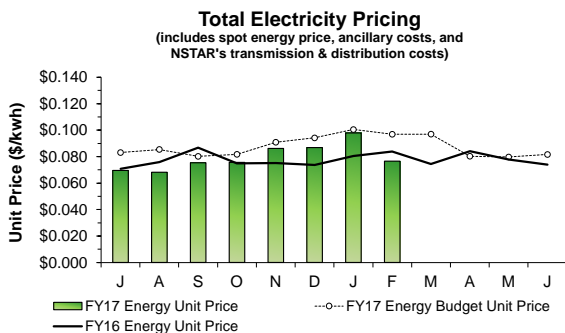
Power generated on-site during the 3rd Quarter was 28.5% above target. While generation by the STGs and Wind Turbines exceeded their targets, generation by the Hydro Turbines was 21% below target as a result of lower than expected plant flow and a vibration issue which prevented staff from operating the turbines at design capacity. The CTGs generated five (5) times more power than expected during the quarter as the cross harbor electrical cable, that supplies the primary source of power to Deer Island, was de-energized for much of January to allow Eversource to safely perform cable location and dredging work (Phase 1A and 1B of Eversource/HEEC cable location and protection project). Therefore, CTG operation was needed to meet the electrical needs of the treatment plant during this work.



Total Plant Flow for the 3rd Quarter was 9.0% below target with the 10 year average plant flow (356.8 MGD actual vs. 392.1 MGD expected) as precipitation for the quarter was 2.2% lower than target (10.63 inches actual vs. 10.87 inches expected).

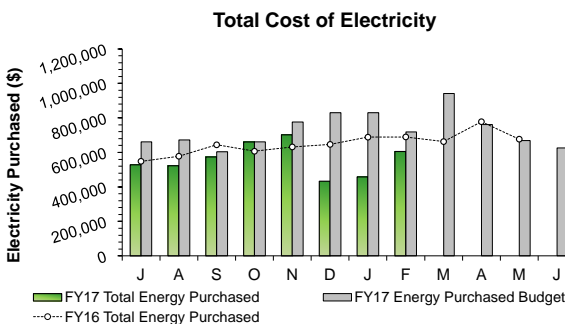


The DiGas system, STGs, and Hydro Turbines met the 95% availability target for the 3rd Quarter. Wind Turbine availability fell just below target by 1.1%. Turbulence caused by wind blowing through the digesters resulted in the wind turbines tripping offline and reducing their availability until the wind direction shifted.



Under the current energy supply contract, a block portion of DI's energy is a fixed rate and the variable load above the block is purchased in real time. The actual Total Energy Unit Price in the 3rd Quarter (actuals for January and February only) was 11.6% lower than the FY17 budget estimate for the same period. The Total Energy Unit Price includes a fixed block price, spot energy price, transmission & distribution charges, and ancillary charges.

Note: Only the actual energy prices are reported. Therefore, the dataset lags by one (1) month due to the timing of invoice receipt.

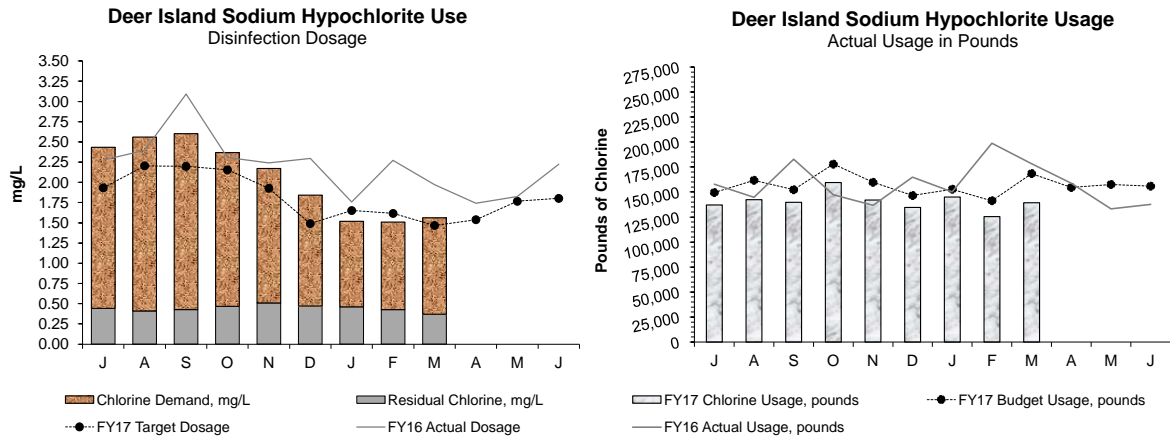


The total cost of Electricity Purchased during the 3rd Quarter (actuals for January and February only) was 31.3% lower than budget. Total Electricity Purchased in January alone was 43.4% lower than budgeted as the cross harbor electrical cable, that supplies the primary source of power to Deer Island, was de-energized for much of the month to allow Eversource to safely perform cable location and dredging work (Phase 1A and 1B of Eversource/HEEC cable location and protection project). Therefore, CTG operation, and not Purchased Electricity, was used to meet the electrical needs of the treatment plant. Year-to-date costs are \$1,240,388 lower than budgeted through February as both the Total Energy Unit Price and the Total Electricity Purchased are approximately 10% lower than budgeted through February. The cost data for Electricity Purchased in March is not yet available as of reporting time.

Note: Only months with complete Electricity Purchased data are reported. Therefore, the dataset lags by one (1) month due to the timing of invoice receipt.

# Deer Island Operations

3rd Quarter - FY17



The disinfection dosing rate in the 3rd Quarter was within 3% of the target. DITP maintained an average disinfection chlorine residual of 0.42 mg/L this quarter with an average dosing rate of 1.53 mg/L (as chlorine demand was 1.11 mg/L). Actual sodium hypochlorite usage in pounds of chlorine was 11.4% below target this quarter due to the lower than expected plant flow.

The overall disinfection dosing rate (target and actual) is dependent on plant flow, target effluent total chlorine residual levels, effluent quality and NPDES permit levels for fecal coliform.

### Secondary Blending Events

Month	Count of Blending Events	Count of Blending Events Due to Rain	Count of Blending Events Due to Non-Rain-Related Events	Secondary, as a Percent of Total Plant Flow	Total Hours Blended During Month
J	0	0	0	100.0%	0.00
A	0	0	0	100.0%	0.00
S	0	0	0	100.0%	0.00
O	2	2	0	99.7%	3.94
N	2	2	0	99.7%	4.50
D	1	1	0	99.9%	2.30
J	2	2	0	99.7%	8.62
F	0	0	0	100.0%	0.00
M	2	2	0	99.4%	8.54
A					
M					
J					
Total	9	9	0	99.8%	27.91

99.7% of all flows were treated at full secondary during the 3rd Quarter. There were a total of four (4) separate secondary blending events; all due to high plant flow resulting from heavy rain. The four (4) combined blending events resulted in a total of 17.17 hours of blending and 91.21 Mgal of flow blended with secondary effluent. The Maximum Secondary Capacity for the entire quarter was 700 MGD.

Secondary permit limits were met at all times during the 3rd Quarter.

## Deer Island Operations & Maintenance Report

### Environmental/Pumping:

The plant achieved a peak instantaneous flow rate of 1,037.2 MGD on the morning of April 1 (occurring on the last reporting day of the month which ended at 8:00 a.m. on April 1). This peak flow occurred during a two (2) day rain event that produced 2.43 inches of precipitation. For this rain event, the actual peak flow of 1,238 MGD occurred at 12:13 p.m. on April 1. Overall, Total Plant Flow in the 3rd Quarter was 9.0% below the 10 year average plant flow target for the quarter.

Essential maintenance and rehabilitation activities involving the replacement of butterfly flow control valves, discharge isolation valves, flow meters, and associated piping for each of the 10 wastewater pumps in the North Main Pump Station (NMPS) continued in Quarter 3. All equipment is original and dates back to the facility upgrades in 1995. Over time, the valves in these facilities have sustained damage from age and wear and must be replaced to allow proper isolation of pumps and equipment for maintenance. There were a total of eight (8) force main isolation events during the third quarter of FY17, to install the new equipment for Pump #3, to remove and install the new equipment for Pumps #5, #6 and #8, and to remove the old equipment for Pump #2. NMPS, Winthrop Terminal Headworks Facility, and South System Pump Station continued to operate during these events.

The replacement program for the Deer Island to pellet plant pumps system has begun. The first of the new centrifugal pumps was installed in February and performance testing of this new pump in operation began in early March. The overall performance of this new pump has been successful allowing for the removal of the remaining two (2) Abel sludge pumps to proceed.

## Deer Island Operations

3rd Quarter - FY17

### Deer Island Operations & Maintenance Report (continued)

#### Energy and Thermal Power Plant:

Overall, total power generated on-site accounted for 39.9% of Deer Island's total power use for the 3rd Quarter. Renewable power generated on-site (by Solar, Wind, STGs, and Hydro Turbines) accounted for 28.4% of Deer Island's total electrical power use for the quarter. Wind Turbine generation was 13% higher than target for the quarter, and nearly twice its generation target in March. The daily Wind Turbine generation on two (2) days in March fell within the Top 20 list for highest daily Wind Turbine generation.

Eversource and its subsidiary Harbor Electric Energy Company ("HEEC") is currently undertaking a project to more precisely locate the depth of the Reserved Channel portion of HEEC's 115kV power line which is used to provide primary power to the DITP. The HEEC project consists of Phase 1 and Phase 2. Phase 1 consists of precisely locating the cable in the Reserved Channel. Phase 2 will involve dredging and installing protective mats over the 1,200 foot section of cable in the Reserved Channel, currently planned for the summer of 2017. The cable must be de-energized to safely carry out this work, therefore DITP will be isolated from the grid and operate using backup CTG(s) power.

The first part of Phase 1 work, determining coordinates of the cable location, occurred from November 2 to November 5 and required a CTG to be operated from approximately 6:00 a.m. to 7:00 p.m. each day while the cable was de-energized. The second part of Phase 1, which began on December 8 and continued through completion on January 22, involved test pit dredging to verify the location of the cable. This phase of the work, also required Eversource to de-energize the cable leaving DITP off the grid and operating on CTG power. The CTGs were operated for various periods of time on 18 days in January for this portion of the work.

DITP took delivery of 405,000 gallons of #2 fuel oil (a total of 45 tanker trucks) without incident over the course of ten (10) days in January. This fuel oil is used for CTG operation, for boiler startup operations, and for supplemental fuel for boiler operation during periods of low or unstable digester gas production.

Opacity testing for each CTG unit was successfully completed on March 22 as part of the annual regulatory requirements for emissions reporting on the CTGs and the results of this test demonstrated the units were in compliance. The test requires each CTG to be operated (one at a time) at full load for one hour. During this time a certified "smoke reader" visually observes the condition of the stack exhaust and records the results.

The quarterly Continuous Emissions Monitoring System (CEMS) cylinder gas audits, along with the annual and quarterly Continuous Opacity Monitoring System (COMS) audits for the two (2) boilers in the Thermal Power Plant were successfully completed by contractors on March 21. The CEMS measures the nitrogen oxides (NOx) emissions, the oxygen, carbon monoxide, and sulfur dioxide concentrations in the boiler flue gas. The cylinder gas audit measures each gas analyzer in the CEMS against known cylinder gas concentrations. The opacity audits measure the performance of the COMS through a number of required testing protocols specified in the regulations. DITP received passing results on all the audit tests that were performed and a draft report will be issued by the contractors for staff review prior submittal to the MaDEP.

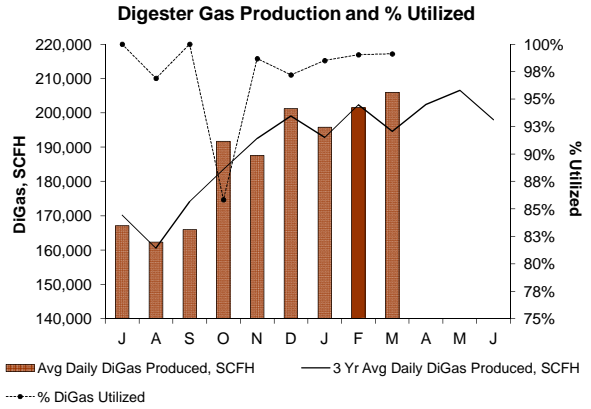
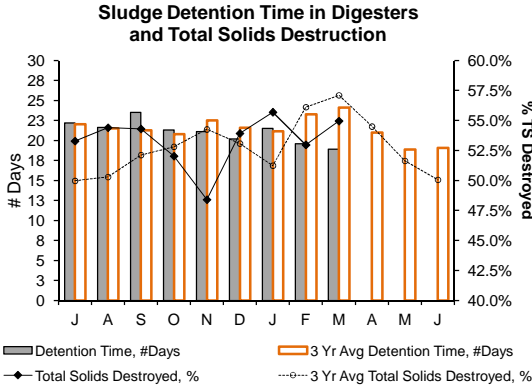
#### Clinton AWWTP:

Work completed or in progress during the third quarter on the Phosphorus Reduction Facility included:

Mason's completed block and exterior brick work. Painters completed the epoxy coatings inside the wet well, coagulation, flocculation tanks and disk filter basins. A new concrete pad was poured for new generator. Disk filters were delivered and set inside the basins. Fully adhered membrane roof and four skylights were installed. Installation of four new submersible pumps to feed the coagulation tanks. Emergency generator was delivered and placed on concrete pad.

# Deer Island Operations and Residuals

3rd Quarter - FY17



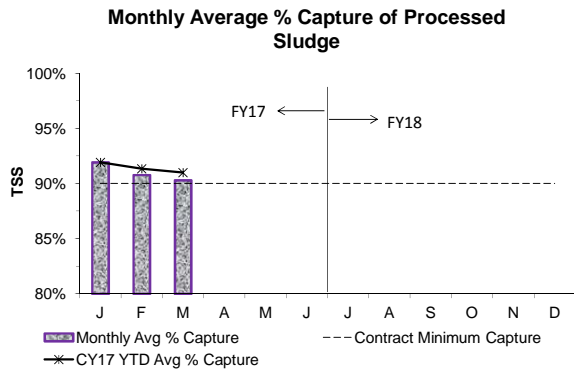
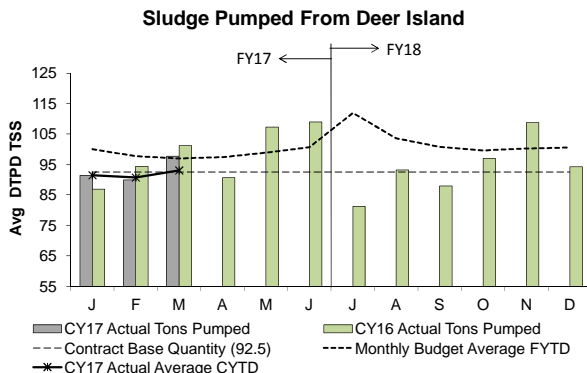
Total solids (TS) destruction following anaerobic sludge digestion averaged 54.6% during the 3rd Quarter, on target with the 3 year average of 54.8% for the same period, as the sludge detention time in the digesters was 20.0 days. DI operated with an average of 8.0 digesters during the 3rd Quarter on target with the 3 year average.

The Avg Daily DiGas Production in the 3rd Quarter was 2.3% above target with the 3 Year Avg Daily DiGas Production for the same period as sludge production was 3.2% higher than expected. On average, 98.9% of all the DiGas produced in the quarter was utilized at the Thermal Power Plant.

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

## Residuals Pellet Plant

MWRA pays a fixed monthly amount for the calendar year to process up to 92.5 DTPD/TSS as an annual average. The monthly invoice is based on 92.5 DTPD/TSS (Dry Tons Per Day/Total Suspended Solids) times 365 days divided by 12 months. At the end of the year, the actual totals are calculated and additional payments are made on any quantity above the base amount. The base quantity of 90.0 DTPD/TSS was changed to 92.5 DTPD/TSS starting on January 1, 2016 with the terms of the new contract. On average, MWRA processes more than 92.5 DTPD/TSS each year (FY17's budget is 100.6 DTPD/TSS and FY18's budget is 99.5 DTPD/TSS).



The average total quantity of sludge pumped to the Pellet Plant in the 3rd Quarter of FY17 was 93.1 DTPD - below target with FY17's average budget of 100.6 DTPD (which assumed 3 months of incremental increase due to the impacts of possible codigestion taking place on DITP which was factored in during the FY17 budgeting process).

The contract requires NEFCo to capture at least 90.0% of the solids delivered to the Biosolids Processing Facility in Quincy. The CY17 average capture is 91.0%.

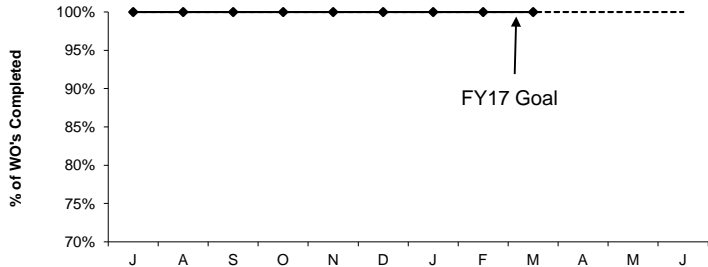
# Deer Island Maintenance

3rd Quarter - FY17

## Productivity Initiatives

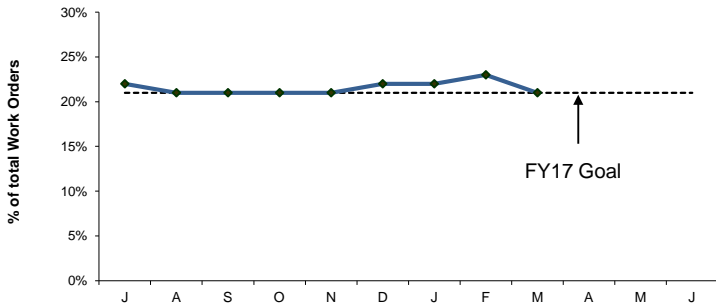
Productivity initiatives include increasing predictive maintenance compliance and increasing PdM work orders. Accomplishing these initiatives should result in a decrease in overall maintenance backlog.

### Predictive Maintenance Compliance



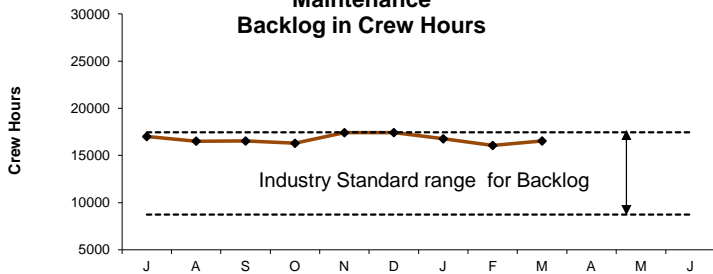
Deer Island's FY17 predictive maintenance goal is 100%. DITP completed 100% of all PdM work orders this quarter. DITP is continuing with an aggressive predictive maintenance program.

### Predictive Maintenance



Deer Island's FY17 predictive maintenance goal is 21% of all work orders to be predictive. 21% of all work orders were predictive maintenance this quarter. The industry is moving toward increasing predictive maintenance work to reduce downtime and better predict when repairs are needed.

### Maintenance Backlog in Crew Hours

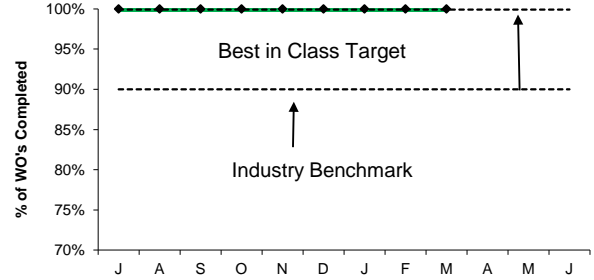


DITP's maintenance backlog at Deer Island is 16,452 hours this quarter. DITP is within the industry average for backlog. The industry Standard for maintenance backlog with 97 staff (currently planned staffing levels) is between 8,730 hours and 17,460 hours. Backlog is affected by four vacancies; two M&O Specialists, Instrument Technician, and an Electrician. Management continues to monitor backlog and to ensure all critical systems and equipment are available.

## Proactive Initiatives

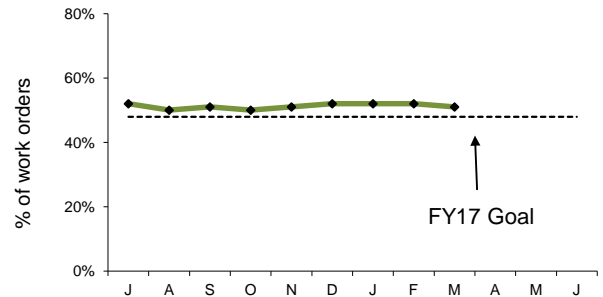
Proactive initiatives include completing 100% of all preventative maintenance tasks and increasing preventative maintenance kitting. These tasks should result in lower maintenance costs.

### Preventive Maintenance Compliance



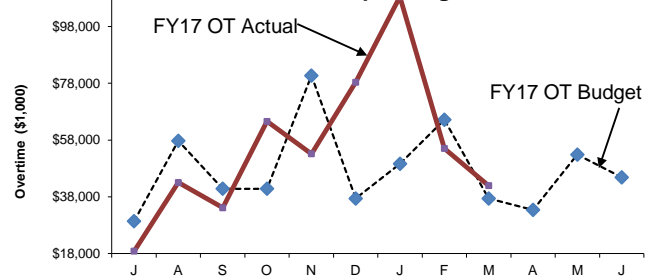
Deer Island's FY17 preventative maintenance goal is 100% completion of all work orders from Operations and Maintenance. DITP completed 100% of all PM work orders this quarter.

### Maintenance Kitting



Deer Island's FY17 maintenance kitting goal is 48% of all work orders to be kitted. 51% of all work orders were kitted this quarter. Kitting is staging of parts or material necessary to complete maintenance work. This has resulted in more wrench time and increased productivity.

### Overtime Spending

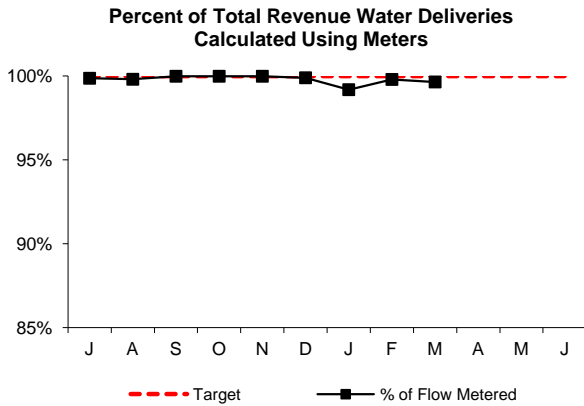


Maintenance overtime was over budget by \$36K this quarter and \$13k over for the year. Management continues to monitor backlog and to ensure all critical equipment and systems are available. This quarters overtime was predominately used for Island Wide HVAC work, Eversource Cable Outage, Storm Coverage, Upgrading Chlorine Analyzer Panels, Clinton WWTP Gas Monitoring Project and the installation of the Grit Building Instrument Air Compressors.

# Operations Division Metering

3rd Quarter - FY17

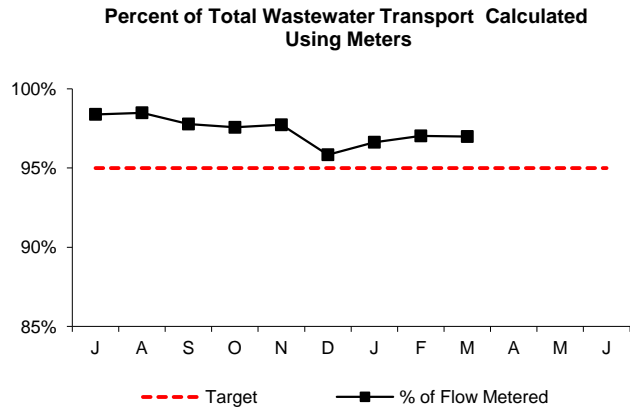
## WATER METERS



The target for revenue water deliveries calculated using meters is 100%. Estimates are generated for meters that are out of service due to instrumentation problems or in-house and capital construction projects. During the 3rd quarter of FY17, meter actuals accounted for 99.55% of flow; only 0.45% of total revenue water deliveries were estimated.

The following is the breakdown of reasons for estimations:  
 In-house and Capital Construction Projects - 0.12%  
 Instrumentation Failure - 0.33%

## WASTEWATER METERS

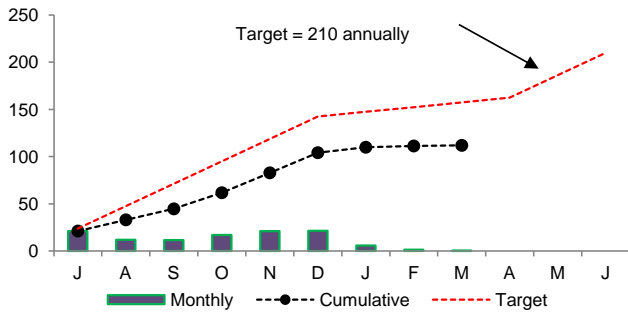


The target for revenue wastewater transport calculated using meters is 95%. Estimates are generated for meters missing data due to instrument failure and/or erratic meter behavior. Estimates are produced using data from previous time periods under similar flow conditions.

During the 3rd quarter of FY17, meter actuals accounted for 96.88% of flow; only 3.12% of wastewater transport was estimated.

## WATER DISTRIBUTION SYSTEM PIPELINES

### Miles Surveyed for Leaks



During the third quarter, 7.74 miles of water mains were inspected. The total inspected for the fiscal year to date is 111.96 miles. Miles surveyed, below target due to training of new staff, winter weather issues (snow), and extensive leak

### Leak Backlog Summary

Month	J	A	S	O	N	D	J	F	M	A	M	J
Leaks Det	3	2	2	3	3	3	0	0	3			
Leaks Rep	1	1	1	4	2	2	2	1	1			
Backlog	7	8	9	8	9	10	8	7	9			
Avg. Lag T	24.9	42.3	36.7	41.3	45.2	51.9	62.3	70.6	67.4			

During the third quarter, three new leaks were detected, and four leaks were repaired. Refer to FY17 Leak Report below for details. Also, community service ranging from individual leak location to hydrant surveys were conducted for: Arlington, Boston, Brookline, Canton, Lexington, Lynn, Malden, Medford, Newton, Norwood, Revere, Somerville, and Wakefield.

### FY17 Leak Report as of 2nd Q FY17

Date Detect	Location of Leaks	Repaired
7/22/2016	69 Riverside Avenue, Medford	7/29/2016
1/11/2015	Arborway @ St. Joseph St., West Roxbury	8/15/2016
9/15/2016	West Squantum @ Amsterdam Ave., Quincy	9/20/2016
10/12/2016	Prospect St at Sun St, Waltham	10/13/2016
10/13/2016	1025 West Roxbury Parkway, Brookline	10/17/2016
8/11/2016	Lee St at Boylston St, (Rte 9), Brookline	10/20/2016
10/18/2016	West St at Lagrange St, West Roxbury	10/26/2016
11/2/2016	Morton St at Blue Hill Ave, Dorchester	11/7/2016
6/1/2016	Commonwealth Ave at Oakland Ave, Newton	11/30/2016
11/6/2016	2 Lynn Fells Parkway, Stoneham, Section 70	12/22/2016
11/6/2016	122 Lynn Fells Parkway, Melrose, Section 70	12/30/2016
9/28/2016	Quinobequin Road at Rte 128, Newton, Section 80	1/4/2017
12/20/2016	Main St at Madison, Malden, Section 49	1/9/2017
8/30/2016	Morton St at American Legion Hwy, Section 20	2/22/2017
7/16/2015	Capt Robt Cook Dr, Needham, Section 80	3/15/2017

Detected	Location of Leaks/Unrepaired
6/8/2015	Allandale Rd. @ Grove St., Brookline, Sched for late Fall
6/17/2015	Washington St at East St, Dedham; Single main in SEH service area.
7/1/2016	Forest St, Winch, Sect 89, not surfacing, need new NIH line in service
7/26/2016	Res Plygrnd, Cleveland Cir, Fisher Hill main, leaking into drain, not surfacing
12/4/2016	1025 W Rxbby Pkwy, Brookline, Sect 95, not surfacing
12/4/2016	710 Aslhland St/Summer St Lynn, Sect 91, not surfacing
3/20/2017	355 Hyde Park Ave, Sect 39, line isolated, repair in April
3/22/2017	Route 128 NB, Newton, Sect 80, line isolated, repair in April
3/27/2017	Recreation Road, Weston, Sect 80, line isolated, repair in April

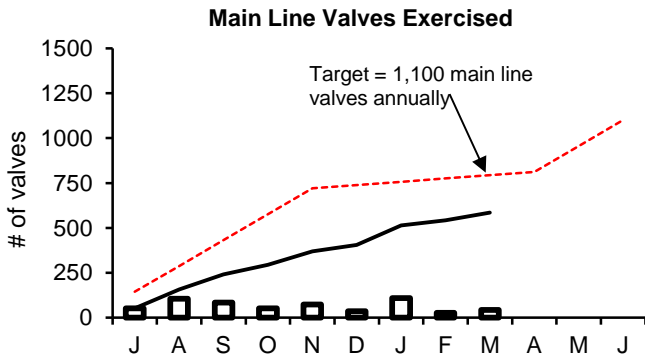
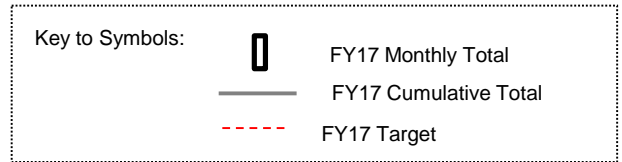
# Water Distribution System Valves

## 3rd Quarter - FY17

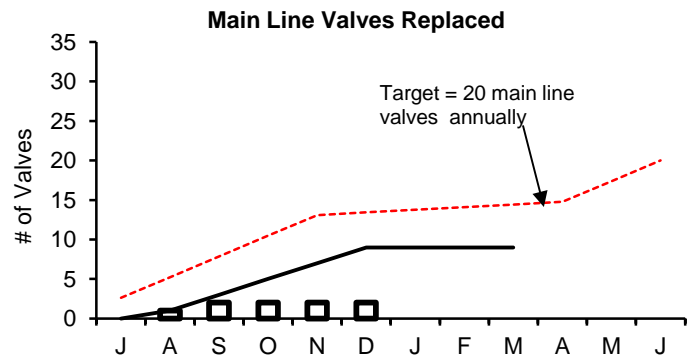
### Background

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

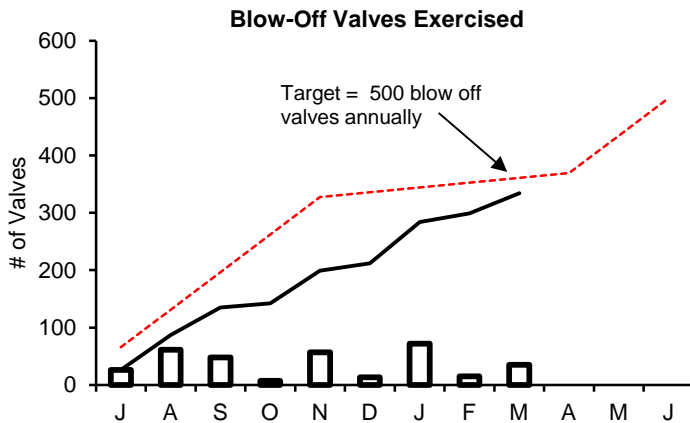
Type of Valve	Inventory #	Operable Percentage	
		FY17 to Date	FY17 Targets
Main Line Valves	2,159	97.2%	95%
Blow-Off Valves	1,317	95.7%	95%
Air Release Valves	1,380	94.3%	95%
Control Valves	49	100.0%	95%



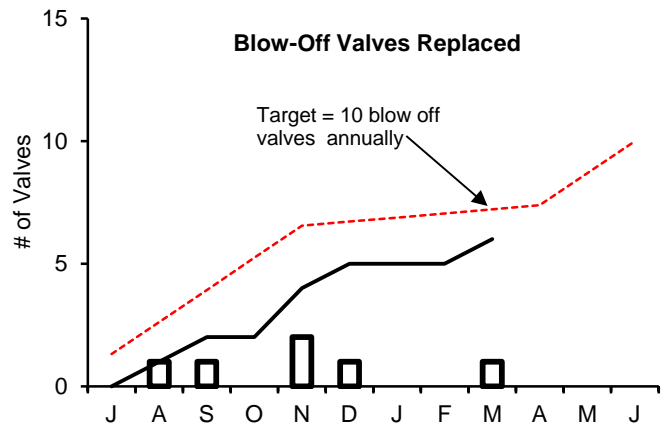
During the third quarter, 181 main line valves were exercised. The total exercised for the fiscal year is 586. Below target due to CIP/8M permit construction contract.



During the third quarter, no main line valves were replaced. The total replaced for the fiscal year is nine. Projects other than valve replacements have been the current work priority, such as: Deer Island Riprap Installation.



During the third quarter, 122 blow off valves were exercised. The total exercised for the fiscal year is 334.



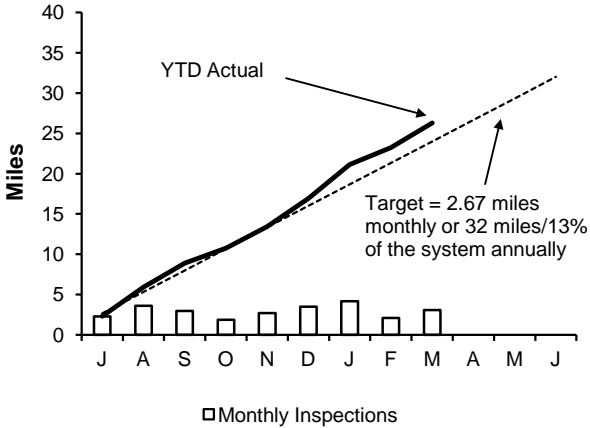
During the third quarter, one blow off valve was replaced. The total replaced for the fiscal year is six. Projects other than blow off retrofits are the current work priority.

# Wastewater Pipeline and Structure Inspections and Maintenance

3rd Quarter - FY 17

## Inspections

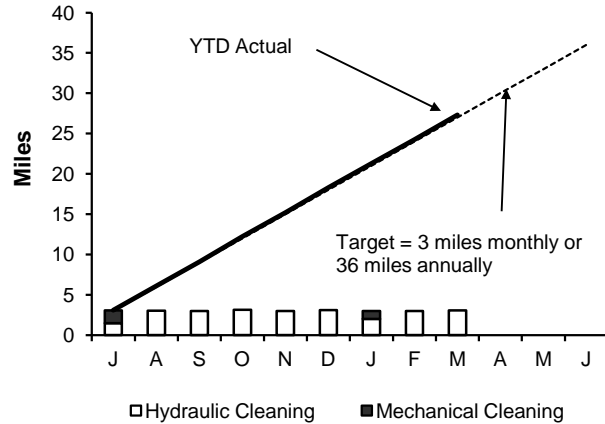
### Pipeline Inspections



Staff internally inspected 9.34 miles of MWRA sewer pipeline during the quarter. The year to date total is 26.28 miles. No Community Assistance was provided this quarter.

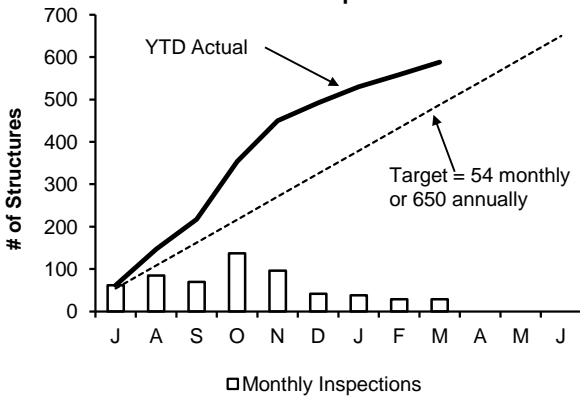
## Maintenance

### Pipeline Cleaning



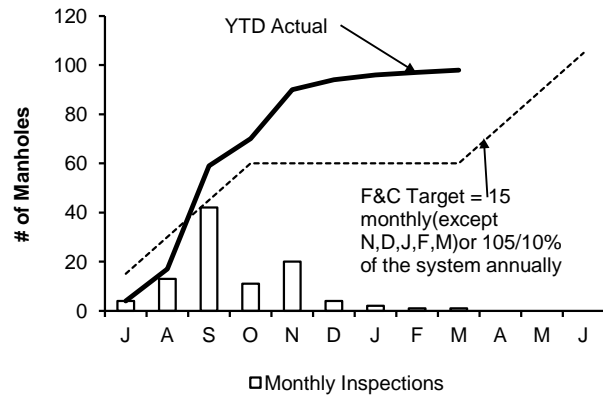
Staff cleaned 9.03 miles of MWRA's sewer system and removed 45 yards of grit and debris during the quarter. The year to date total is 27.31 miles. No Community Assistance was provided this quarter.

## Structure Inspections



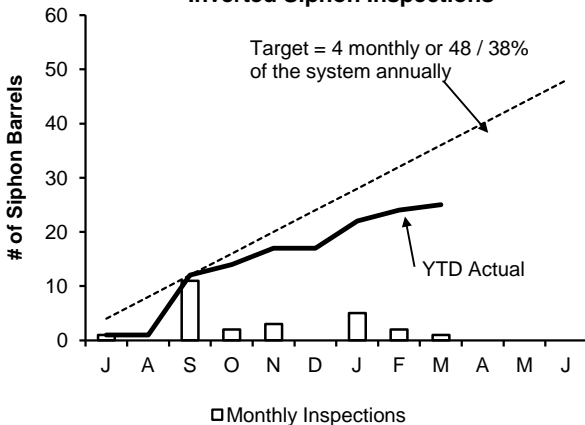
Staff inspected the 36 CSO structures and performed 60 additional manhole/structure inspections during this quarter. The year to date total is 588 inspections.

## Manhole Rehabilitation



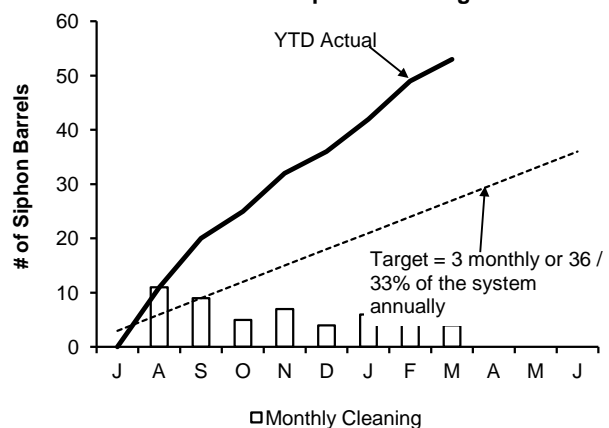
Staff replaced 4 frames & covers were replaced this quarter. The year to date total is 98.

## Inverted Siphon Inspections



Staff inspected 8 siphon barrels this quarter. Year to date total is 25 inspections.

## Inverted Siphon Cleaning



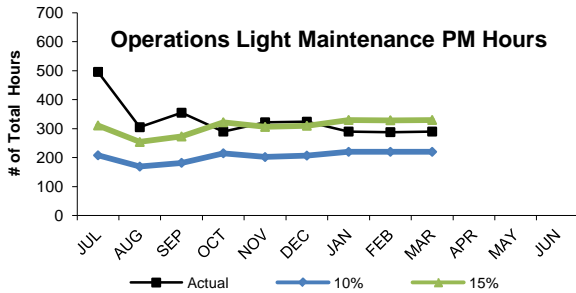
Staff cleaned 8 siphon barrels were inspected this quarter. Year to date total is 53.



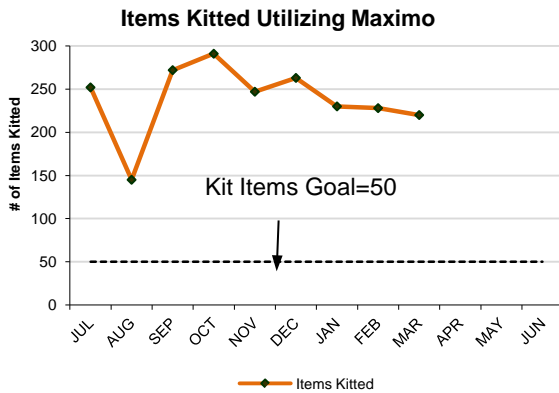
# Field Operations' Metropolitan Equipment & Facility Maintenance

3rd Quarter - FY17

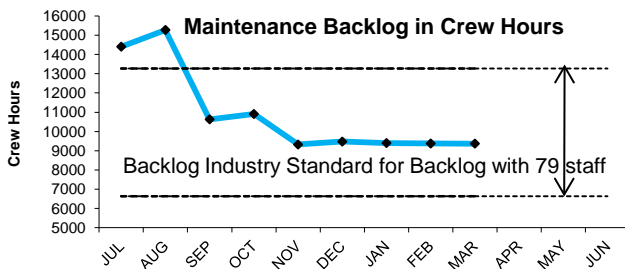
Several maintenance and productivity initiatives are in progress. The goal for the Overall PM completion and the Operator PM completion was raised to 100% for Fiscal Year 2010. The Operator PM and kitting initiatives frees up maintenance staff to perform corrective maintenance and project work, thus reducing maintenance spending. Backlog and overtime metrics monitor the success of these maintenance initiatives.



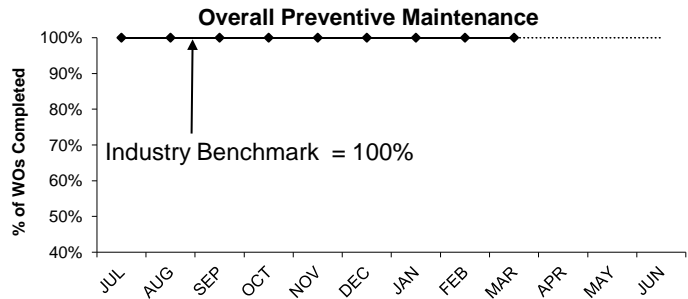
Operations staff averaged 289 hours of preventive maintenance during the 3rd Quarter, an average of 15% of the total PM hours for the 3rd Quarter, which is within the industry benchmark of 10% to 15%.



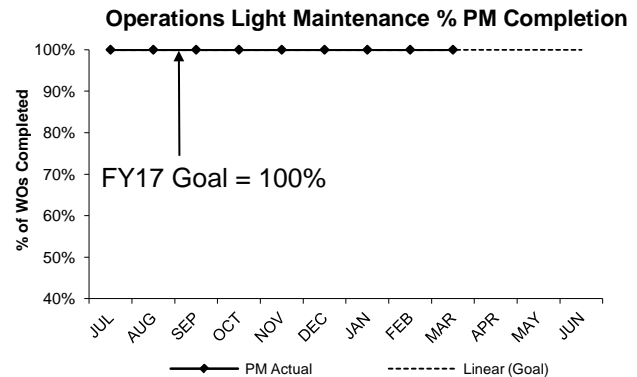
In an effort to more efficiently complete work, maintenance staff and work coordination staff have utilized the Lawson/Maximo interface to better kit stock and non stock material. The goal for FY17 is to "kit" 50 stock and non stock items total per month. An average of 226 items were kitted during the 3rd Quarter



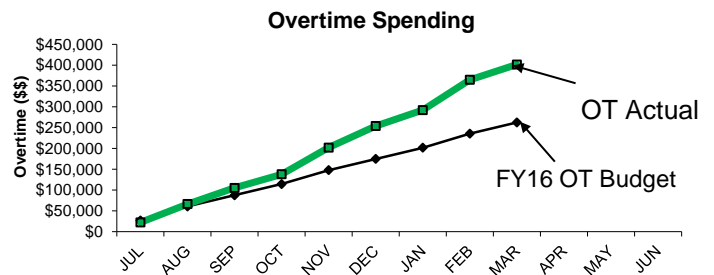
The 3rd Quarter backlog average is 9382 hours. Management's goal is to continue to control overtime and still stay within the industry benchmark of 6450 to 12,940 hours.



The Field Operations Department (FOD) preventive maintenance goal for FY17 is 100% of all PM work orders. Staff completed an average of 100% of all PM work orders in the 3rd Quarter.



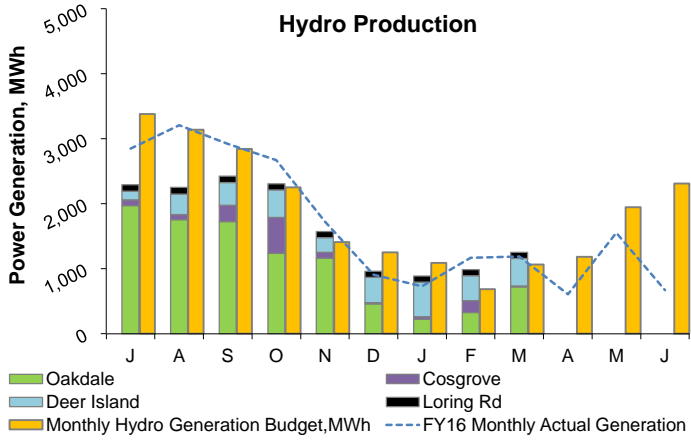
Wastewater Operators complete light maintenance PM's which frees up maintenance staff to perform corrective maintenance. Operations' FY17 PM goal is completion of 100% of all PM work orders assigned. Operations completed an average of 100% of PM work orders in the 3rd Quarter.



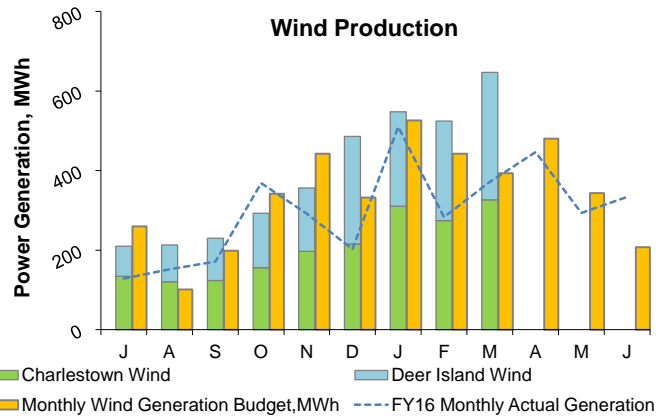
Maintenance overtime was \$60k over budget for the 3rd Quarter. Overtime was used for staging weather events and performing critical maintenance repairs.

# Renewable Electricity Generation: Savings and Revenue

3rd Quarter - FY17

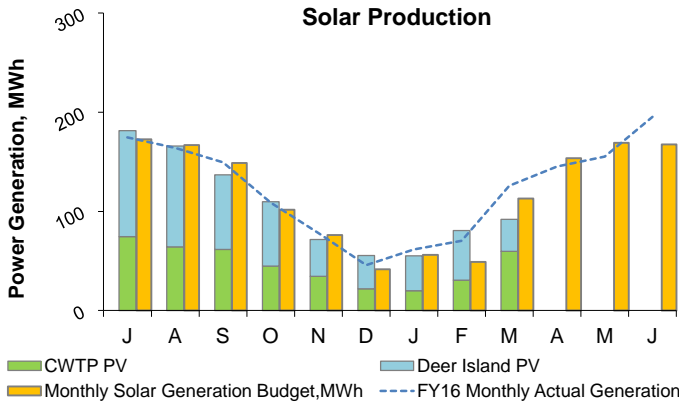


In the 3rd quarter, the renewable energy produced from all hydroelectric facilities totaled 3,127 MWh; 10% above budget<sup>3</sup>. The total energy produced to date in FY17 is 14,938 MWh; 13% below budget<sup>3</sup>, partly due to Cosgrove operating at a lower rate for scheduled testing, and both Deer Island hydro turbines being temporarily off-line due to mechanical issues (during the first quarter). The total savings and revenue<sup>2</sup> to date in FY17 (actuals through February<sup>1</sup>) is \$496,700; 44% below budget<sup>3</sup>, partly due to the fact that the actual electricity unit price for Deer Island has been 11% below the budgeted<sup>3</sup> estimate for the same period and due to the reasons stated above. The savings and revenue value does not include RPS REC revenue (see next page).

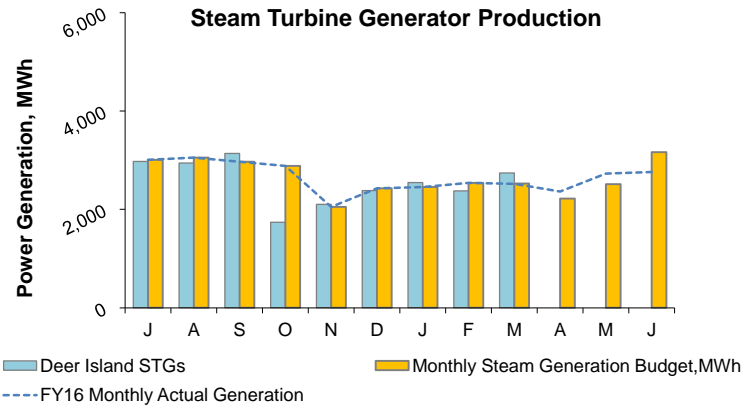


In the 3rd quarter, the renewable energy produced from all wind turbine generators totaled 1,719 MWh; 26% above budget<sup>3</sup>. The total energy produced to date in FY17 is 3,507 MWh; 15% above budget<sup>3</sup>. The total savings and revenue<sup>2</sup> to date in FY17 (actuals through February<sup>1</sup>) is \$396,876; 5% above budget<sup>3</sup>.

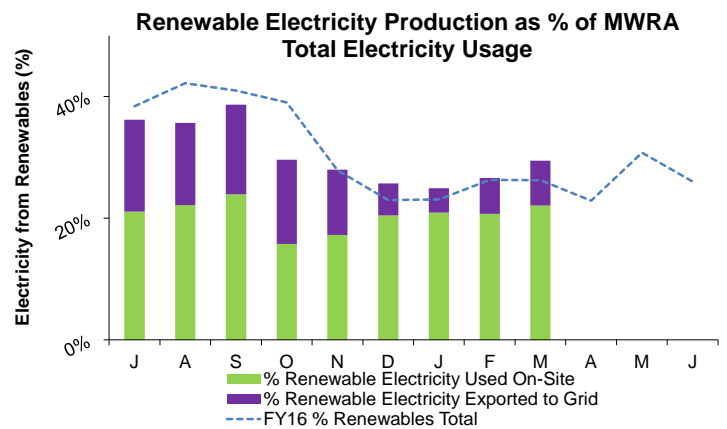
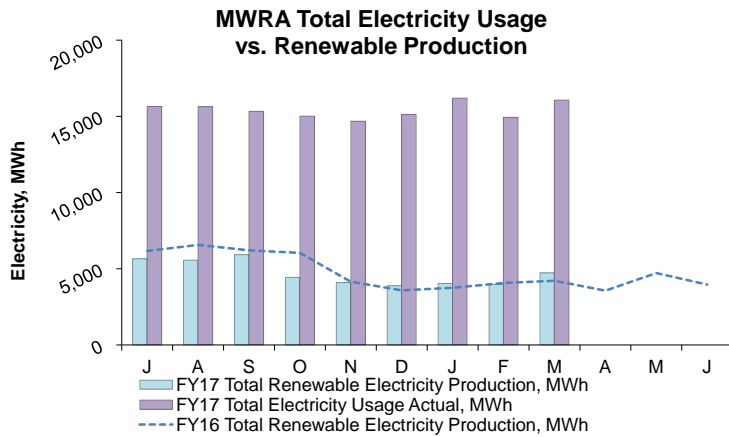
The savings and revenue value does not include RPS REC revenue (see next page).



In the 3rd quarter, the renewable energy produced from all solar PV systems totaled 228 MWh, 4% above budget<sup>3</sup>. The total energy produced to date in FY17 is 949 MWh; 2% above budget<sup>3</sup>. The total savings and revenue<sup>2</sup> to date in FY17 (actuals through February<sup>1</sup>) is \$95,380; 2% above budget<sup>3</sup>. The savings and revenue value does not include RPS REC revenue (see next page).



In the 3rd quarter, the renewable energy produced from all steam turbine generators totaled 7,666 MWh, 2% above budget<sup>3</sup>. The total energy produced to date in FY17 is 22,948 MWh; 4% below budget<sup>3</sup>. The total savings and revenue<sup>2</sup> to date in FY17 (actuals through February<sup>1</sup>) is \$1,594,760; 16% below budget<sup>3</sup>, partly due to the fact that the actual electricity unit price for Deer Island has been 11% below the budgeted<sup>3</sup> estimate for the same period. The savings and revenue value does not include RPS REC revenue (see next page).

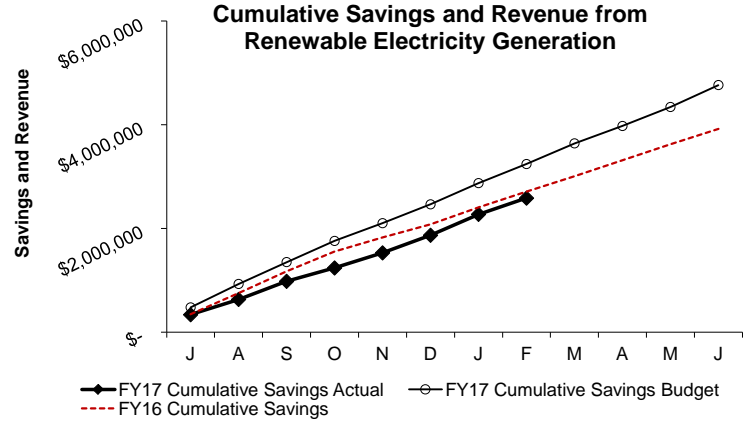
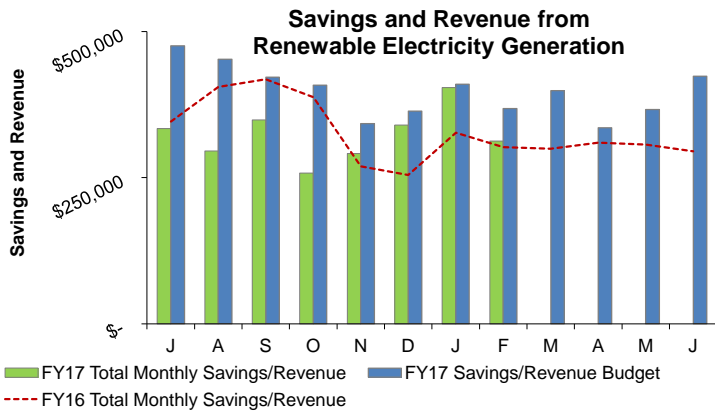


In the first 3 quarters of FY17, MWRA's electricity generation by renewable resources totaled 42,329 MWh. MWRA's total electricity usage was approximately 138,658 MWh. The MWRA total electricity usage is the sum of all electricity purchased for Deer Island and FOD plus electricity produced and used on-site at these facilities. Approximately 99% of FOD electrical accounts are accounted for by actual billing statements; minor accounts that are not tracked on a monthly basis such as meters and cathodic protection systems are estimated based on this year's budget. In the first 3 quarters of FY17, green power generation represented approximately 31% of total electricity usage. All renewable electricity generated on DI is used on-site (this accounts for more than 50% of MWRA renewable generation). Almost all renewable electricity generated off-DI is exported to the grid.

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

# Renewable Electricity Generation: Savings and Revenue

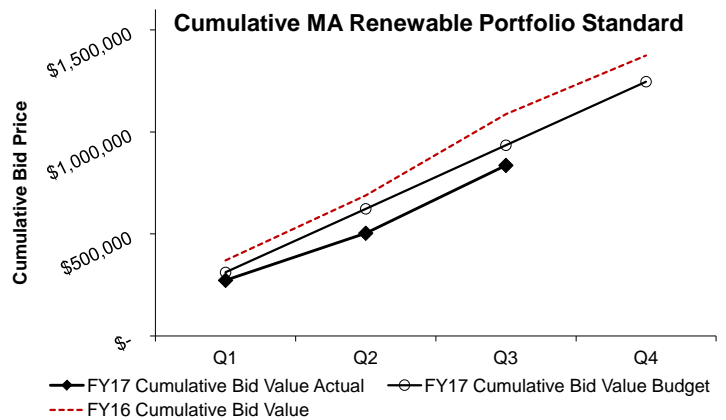
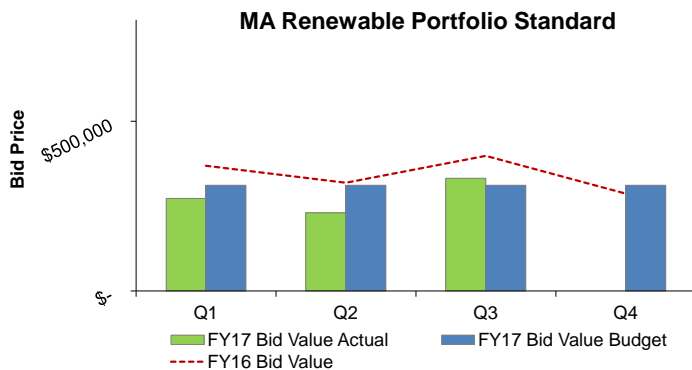
3rd Quarter - FY17



Savings and revenue from MWRA renewable electricity generation in the first 8 months of FY17 (actuals through February<sup>1</sup>) is \$2,583,717; which is 20% below the budget<sup>3</sup>, partly due to the fact that the actual electricity unit price for Deer Island has been 11% below the budgeted<sup>3</sup> estimate for the same period. Also due to DI STGs performing 40% below budget in October due to annual maintenance work on both STGs and the entire Thermal Power Plant.

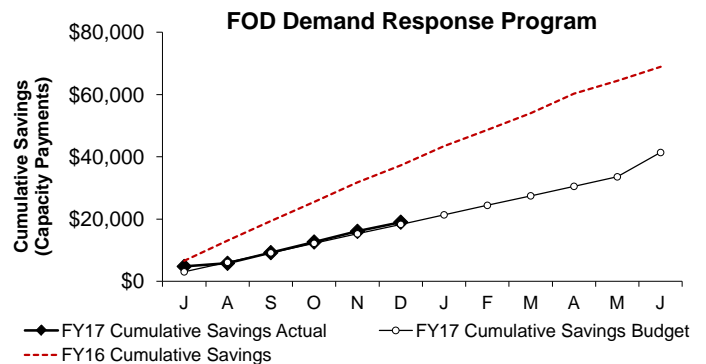
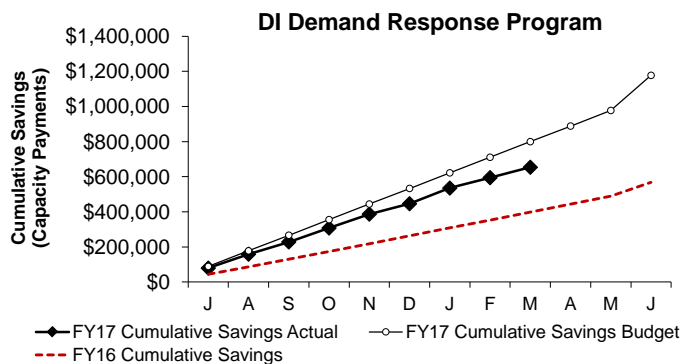
Savings and revenue<sup>2</sup> from all renewable energy sources include wind turbines, hydroelectric generators, solar panels, and steam turbines (DI). This includes savings and revenue due to electricity generation (does not include avoided fuel costs and RPS RECs).

The use of DITP digester gas as a fuel source provides the benefit of both electricity generation from the steam turbine generators, and provides thermal value for heating the plant, equivalent to approximately 5 million gallons of fuel oil per year (not included in charts above).



Bids were awarded during the 3rd Quarter<sup>1</sup> from MWRA's renewable energy assets; 7,428 Q3 CY2016 Class I Renewable Energy Certificates (RECs), 3,513 Q3 CY2016 Class II RECs, and 97 Q3 CY2016 Solar RECs were sold for a total value of \$332,460 RPS revenue; which is 7% above budget<sup>3</sup> for the Quarter. REC values reflect the bid value on the date that bids are accepted, even though the RECs were produced during Q3 of CY2016. Cumulative bid values reflects the total value of bids received to date.

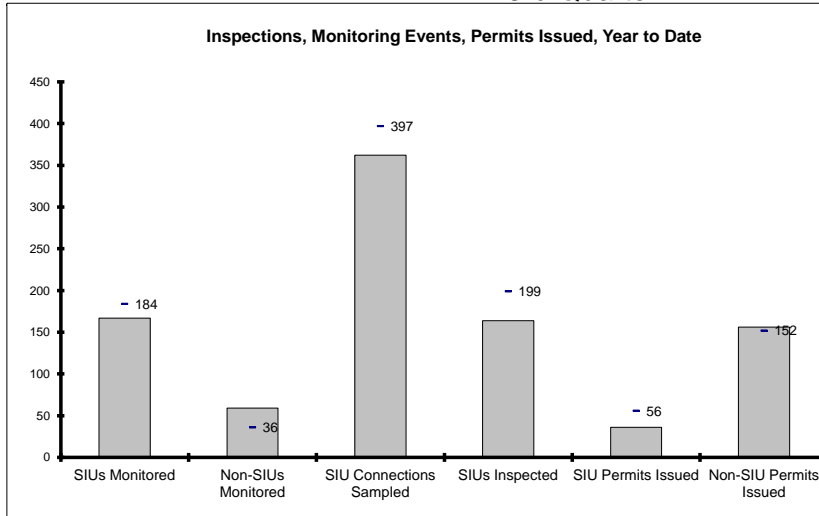
Note: Only Class I and Solar RECs were sold for Q1 CY2016 sales. All of the available Q1 CY2016 Class II RECS were transferred to the electricity supplier (Direct Energy) to meet MWRA's obligation to them.



Currently Deer Island, JCWTP, and Loring Rd participate in the ISO-New England Demand Response Programs<sup>4</sup>. By agreeing to reduce demand and operate the facility generators to help reduce the ISO New England grid demand during periods of high energy demand, MWRA receives monthly Capacity Payments from ISO-NE. When MWRA operates the generators during an ISO-NE called event, MWRA also receives energy payments from ISO-NE. FY17 Cumulative savings (Capacity Payments only) through March<sup>1</sup> total \$653,736 for Deer Island and \$19,014 for FOD through December<sup>1</sup>.

- Notes:
1. Only the actual energy prices are being reported. Therefore, some of the data lags up to 3 months due to timing of invoice receipt.
  2. Savings and Revenue: Savings refers to any/all renewable energy produced that is used on-site therefore saving the cost of purchasing that electricity, and revenue refers to any value of renewable energy produced that is sold to the grid.
  3. Budget values are based on historical averages for each facility and include operational impacts due to maintenance work.
  4. Chelsea Creek, Columbus Park, Ward St., and Nut Island participated in the ISO Demand Response Program through May 2016, until an emissions related EPA regulatory change resulted in the disqualification of these emergency generators, beginning June 2016. MWRA is investigating the cost-benefit of emissions upgrades for future possible participation.

# Toxic Reduction and Control 3rd Quarter - FY17



EPA Required SIU Monitoring Events  
for FY17: 184  
YTD: **167**

Required Non-SIU Monitoring Events  
for FY17: 36  
YTD: **59**

SIU Connections to be Sampled  
For FY17: 397  
YTD: **362**

EPA Required SIU Inspections  
for FY17: 199  
YTD: **164**

SIU Permits due to Expire  
In FY17: 56  
YTD: **36**

Non-SIU Permits due to Expire  
for FY17: 152  
YTD: **156**

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

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

TRAC's annual monitoring and inspection goals are set at the beginning of each fiscal year but they can fluctuate due to the actual number of SIUs at any given time. During the course of the year, some SIUs do not discharge and cannot be monitored. TRAC also monitors one-third of the non-SIUs each year.

SIU and Non-SIU permits are issued with durations of two to five years, depending on the category of industry, varying the number of permits that expire in a given year.

	Number of Days to Issue a Permit						Total Permits Issued	
	0 to 120		121 to 180		181 or more		SIU	Non-SIU
Jul	0	23	0	0	0	0	0	23
Aug	4	14	0	1	0	0	4	15
Sep	2	15	0	1	1	1	3	17
Oct	0	9	0	1	0	0	0	10
Nov	2	9	0	2	0	1	2	12
Dec	6	17	0	1	0	1	6	19
Jan	3	17	0	4	0	0	3	21
Feb	6	16	0	2	1	1	7	19
Mar	11	18	0	2	0	0	11	20
Apr								
May								
Jun								

% YTD	94%	88%	0%	9%	6%	3%	36	156
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EPA requires MWRA to issue or renew 90% of SIU permits within 120 days of receipt of the application or the permit expiration date - whichever is later. EPA also requires the remaining 10% of SIU permits to be issued within 180 days. So far, for this fiscal year, the guidelines have been met regarding the timely issuing of SIU permits within 120 days but 6% were issued over the 181-day timeframe.

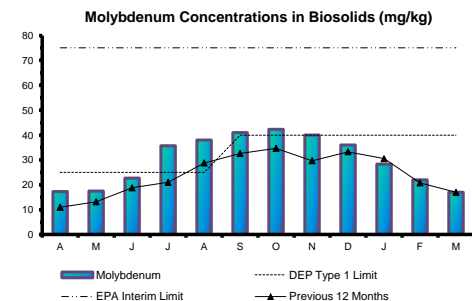
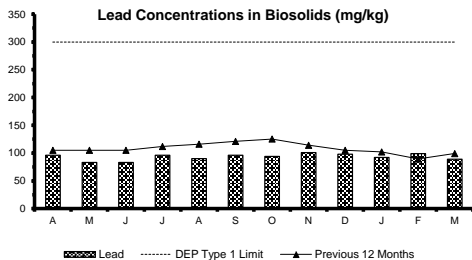
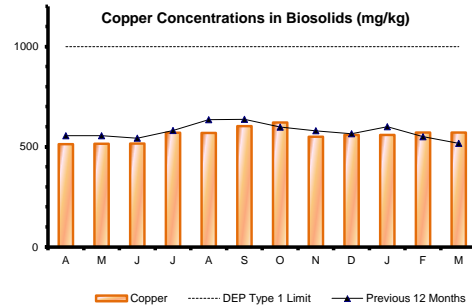
In the 3rd Quarter of FY17, eighty-one permits were issued, twenty-one of which were SIUs. Twenty of the SIU permits were issued within 120 days. There were eight non-SIU permits issued in the 120-day to 180-day timeframe. Two permits - one SIU and one non-SIU - were issued beyond the 180-day period. Delays are attributable to late payment of permit fees and matters relating to category determination and processing issues.

▶▶ The new Clinton AWWTP NPDES permit, effective March 1, 2017, requires TRAC to issue/renew all industrial user control mechanisms within 90 days of their expiration date or within 180 days after the industry has been determined to be an SIU. One such permit was issued in March, complying with the 90-day timeframe.

Copper, lead, and molybdenum are metals of concern for MWRA as their concentrations in its biosolids have, at times, exceeded regulatory standards for unrestricted use as fertilizer.

With the September 2016 change in MassDEP regulations, increasing the molybdenum limits to 40 mg/kg for land use application, the MWRA may often be able to sell its pellets in-state whereas the previous limits frequently forced several months' worth of pellets to be shipped out of state. This made it an impractical source of fertilizer for local Massachusetts farms.

In the last three months, the level of molybdenum has been hovering around the 2016 average for the January to March months. MWRA and its contractor, NEFCO, do not distribute product that does not meet the suitability standards.



# Field Operations Highlights – Orange Notebook Bullets

## 3<sup>rd</sup> Quarter – FY17

### Western Water Operations and Maintenance

- Carroll Water Treatment: Staff initiated annual half plant operations to complete maintenance and cleaning tasks that cannot be completed during full plant operation. Staff cleaned and inspected the primary contactors as well as the B Side Storage Tank and the post treatment chemical tanks, replaced the rupture discs on the primary contactors and all of the check valves in the chemical feed systems, and conducted annual maintenance on the B Side UV reactors. Plant staff also supported the Wachusett Aqueduct Pump Station work within the treatment plant, including installation of new larger ozone destruct fans that remove the ozone from head space of the primary contactors and a weir wall downstream of the primary contactors for flow control purposes when the Pump Station comes online.
- Quabbin Shaft 8 Intake: The Shaft 8 Diversion Facility was activated several times during the month of February to divert water from the Ware River to the Quabbin Reservoir. A total of 1.7 billion gallons of water was diverted during this quarter.

### Metro Water Operations and Maintenance

- Winchester Water Withdrawal from Spot Pond: Winchester withdrew water from Spot Pond for 5 days during January. Thirty-one (31) million gallons of water were pumped to the town's Middle Reservoir.
- Local Water Main Breaks: Several local water main breaks occurred during the quarter that also involved MWRA Staff. On Friday, February 9, during the first significant snowstorm of the month, water was reported surfacing on Felton Street in Waltham. WASM 10 is located in this street, and initial concern was that it was an MWRA leak. Valve Staff responded to the site along with Waltham Water Staff. The leak was determined to be on the Waltham distribution system. On Saturday, February 11<sup>th</sup>, Waltham experienced a major water main break on Totten Pond Road, just south of Route 128. Waltham was initially concerned that their Prospect Hill water storage tanks would be within the area isolated to stop the leak. This was determined not to be the case, and Waltham was able to successfully isolate the leak. Repair materials were loaned to Waltham to expedite the repair. On Tuesday, February 21<sup>st</sup>, water was reported surfacing on Broadway in Revere. MWRA Section 26 is in this location, and was initially believed to be the source of the leak. Staff isolated Section 26 to see if the leaking water stopped. It did not, confirming that that leak was on the Revere distribution system. Section 26 was returned to service with no impacts to the Northern High Service area. On Tuesday, February 28<sup>th</sup>, Melrose experienced a break on a 12" main within their distribution system. Repair materials were loaned to Melrose to expedite the repair. Staff responded to a request from the Marblehead Water Department to assist with a leak that occurred on Friday night, March 24<sup>th</sup>.
- Peabody Water Treatment Plant Fire: As a result of the Coolidge WTP fire in March, the entire Coolidge service area is currently being supplied by MWRA Meter 168. Staff will continue to work with Peabody and their consultant to assist in water supply issues.
- Meter 130-Winchester Modifications: Last summer, service to Winchester through Meter 130, was strained due to high demands (drought and irrigation systems) and the configuration of the piping system at and downstream of the meter. Modifications will be made this spring and fall to provide for a greater flow and higher delivery pressure through the piping system. In order to perform the work, the meter will need to be isolated. A trial shutdown was performed over a 48-hour period during the month to test alternative water supply to the service area. An emergency connection between the Lexington and Winchester that had been installed by staff several years ago as part of the Northern Intermediate High (NIH) Short Term Measures improvements was successfully flushed, tested, and put into use, which will allow for the first phase of work to occur this spring. The work will begin in April.

### Operations Engineering: Community Support

Lynn: Continue working with Lynn to create a plan to supply their reservoirs during a drought period, and to update their Emergency Action Plan and help develop a contingency plan, if Lynn loses their treatment plant.

#### Community Hydraulic issues:

- Newton: Several areas have experienced low pressures this summer including the Newton Wellesley Hospital and Wegman's. Staff continue to work with the city to help resolve water quality and the pressure issues.
- Milton: Continue to work with Milton to help resolve system issues due to the Blue Hills Ski Area taking a large amount of water. When the ski area takes water, the Town's Big Blue Tank empties and does not recover quickly. Operations conducted fire flow tests, which demonstrated that the meter could supply the water needed and the problem was internal to the town.

Water Quality Meetings: Staff from several departments are meeting with the communities to discuss current DEP Policies, water quality, hydraulics, lead and MWRA Loan programs. The following communities met this quarter: Bedford, Nahant, Newton, Southborough, Swampscott, and Watertown.

## Wastewater Operations & Maintenance

- Columbus Park Headworks Utility Power Outage: Operations and Maintenance staffed the Columbus Park Headworks during a prolonged Eversource Utility power outage. The outage lasted from 02/02/17 until 02/06/17. A back-up portable generator was brought to the facility as a precaution, while the facility generator powered the station. There were no interruptions in flow and no operational impacts.
- Nut Island and Braintree/Weymouth Relief Pump Station Carbon Replacement: Operations Staff worked with Process Control and Maintenance Staff to replace the carbon in the five carbon beds in the Odor Control System at Nut Island and those at Braintree/Weymouth Relief Pump Station. The carbon replacement started in late February and was completed in late March.

## TRAC

Special Note: A new Clinton NPDES Permit became effective on March 1, 2017. It requires TRAC to Issue or renew all necessary industrial user control mechanisms within 90 days of their expiration date or within 180 days after the industry has been determined to be a Significant Industrial User (SIU). During the month of March 2017, TRAC issued one SIU Permit in Clinton. The permit was issued within 90 days of receipt of the application.

### Compliance and Enforcement

- The G2 Permit requires all permittees to complete and submit a Compliance Report to the MWRA by June 30<sup>th</sup> every two years. TRAC issued sixteen (16) Penalty Assessment Notices (PANs) ranged from \$500 to \$1000 and totaling \$10,750.00 to companies that failed to submit the annual Compliance Report by June 30, 2016 as required by the Group Permit for Food Processing Operations.
- Staff issued 89 Notices of Noncompliance, 111 Notices of Violation, 1 Notice of Proposed Permit Suspension, 3 Return to Permit Letters, 7 Rulings on Request for Reconsideration. 3 Enforcement Orders, 1 Extension Letter and 3 Supplemental Orders to Comply.
- TRAC continues to negotiate resolutions to several high-level enforcement matters.

## Environmental Quality-Water

### Regulatory and Non-Regulatory Sampling Programs

- Staff completed Round Two Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) Sampling for *Cryptosporidium*. The two year sampling period from April 2015 to March 2017, had no detections of *Cryptosporidium*, confirming current treatment targets.

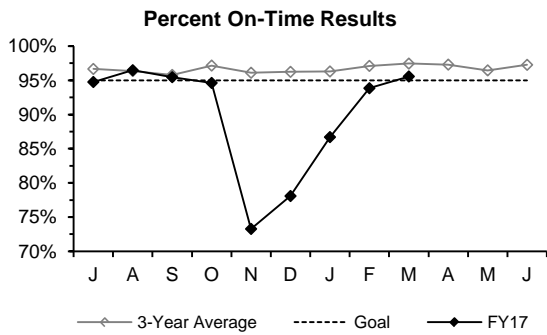
### Community and Inter-Agency Support:

- Water Chemistry/Contaminant Monitoring System (CMS) Staff performed a Blending Study using raw and finished water from Lynn blended with MWRA water. This study is part of an investigative study evaluating water quality impacts from emergency connections to MWRA's water supply. The results from this study will show the impacts of blended water on water quality in a distribution system.
- Staff has provided two Turner Sondes, used for the detection and measurement of crude oil and refined fuels in the source water reservoir, to DCR Staff. Training was provided on calibration and procedures for general use.

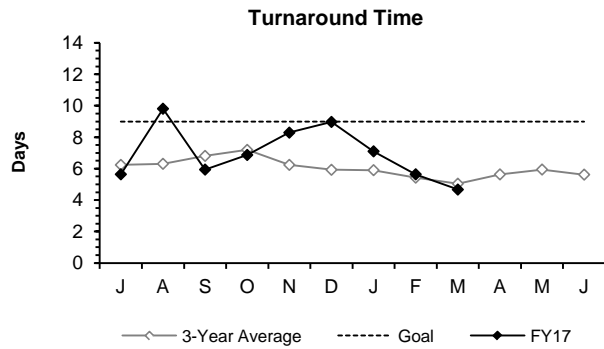
## Environmental Quality-Wastewater

- Ambient Monitoring: The first 2017 Water Column Monitoring Survey was delayed due to weather, but was carried out successfully in mid February. EPA and DEP approved MWRA's proposal to delete two Contingency Plan thresholds prone to "false alarms" (exceedances that do not indicate degradation caused by MWRA's discharge). 2016 data sets were sent to the Project Scientists for analyses for discussion at a workshop this spring and eventual publication in the annual Outfall Monitoring Overview.
- Harbor/Beach/CSO Monitoring: Harbor-wide monitoring continues through the winter. Additional details on the CSO Receiving Water Monitoring Program were provided to DEP and staff began assembling data needed for the more detailed temporal analysis requested by DEP for this year's CSO Variance Water Quality Report.
- NPDES Reporting: Staff continued to prepare for reporting under the new Clinton Permit which is effective on March 1<sup>st</sup>. A letter requesting clarification of a few items in the permit, and a minor modification to correct typographical errors, was sent to EPA.
- Cooperation with Other Agencies: ENQUAL Staff provided technical review comments for the Massachusetts Bays Program Study of Embayments. ENQUAL Staff also attended a meeting of Save the Harbor/Save the Bay's Beaches Science Committee.

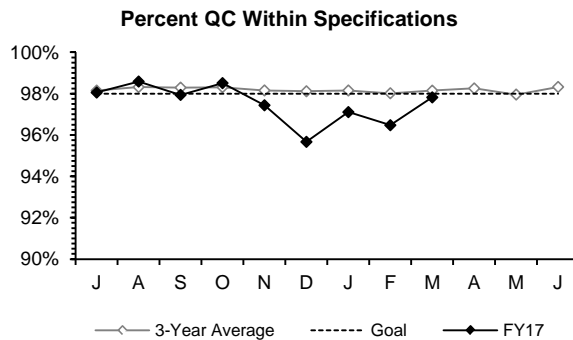
## Laboratory Services 3rd Quarter - FY17



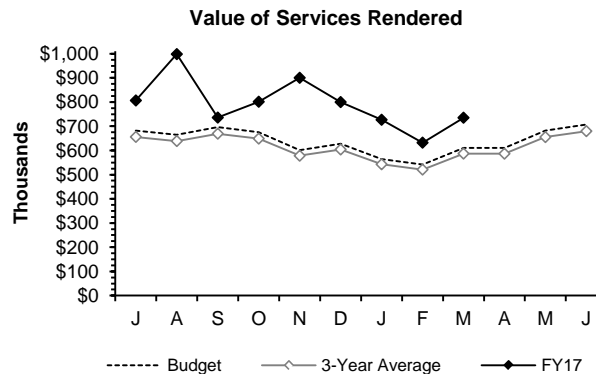
The Percent On-Time measurement was above the 95% goal for one month of the quarter when the backlog of School Lead samples decreased.



Turnaround Time was faster than the 9-day goal for each month of the quarter.



Percent of QC tests meeting specifications was slightly below the 98% in-house goal for the last month of the quarter.



Value of Services Rendered was above the seasonally adjusted budget projection each month of the quarter due to the School Lead project.

### Highlights:

Dr. Delaney has been elected as the Vice Chair of EPA's Environmental Laboratory Advisory Board (ELAB). Also, Delaney and Blodgett have submitted a paper for peer-reviewed publication entitled, "Free Cyanide Forms During Drinking Water Free Cyanide Determination".

### Quality Assurance:

The five laboratory locations received 100% correct scores on the 381 annual chemistry proficiency test parameters. Passing the proficiency test samples is a requirement to maintain DEP laboratory certification.

### Clinton:

We successfully completed the first month of sampling and testing for the new NPDES permit. Also, we have applied for DEP laboratory certification for Clinton Laboratory.

### School Lead:

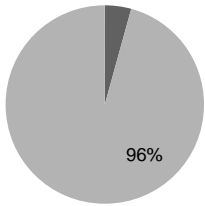
We continued to test school lead samples from our communities as quickly as they came in. In March we completed 1,422 lead and copper tests with an average turnaround time of 8.1 days, with 71% of the 677 school samples meeting the target turnaround time of 10 days. Through March we have completed 27,741 school and non-school lead and copper tests since this project began in April 2016.

# CONSTRUCTION PROGRAMS



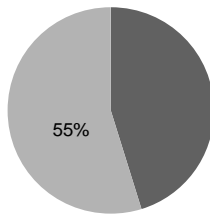
## Projects In Construction 3<sup>rd</sup> Quarter– FY17

### Money



■ Amount Remaining  
■ Billed to Date

### Time



■ Days Remaining  
■ Days Expended

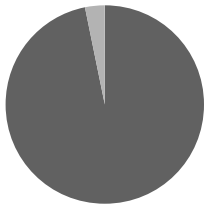
### NIH Section 110 Reading & Woburn

Project Summary: This project involves the construction of 8,800 linear feet of 36-inch water transmission main in the City of Woburn and the Town of Reading.

Notice to Proceed: 12-Jan-2016 Contract Completion: 30-Mar-2018

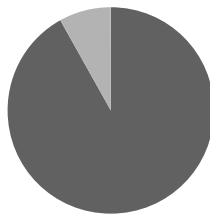
Status and Issues: As of March, the Contractor completed all of the mainline pipe installation and pressure testing, as well as completing the installation of control valve vault and metering vault on Louanis Drive and Leach Park.

### Money



■ Amount Remaining  
■ Billed to Date

### Time



■ Days Remaining  
■ Days Expended

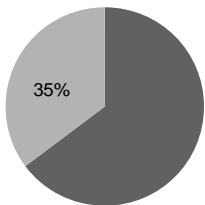
### Chelsea Creek Headworks Upgrade

Project Summary: This project involves a major upgrade to the entire facility including: automation of screening collection & solids conveyance, replacement of the odor control, HVAC and electrical systems.

Notice to Proceed: 22-Nov-2016 Contract Completion: 21-Nov-2020

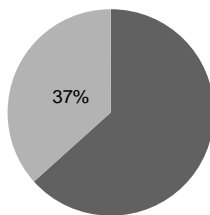
Status and Issues: As of March no physical work has begun. The Contractor is waiting for the DPS building permit which wont be issued until the issues with the plumbing design are addressed.

### Money



■ Amount Remaining  
■ Billed to Date

### Time



■ Days Remaining  
■ Days Expended

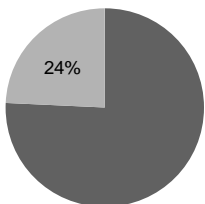
### Wachusett Aqueduct Pumping Station

Project Summary: This project involves the construction of a 240 MGD pump station to supply water from the Wachusett Aqueduct to the Carroll Water Treatment Plant.

Notice to Proceed: 1-Mar-2016 Contract Completion: 14-Feb-2019

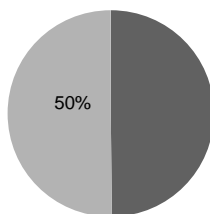
Status and Issues: As of March, the Contractor continued with the installation of the slide/weir gates along line A; the 84" DIA PCCP between TB-1 and TB-3 then backfilled at 84" and 120" PCCP; and ODU #4-6 installed with BFV 03 & 04 coupling.

### Money



■ Amount Remaining  
■ Billed to Date

### Time



■ Days Remaining  
■ Days Expended

### Alewife Brook Pump Station Improvements

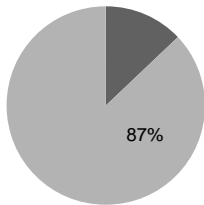
Project Summary: This project involves the replacement of wet-weather pumps, motors, gear drives, VFD's, MCC, screens, sluice gates, standby generator, roof, PLC's and HVAC. Also, the remediation of PCB's and asbestos and the installation of a flow meter on the 66-inch downstream Alewife Brook Conduit.

Notice to Proceed: 29-Jan-2016 Contract Completion: 31-May-2018

Status and Issues: As of March, the Contractor Installed the 36"x18" ABC bypass manifold and 36"x42" ABC discharge reducer; connected HDPE piping to 18"x24" ABS bypass assembly; pressure tested the bypass piping and began testing the diesel bypass pumps.

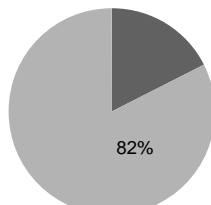
## Projects In Construction 3<sup>rd</sup> Quarter– FY17

### Money



■ Amount Remaining  
■ Billed to Date

### Time



■ Days Remaining  
■ Days Expended

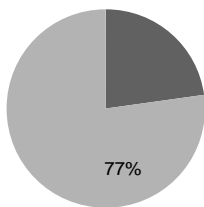
### Caruso Pump Station Improvements

**Project Summary:** This project involves the replacement of the stand-by emergency generator and improvements to the HVAC, fire suppression and security systems at the Caruso Pump Station.

**Notice to Proceed:** 24-Mar-2016 **Contract Completion:** 3-May-2017

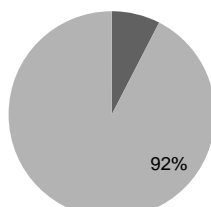
**Status and Issues:** As of March the Contractor completed the load test, switch over and start-up of the generator; start up of new boiler and began installing the new roof above the lobby.

### Money



■ Amount Remaining  
■ Billed to Date

### Time



■ Days Remaining  
■ Days Expended

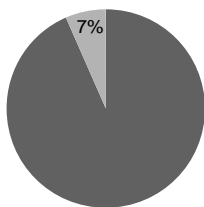
### DITP Valves and Piping Replacements

**Project Summary:** This project involves the replacement of the twenty 60" butterfly valves and ten 60" flow meters in the NMPS; three 48", twelve 36" plug/check valves, six 30" flow meters and six 30-36" gate valves in the WTF.

**Notice to Proceed:** 23-Jun-2014 **Contract Completion:** 22-Jun-2017

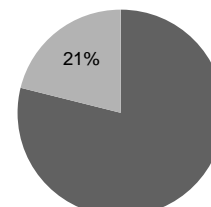
**Status and Issues:** During four separate shutdowns in the North Main Pump Station, the Contractor completed the replacement of two Butterfly Valves and one flow meter on Train #'s 5 and 6, and commenced the replacement of the valves on Train #2. By the end of the month installation of the 14" glass lined PSL-D piping was completed.

### Money



■ Amount Remaining  
■ Billed to Date

### Time



■ Days Remaining  
■ Days Expended

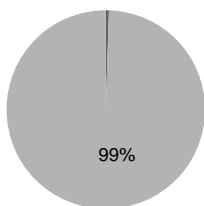
### Winthrop Terminal VFD and Motor

**Project Summary:** This project involves the replacement of 6, 600-HP motors, VFDs and associated electrical components in the Winthrop Terminal Facility.

**Notice to Proceed:** 16-Jun-2016 **Contract Completion:** 12-Mar-2020

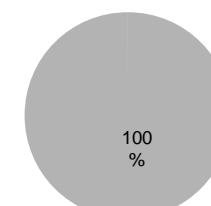
**Status and Issues:** The Contractor, JFW has begun preparing major equipment submittals. No physical work took place.

### Money



■ Amount Remaining  
■ Billed to Date

### Time



■ Days Remaining  
■ Days Expended

### DITP Replacement of Scum Skimmers

**Project Summary:** This project involves the replacement of the existing carbon steel tip tubes with 316 stainless steel in 48 primary and 54 secondary clarifiers to improve reliability and increase longevity.

**Notice to Proceed:** 9-Oct-2013 **Contract Completion:** 10-Oct-2016

**Status and Issues:** The punchlist work is on-going. The Contractor has submitted the necessary documentation required for a Partial Release of Retainage.

## CSO CONTROL PROGRAM

3rd Quarter – FY17

All 35 projects in the Long-Term CSO Control Plan are complete, in compliance with Schedule Seven. Remaining CSO related capital spending totaling \$12.7 million is authorized to be spent through December 2020. Remaining work includes Cambridge’s completion of surface restoration work associated with the Alewife/CAM004 sewer separation contracts, BWSC’s removal of additional inflow from its sewers in the South Dorchester Bay sewer separation areas of Dorchester, and the federal court mandated three-year CSO post-construction monitoring and performance assessment (2018-2020).

Project/Item	Status as of March 31, 2017
BWSC Memorandum of Understanding and Financial Assistance Agreement	BWSC attained substantial completion of its last project, Reserved Channel Sewer Separation, in December 2015 in compliance with Schedule Seven. MWRA staff are conducting final eligibility reviews of the BWSC construction contracts. Remaining BWSC work eligible for MWRA funding is limited to supporting and responding to the remaining final eligibility reviews through June 2017, when the MOU/FAA term end, and continuing with inflow removal in the South Dorchester Bay Sewer Separation area (see related item, below).
South Dorchester Bay Sewer Separation Post-Construction Inflow Removal	MWRA’s CIP and the MOU/FAA with BWSC include \$5.4 million for additional inflow removal, of which \$1.7 million has been transferred to the BWSC CSO account and \$1.6 million of that has been withdrawn by BWSC to fund related design and construction work. Staff plan to remove the remaining \$3.8 million from the BWSC MOU/FAA; develop a separate, 3-year financial assistance agreement with BWSC for this project and the remaining funds; and close out the MOU/FAA when its term ends on June 30, 2017. Staff plan to seek Board approval for the new agreement soon.
City of Cambridge Memorandum of Understanding and Financial Assistance Agreement	The City of Cambridge attained substantial completion of its last project, CAM004 Sewer Separation, in December 2015 in compliance with Schedule Seven. Extensive surface restoration work eligible for MWRA funding at a remaining award amount of \$5.8 million is scheduled to continue through December 2017, followed by six months of final eligibility review and close-out of the Cambridge construction contracts and close-out of the MOU/FAA in June 2018.
MWRA CSO Performance Assessment	Staff are developing a draft scope (work plan) for the post-construction monitoring program and performance assessment, which MWRA is required to submit to DEP by May 1, 2017. Staff are also developing a scope of services and RFQ/P for a professional services contract to perform related metering, hydraulic modeling and performance assessments. Staff plan to seek Board authorization to award the professional services contract and issue a Notice to Proceed by January 2018, in compliance with Schedule Seven.

## CIP Expenditures 3<sup>rd</sup> Quarter FY17

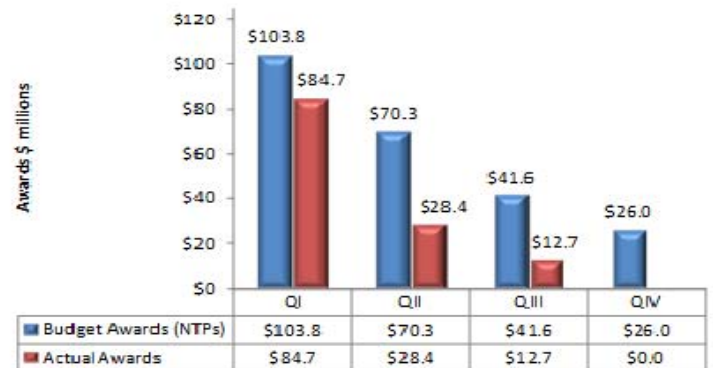
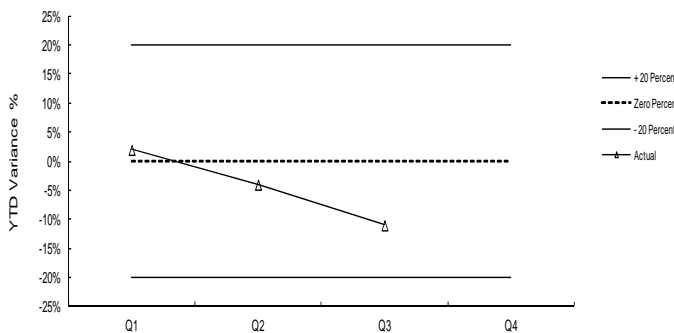
FY17 Capital Improvement Program Expenditure Variances through March by Program (\$ in thousands)				
Program	FY17 Budget Through March	FY17 Actual Through March	Variance Amount	Variance Percent
Wastewater	45,442	38,445	(6,997)	-15%
Waterworks	41,802	41,135	(666)	-2%
Business and Operations Support	6,349	3,938	(2,411)	-38%
<b>Total</b>	<b>\$93,593</b>	<b>\$83,519</b>	<b>(\$10,074)</b>	<b>-11%</b>

Underspending within both Wastewater and Waterworks is primarily due to fewer than anticipated community requests for loans and grants. Project underspending within Wastewater is due to delay for final restoration work for the Cambridge Sewer Separation, delay in the award of the Chelsea Headworks Upgrade Construction, and construction issues with the Caruso Pump Station Improvements, partially offset by payment of a legal settlement for Primary/Secondary Clarifier Rehabilitation at Deer Island, construction progress on the Alewife Brook Pump Station Rehabilitation, Clinton Phosphorus Reduction Construction, Deer Island Power System Improvements, North Main Pump Station and Winthrop Terminal Facility Butterfly Valve Replacements, and Digester Sludge Pump Phase 2, and timing of payment for final work on the Deer Island Electrical Upgrades and Chelsea Screenhouse contracts. Project underspending in Waterworks was due to less than anticipated progress on the Rosemary Brook Siphon Building Repairs, schedule changes for Section 89/29 Redundancy Phase 1C Construction and Marlborough Maintenance Facility, and earlier construction issues for Wachusett Aqueduct Pump Station contract, partially offset by contractor progress on Section 89/29 Redundancy Phase 1B Construction, Southern Extra High Section 111 Construction, Hatchery Pipeline Construction, and additional work for the Webster Avenue Bridge Pipe Replacement Construction.

### Budget vs. Actual CIP Expenditures

(\$ in thousands)

Total FY17 CIP Budget of \$155,702,000.



### Construction Fund Management

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

Cash Balance as of 3/25/2017	\$35.4 million
Unused capacity under the debt cap:	\$1.250 billion
Estimated date for exhausting construction fund without new borrowing:	MAY-17
Estimated date for debt cap increase to support new borrowing:	Not anticipated at this time
Commercial paper/Revolving loan outstanding:	\$128 million
Commercial paper capacity:	\$ 350 million
Budgeted FY17 capital spending*:	\$136 million

\* Cash based spending is discounted for construction retainage.

# DRINKING WATER QUALITY AND SUPPLY

## Source Water – Microbial Results and UV Absorbance

3rd Quarter – FY17

### Source Water – Microbial Results

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

#### Sample Site: Quabbin Reservoir

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

All samples collected during the 3rd Quarter were below 20 cfu/100ml. **For the current six-month period, 0.0% of the samples have exceeded a count of 20 cfu/100mL, compared to the allowable 10%.**

#### Sample Site: Wachusett Reservoir

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

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

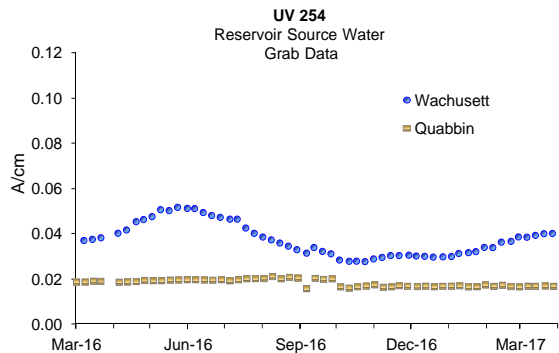
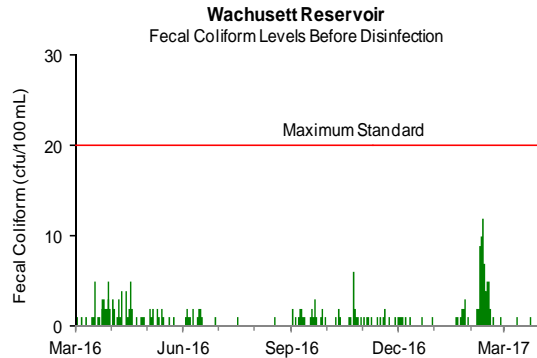
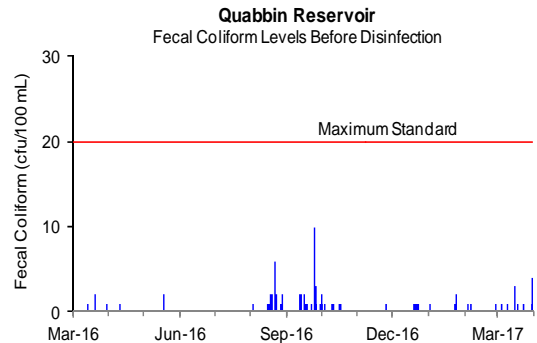
All samples collected during the 3rd Quarter were below 20 cfu/100ml. **For the current six-month period, 0.0% of the samples exceeded a count of 20 cfu/100mL.**

### Source Water – UV Absorbance

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

Quabbin Reservoir UV-254 levels are currently around 0.017 A/cm.

Wachusett Reservoir UV-254 levels are currently around 0.040 A/cm.



## Source Water – Turbidity

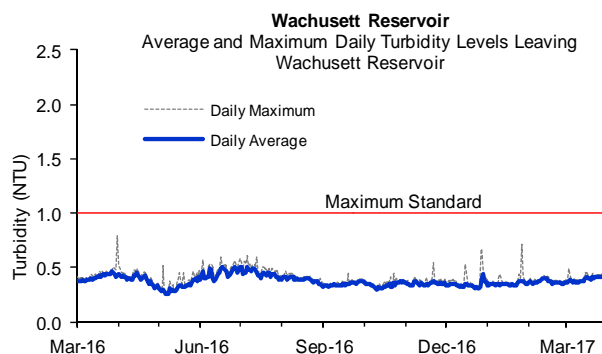
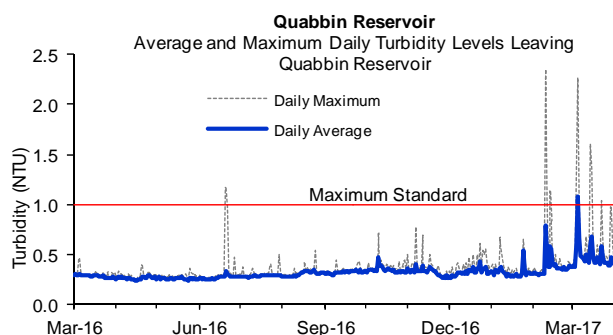
3rd Quarter – FY17

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

There are two standards for turbidity: all water must be below 5 NTU (Nephelometric Turbidity Units), and water only can be above 1 NTU if it does not interfere with effective disinfection.

Turbidity of Quabbin Reservoir water is monitored continuously at the Brutsch Water Treatment Facility (BWTF) before UV and chlorine disinfection. Turbidity of Wachusett Reservoir is monitored continuously at the Carroll Water Treatment Plant (CWTP) before ozonation and UV disinfection.

Maximum turbidity results at Wachusett were within DEP standards for the quarter. Maximum turbidity results at Quabbin were within DEP standards for January. High winds on February 9 and February 13 caused the turbidity at the BWTF intake to exceed 1 NTU for 4-7 non-consecutive hours. High north winds on March 4 to 5 and March 14 to 15 caused the turbidity at the BWTF intake to exceed 1 NTU for 2.5 to 10 non-consecutive hours. During these events disinfection effectiveness was not affected; CT was maintained at all times, downstream disinfectant residuals were maintained, and no coliform were detected in downstream samples.

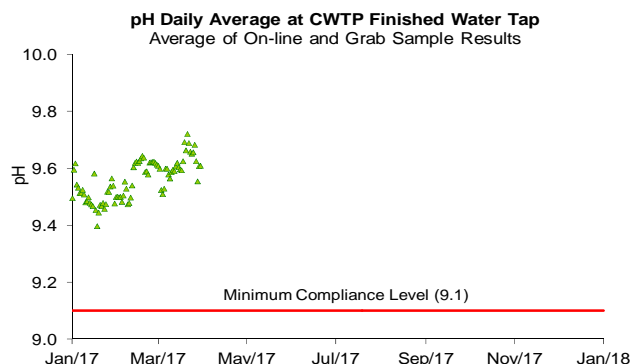
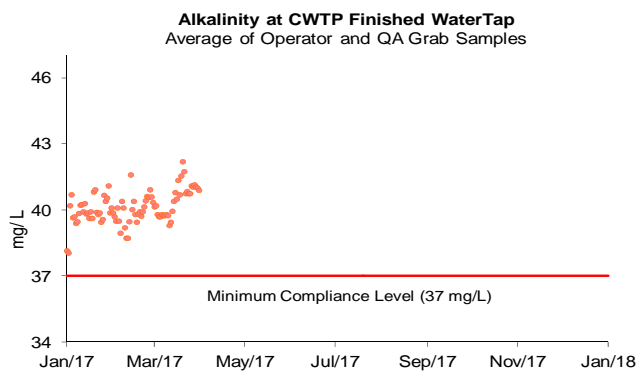


## Treated Water – pH and Alkalinity Compliance

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

Each CVA community provides its own corrosion control treatment. See the CVA report: [www.mwra.com/water/html/awqr.htm](http://www.mwra.com/water/html/awqr.htm).

Distribution system samples were collected on March 8 and 9, 2017. Distribution system sample pH ranged from 9.4 to 9.6 and alkalinity ranged from 39 to 41 mg/L. No sample results were below DEP limits for this quarter.



## Treated Water – Disinfection Effectiveness

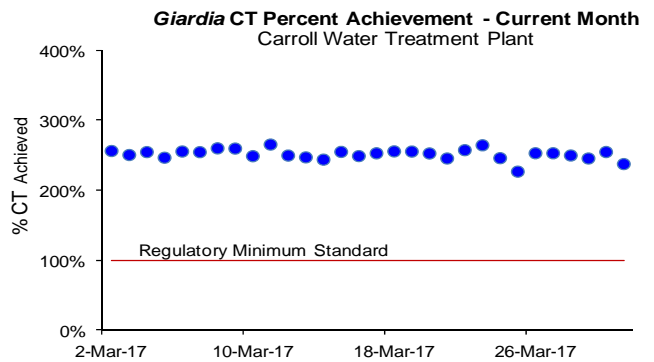
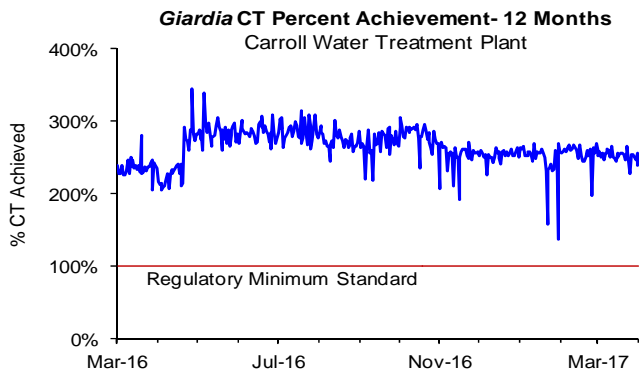
3rd Quarter – FY17

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

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

### Wachusett Reservoir – MetroWest/Metro Boston Supply:

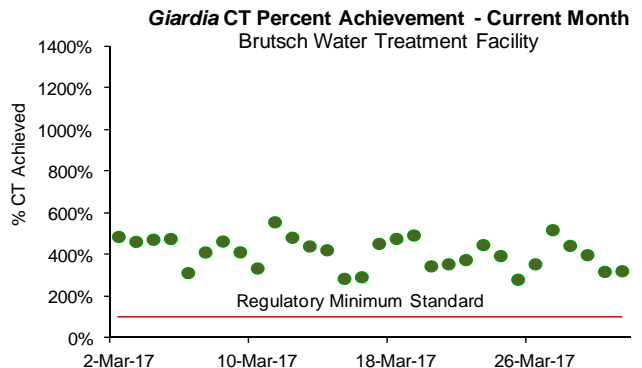
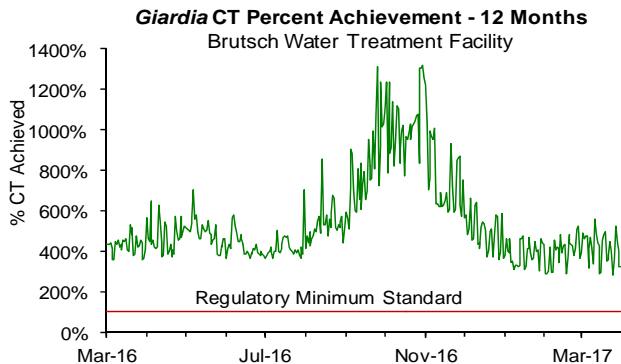
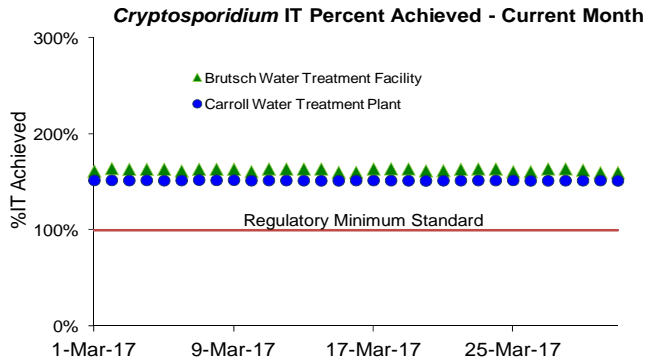
- Ozone dose at the CWTP varied between 1.1 to 1.5 mg/L for the quarter.
- Giardia* CT was maintained above 100% at all times the plant was providing water into the distribution system this quarter, as well as every day for the last fiscal year.
- Cryptosporidium* IT was maintained above 100% during the month. Off-spec water was less than 5%.



### Quabbin Reservoir (CVA Supply) at:

#### Brutsch Water Treatment Facility

- The chlorine dose at BWTF is adjusted in order to achieve MWRA's seasonal (June 1 – October 31) target of  $\geq 1.0$  mg/L at Ludlow Monitoring Station.
- The chlorine dose at BWTF ranged from 1.3 to 1.4 mg/L for the quarter.
- Giardia* CT was maintained above 100% at all times the plant was providing water into the distribution system for the quarter.
- Cryptosporidium* IT was maintained above 100% during the month. Off-spec water was less than 5%.





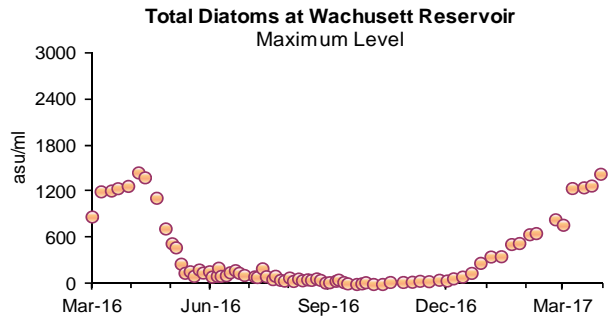
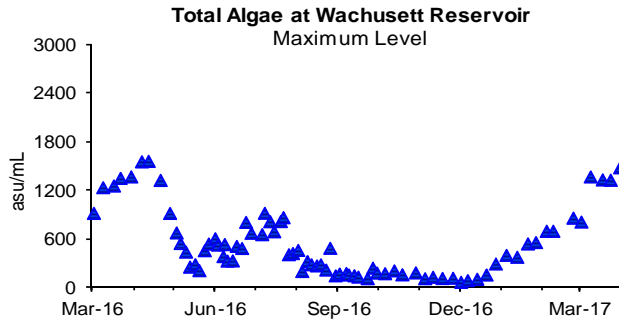
## Source Water - Algae

### 3rd Quarter – FY17

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

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

In the 3rd Quarter, five complaints which may be related to algae were reported from the local water departments.



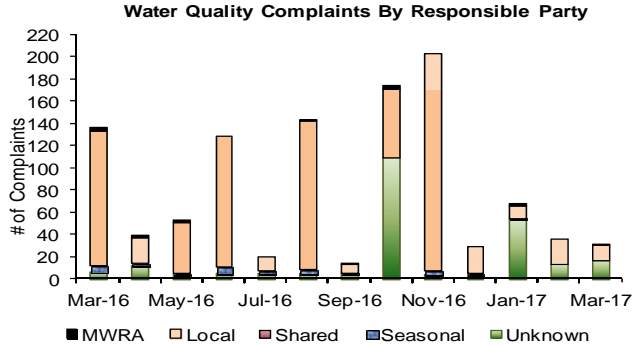
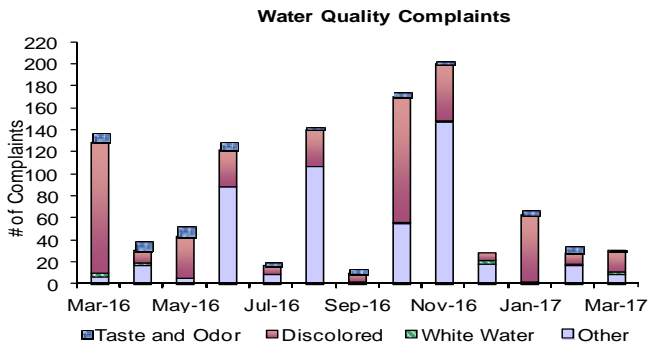
## Drinking Water Quality Customer Complaints: Taste, Odor, or Appearance

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

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

Communities reported 136 complaints during the quarter compared to 299 complaints for 3rd Quarter of FY16. Of these complaints, 92 were for "discolored water", 13 were for "taste and odor", 3 were for "white water", and 28 were for "other". Of these complaints, 47 were local community issues, 3 were MWRA related, 1 was seasonal in nature, and 85 were unknown in origin.

•On January 13, Quincy reported fifty discolored water complaints when a water main break occurred at Elmwood Park and Alvin Avenue.



## Bacteria & Chlorine Residual Results for Communities in MWRA Testing Program

3<sup>rd</sup> Quarter – FY17

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

The MWRA TCR program has 141 sampling locations. These locations include sites along MWRA's transmission system, water storage tanks and pumping stations, as well as a subset of the community TCR locations.

The TCR requires that no more than 5% of all samples in a month may be total coliform positive (or that no more than one sample be positive when less than 40 samples are collected each month). Public notification is required if this standard is exceeded.

*Escherichia coli* (*E. coli*) is a specific coliform species whose presence likely indicates potential contamination of fecal origin. If *E. coli* are detected in a drinking water sample, this is considered evidence of a potential public health concern. Public notification is required if follow-up tests confirm the presence of *E. coli* or total coliform.

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

### Highlights

In the 3<sup>rd</sup> Quarter, four of the 6,252 community samples submitted to MWRA labs for analysis tested positive for total coliform. Two of the 1,899 MWRA samples tested positive for total coliform (Somerville, South Hadley FD1 – January; Norwood- February). Only 1.1% of the samples had a chlorine residual lower than 0.2 mg/L for the quarter.

		# Coliform Samples (a)	Total Coliform # (%) Positive	E.coli # Positive	Assessment Required *	Minimum Chlorine Residual (mg/L)		Average Chlorine Residual (mg/L)	
						Level	Violation		
MWRA	d	MWRA Locations	306	0 (0%)	0	1 / 2		2.02	2.37
		Shared Community/MWRA sites	1593	2 (0.13%)	0			0.09	2.14
		<b>Total: MWRA</b>	<b>1899</b>	<b>2 (0.11%)</b>	<b>0</b>	<input type="checkbox"/> / <input type="checkbox"/>		<b>0.09</b>	<b>2.18</b>
Fully Served		ARLINGTON	169	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	0.08	1.92
		BELMONT	104	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	0.59	2.19
		BOSTON	780	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	1.50	2.40
		BROOKLINE	224	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	0.80	2.07
		CHELSEA	169	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	1.58	2.08
		DEER ISLAND	52	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	1.90	2.19
		EVERETT	169	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	0.17	1.28
		FRAMINGHAM	234	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	0.60	2.22
		LEXINGTON	117	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	0.67	2.50
		LYNNFIELD	18	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	0.13	1.34
		MALDEN	234	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	0.09	2.13
		MARBLEHEAD	72	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	0.44	2.07
		MEDFORD	221	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	1.22	1.94
		MELROSE	117	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	0.62	1.87
		MILTON	102	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	0.50	1.93
		NAHANT	30	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	1.38	2.01
		NEWTON	278	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	0.38	2.08
		NORTHBOROUGH	48	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	0.34	2.02
		NORWOOD	102	1 (0.98%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	0.06	1.99
		QUINCY	299	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	0.14	2.19
		READING	130	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	0.29	1.87
		REVERE	195	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	1.41	2.13
		SALGUS	104	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	1.32	1.86
		SOMERVILLE	278	2 (0.72%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	1.28	2.32
		SOUTHBOROUGH	30	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	0.05	1.95
		STONEHAM	91	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	1.63	2.11
		SWAMPSCOTT	54	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	0.54	1.83
		WALTHAM	216	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	0.67	2.09
		WATERTOWN	130	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	1.55	2.16
		WESTBORO HOSPITAL	15	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	0.05	0.51
		WESTON	45	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	1.93	2.32
		WINTHROP	72	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	1.15	2.37
		<b>Total: Fully Served</b>	<b>4899</b>	<b>3 (0.06%)</b>	<b>0</b>	<input type="checkbox"/> / <input type="checkbox"/>			
CVA & Partially Served	b	BEDFORD	57	0 (0%)	0	<input checked="" type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	0.59	1.65
		CANTON	87	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	0.04	1.31
		HANSCOM AFB	34	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	0.24	1.64
		MARLBOROUGH	126	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	0.06	2.21
		NEEDHAM	123	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	0.04	0.49
		PEABODY	231	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	0.36	2.01
		WAKEFIELD	147	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	0.97	2.07
		WELLESLEY	114	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	0.02	0.67
		WILMINGTON	85	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	0.22	1.79
		WINCHESTER	91	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	0.10	1.62
		WOBURN	195	0 (0%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	0.13	0.91
		c	SOUTH HADLEY FD1	63	1 (1.96%)	0	<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	0.15
		<b>Total: CVA &amp; Partially Served</b>	<b>1353</b>	<b>1 (0.07%)</b>	<b>0</b>	<input type="checkbox"/> / <input type="checkbox"/>			
	<b>Total: Community Samples</b>	<b>6252</b>	<b>4 (0.06%)</b>	<b>0</b>	<input type="checkbox"/> / <input type="checkbox"/>				

(a) The number of samples collected depends on the population served and the number of repeat samples required.

(b) These communities are partially supplied, and may mix their chlorinated supply with MWRA chloraminated supply.

(c) Part of the Chicopee Valley Aqueduct System. Free chlorine system.

(d) MWRA total coliform and chlorine residual results include data from 125 community pipe locations as described above. In most cases these community results are accurately indicative of MWRA water as it enters the community system; however, some are clearly strongly influenced by local pipe conditions. Residuals in the MWRA system are typically between 1.0 and 2.8 mg/L.

(e) The TCR requires an assessment be completed if more than 5% of all samples in a month are total coliform positive (or two or more samples are positive when fewer than 40 samples are collected each month).

(f) Some reasons a violation may occur: the required # of TCR samples is not collected; failure to report; an E.coli MCL violation; coliform treatment technique not followed properly; failure to conduct a level 1 or level 2 assessment within 30 days of trigger.

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

### 3rd Quarter – FY17

Total Trihalomethanes (TTHMs) and Haloacetic Acids (HAA5s) are by-products of disinfection treatment with chlorine. TTHMs and HAA5s are of concern due to their potential adverse health effects at high levels. EPA's locational running annual average (LRAA) standard is 80 µg/L for TTHMs and 60 µg/L for HAA5s.

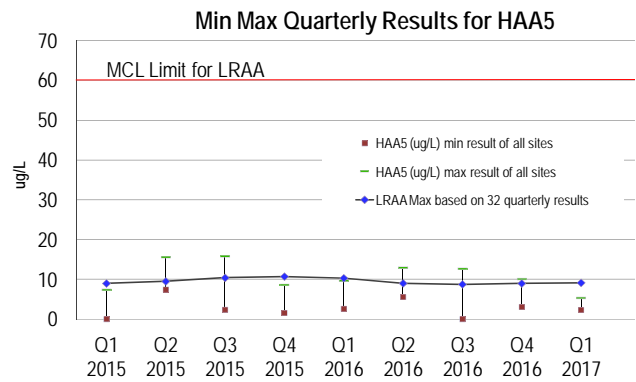
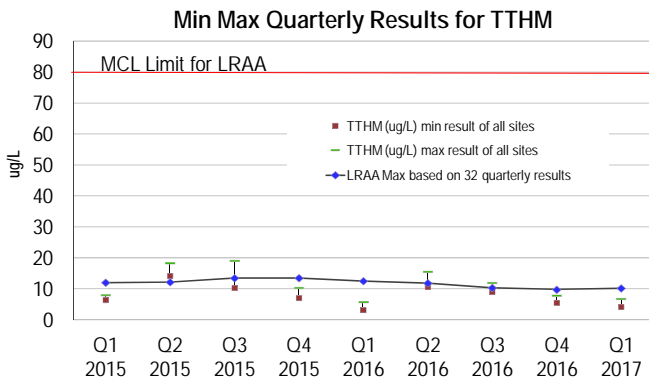
The locational running annual average at each individual sampling location must be below the standard. The charts below show the highest and lowest single values for all sites, and the LRAA of the highest location each quarter.

Partially served and CVA communities are responsible for their own compliance monitoring and reporting, and must be contacted directly for their individual results. The chart below combines all three CVA communities data (Chicopee, Wilbraham and South Hadley FD1).

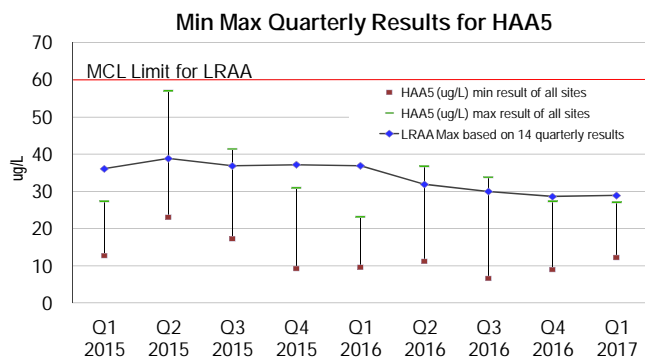
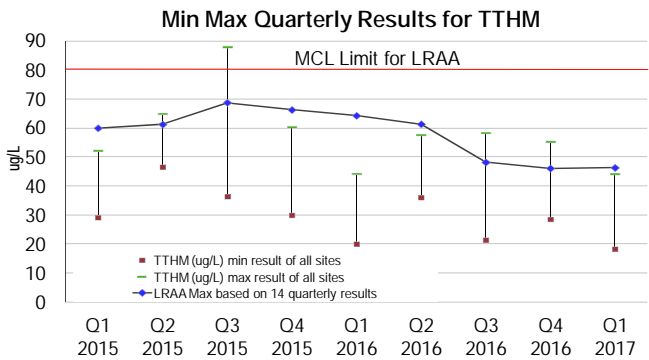
Bromate is tested monthly per DEP requirements for water systems that treat with ozone. Bromide in the raw water may be converted into bromate following ozonation. EPA's RAA MCL standard for bromate is 10 µg/L.

The LRAA for TTHMs and HAA5s for MWRA's Compliance Program (represented as the line in the top two graphs below) remain below current standards. The Max LRAA in the quarter for TTHMs = 10.2 µg/L; HAA5s = 9.1 µg/L. The current RAA for Bromate = 0.0 µg/L. CVA's DBP levels continue to be below current standards.

### MetroBoston Disinfection By-Products



### CVA Disinfection By-Products (Combined Results)



# Water Supply and Source Water Management

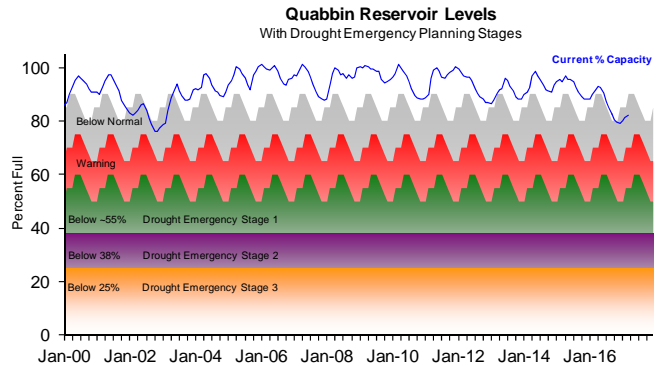
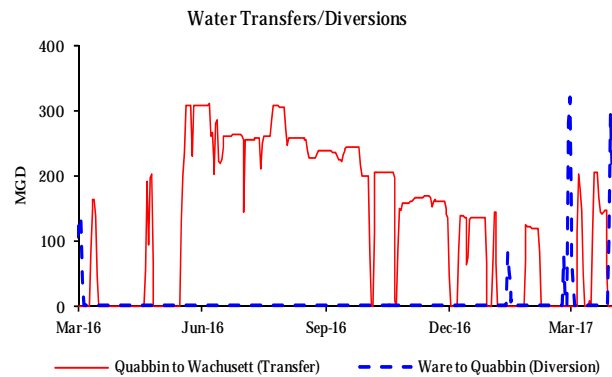
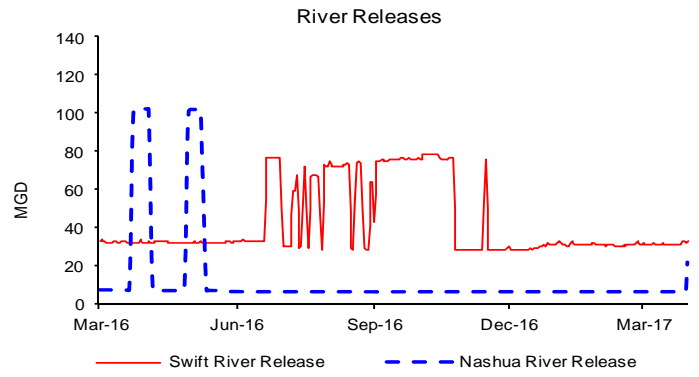
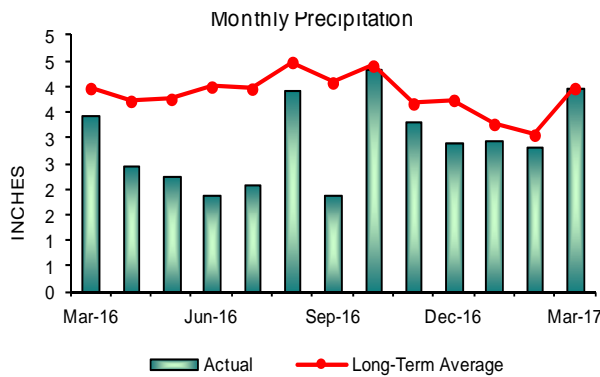
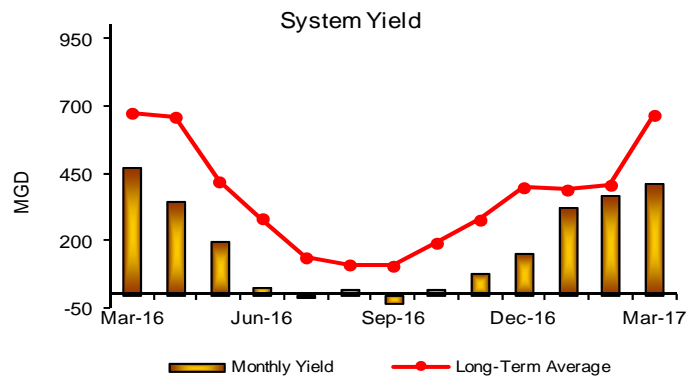
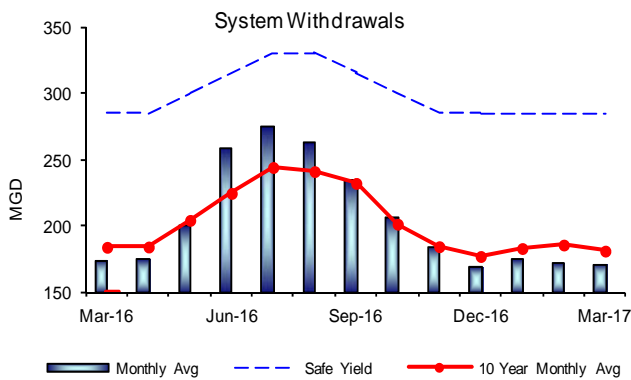
3rd Quarter – FY17

## Background

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

## Outcome

Quabbin Reservoir level was in the below normal operating range for the quarter. The volume of the Quabbin Reservoir was at 81.7% as of March 31, 2017; a 2.6% increase for the quarter, which represents a gain of more than 10.5 billion gallons of storage. Yield and precipitation for the quarter were below their respective quarterly long term averages. System withdrawal for the quarter was below the 10 year monthly average.



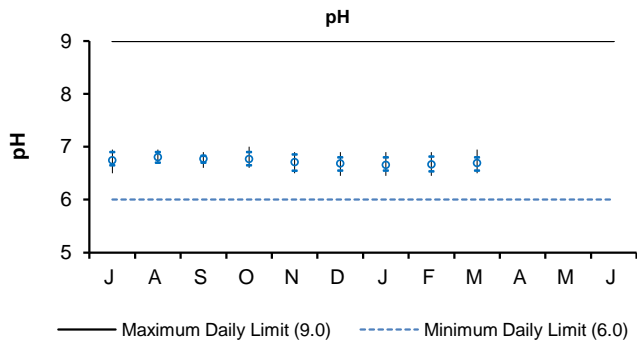
# WASTEWATER QUALITY

## NPDES Permit Compliance: Deer Island Treatment Plant 3rd Quarter - FY17

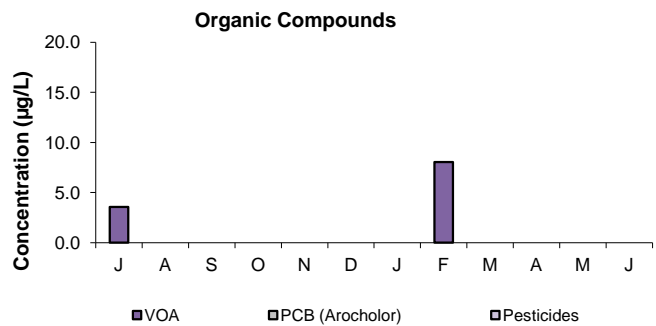
### NPDES Permit Limits

Effluent Characteristics		Units	Limits	January	February	March	3rd Quarter Violations	FY17 YTD Violations
Dry Day Flow:		mgd	436	259.0	257.4	252.3	0	0
cBOD:	Monthly Average	mg/L	25	7.0	8.8	7.5	0	0
	Weekly Average	mg/L	40	8.2	10.6	8.7	0	0
TSS:	Monthly Average	mg/L	30	13.0	14.4	12.2	0	0
	Weekly Average	mg/L	45	19.3	16.3	15.3	0	0
TCR:	Monthly Average	ug/L	456	<40	<40	<40	0	0
	Daily Maximum	ug/L	631	<40	<40	<40	0	0
Fecal Coliform:	Daily Geometric Mean	col/100mL	14000	13	7	9	0	0
	Weekly Geometric Mean	col/100mL	14000	34	16	12	0	0
	% of Samples >14000	%	10	0	0	0	0	0
	Consecutive Samples >14000	#	3	0	0	0	0	0
pH:		SU	6.0-9.0	6.5-6.9	6.5-6.9	6.5-7.0	0	0
PCB, Aroclors:	Monthly Average	ug/L	0.000045	UNDETECTED			0	0
Acute Toxicity:	Mysid Shrimp	%	≥50	>100	>100	>100	0	0
	Inland Silverside	%	≥50	>100	>100	>100	0	0
Chronic Toxicity:	Sea Urchin	%	≥1.5	50	25	100	0	0
	Inland Silverside	%	≥1.5	100	50	100	0	0

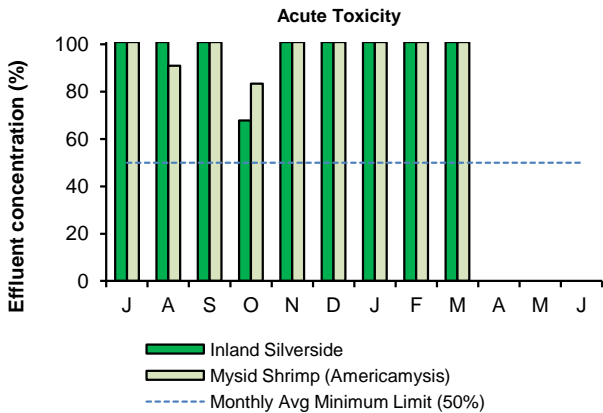
There have been no permit violations in FY17 to date at the Deer Island Treatment Plant.



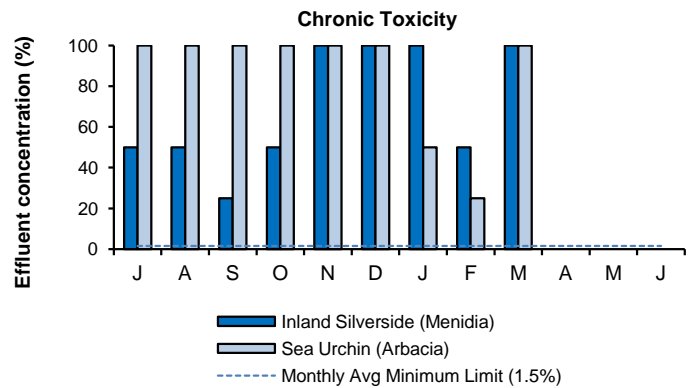
pH is a measure of alkalinity or acidity. Fluctuations in effluent pH are unlikely to impact on marine environments, which have significant buffering capacity. Because of the pure oxygen used in the activated sludge process, effluent pH tends to be at the lower end of the permit-required range. All pH measurements for the 3rd Quarter were within the daily permit limits.



An important wastewater component monitored in the effluent is organic compounds, such as volatile organic acids, pesticides, and polychlorinated biphenyls, which are all sampled monthly. The secondary treatment process significantly reduces organic compounds in the effluent stream. In the 3rd Quarter, some volatile organic compounds were detected in the effluent in February. All other organic compounds were below the detection limit for the quarter.



The acute toxicity test simulates the short-term toxic effects of chemicals in wastewater effluent on marine animals. The test measures the concentration (percent) of effluent that kills half the test organisms within four days. The higher the concentration of effluent required, the less toxic the effluent. For permit compliance, the effluent concentration that causes mortality to mysid shrimp and inland silverside must be at least 50%. Acute toxicity permit limits were met for the 3rd Quarter for both the inland silverside and mysid shrimp.



Typically, effects of chronic exposures differ from those of acute exposures. Because of this, chronic toxicity responses are not necessarily related to acute toxicity. The chronic toxicity test simulates the long-term toxic effects of chemicals in wastewater effluent on marine animals. To meet permit limits, a solution of 1.5% effluent and 98.5% dilution water must show no observed effect on the growth and reproduction of the test species. Chronic toxicity permit limits were met for the 3rd Quarter for both the inland silverside and sea urchin.

**NPDES Permit Compliance: Clinton Wastewater Treatment Plant**  
3rd Quarter - FY17

**NPDES Permit Limits**

Effluent Characteristics	Units	Limits	January	February	March	3rd Quarter	FY17 YTD	
			Violations	Violations	Violations	Violations		
Flow:	mgd	3.01	2.26	2.23	2.17	0	0	
BOD:	Monthly Average:	mg/L	20	2.6	4.2	4.9	0	0
	Weekly Average:	mg/L	20	2.9	5.0	6.7	0	0
TSS:	Monthly Average:	mg/L	20	3.9	5.8	6.8	0	0
	Weekly Average:	mg/L	20	5.2	6.5	8.6	0	0
pH:	SU	6.5-8.3	6.6-7.5	6.9-7.4	6.9-7.5	0	0	
Dissolved Oxygen:	Daily Average Minimum:	mg/L	6	9.8	9.5	9.6	0	0
Fecal Coliform:	Daily Geometric Mean:	col/100mL	400	3	7	N/A	0	0
	Monthly Geometric Mean:	col/100mL	200	3	3	N/A	0	0
E. Coli:	Daily Geometric Mean:	col/100mL	409	N/A	N/A	5	0	0
	Monthly Geometric Mean:	col/100mL	126	N/A	N/A	5	0	0
TCR:	Monthly Average:	ug/L	17.6	0.0	0.8	0.0	0	0
	Daily Maximum:	ug/L	30.4	0.0	22.5	0.0	0	0
Total Ammonia Nitrogen: November 1st - March 31st								
	Monthly Average:	mg/L	10.0	0.00	0.63	0.35	0	0
	Daily Maximum:	mg/L	35.2	0.00	2.13	1.01	0	0
Copper:	Monthly Average:	ug/L	11.6	5.0	8.0	6.0	0	0
Phosphorus: November 1st - March 31st								
	Monthly Average:	mg/L	N/A	0.29	N/A	0.43	0	0
Acute Toxicity:	Daily Minimum:	%	≥100	*N/A	*N/A	>100	0	0
Chronic Toxicity:	Daily Minimum:	%	≥62.5	*N/A	*N/A	25	1	1

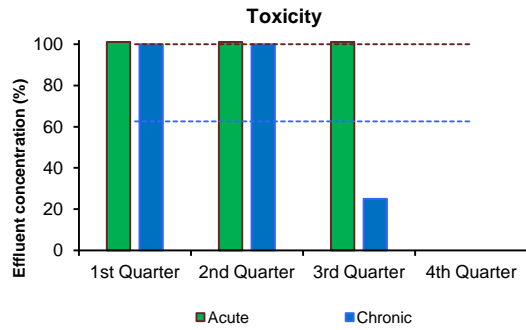
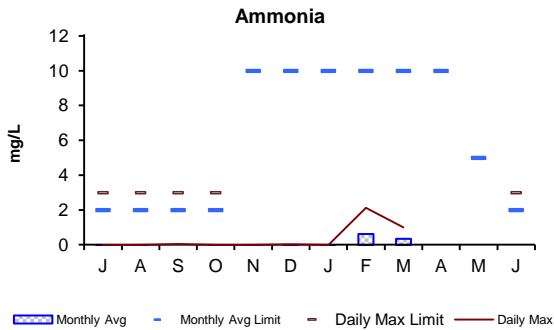
There has been one permit violation at the Clinton Treatment Plant in FY17. March 2017 is the first month under the new NPDES permit.

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

**2nd Quarter:** There were no permit violations in the second quarter.

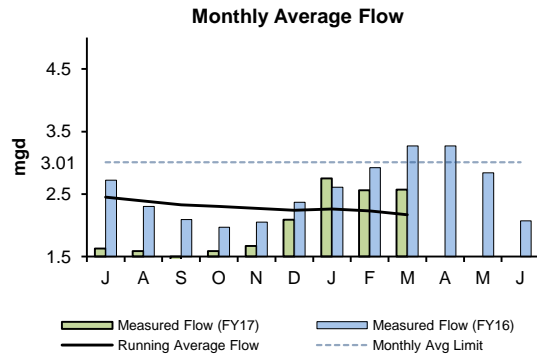
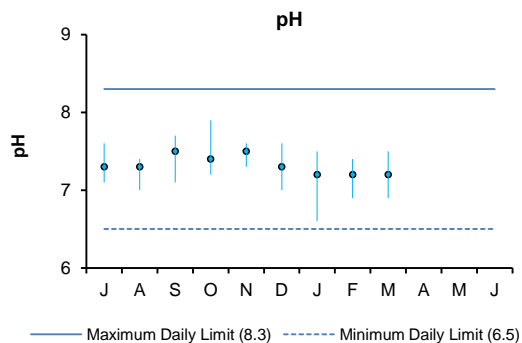
**3rd Quarter:** There was one permit violation in the third quarter; the chronic toxicity was 25%, which is below the permit limit of 62.5%

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



The 3rd Quarter's monthly average and daily maximum concentrations were below the permit limits. The monthly average and daily maximum limits for the 3rd Quarter are 10 mg/L and 35.2 mg/L, respectively. The permit limits are most stringent from June to October when warm weather conditions are most conducive to potential eutrophication.

Acute and chronic toxicity testing simulates the short- and long-term toxic effects of chemicals in wastewater effluent on aquatic animals. For permit compliance, the effluent concentration that causes mortality to the daphnid in acute and chronic testing must be at least >100% and 62.5%, respectively. The chronic toxicity was below the permit limit in March 2017, and is therefore a violation in the third quarter.



pH is a measure of the alkalinity or acidity of the effluent. All daily pH results for the 3rd Quarter were within the range set by the permit.

The graph depicts the running annual average monthly flow, measured in million gallons per day, exiting the plant. The average monthly flows during this Quarter were below the NPDES permit limit.

# COMMUNITY FLOWS AND PROGRAMS



# Total Water Use

## MWRA Revenue Customers

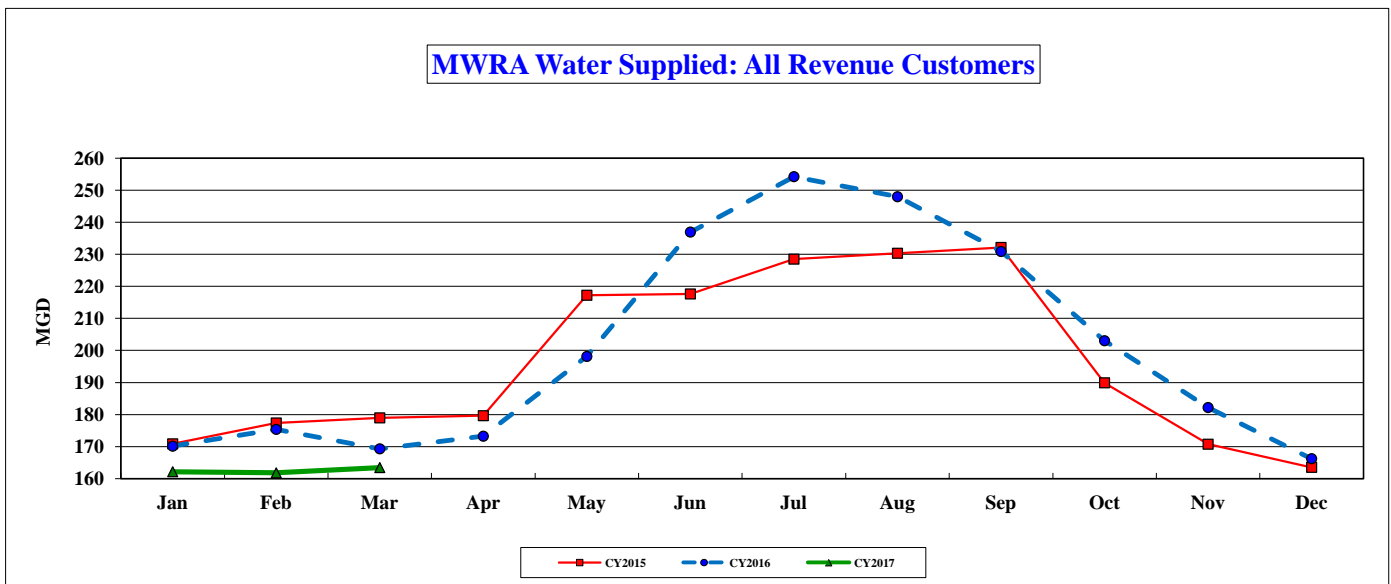
### 3rd Quarter - FY17

YTD CHANGES (CY17 vs. CY16)
Water Supplied
-6.3%

Water Supplied:  
All Revenue Customers

MGD	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD Average	Annual Average
CY2015	170.874	177.386	178.975	179.653	217.221	217.619	228.484	230.316	232.125	189.905	170.763	163.550	196.522	196.522
CY2016	170.144	175.389	169.319	173.256	198.133	236.921	254.203	247.944	230.859	203.031	182.197	166.245	171.534	200.718
CY2017	162.178	161.827	163.469	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	162.513	162.513

MG	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD Total	Annual Total
CY2015	5,297.089	4,966.801	5,548.216	5,389.596	6,733.842	6,528.559	7,082.997	7,139.787	6,963.760	5,887.062	5,122.884	5,070.040	71,730.633	71,730.633
CY2016	5,274.454	5,086.269	5,248.893	5,197.675	6,142.124	7,107.637	7,880.290	7,686.259	6,925.757	6,293.965	5,465.920	5,153.585	15,609.616	73,462.829
CY2017	5,027.511	4,531.154	5,067.537	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	14,626.202	14,626.202



The March 2017 Community Water Use Report recently distributed to communities served by the MWRA waterworks systems. Each community's annual water use relative to the system as a whole is the primary factor in allocating the annual water rate revenue requirement to MWRA water communities. Calendar year 2017 water use will be used to allocate the FY19 water utility rate revenue requirement.

March 2017 water supplied of 163.5 mgd (for revenue generating users) is down 5.9 mgd or 3.5% compared to March 2016.

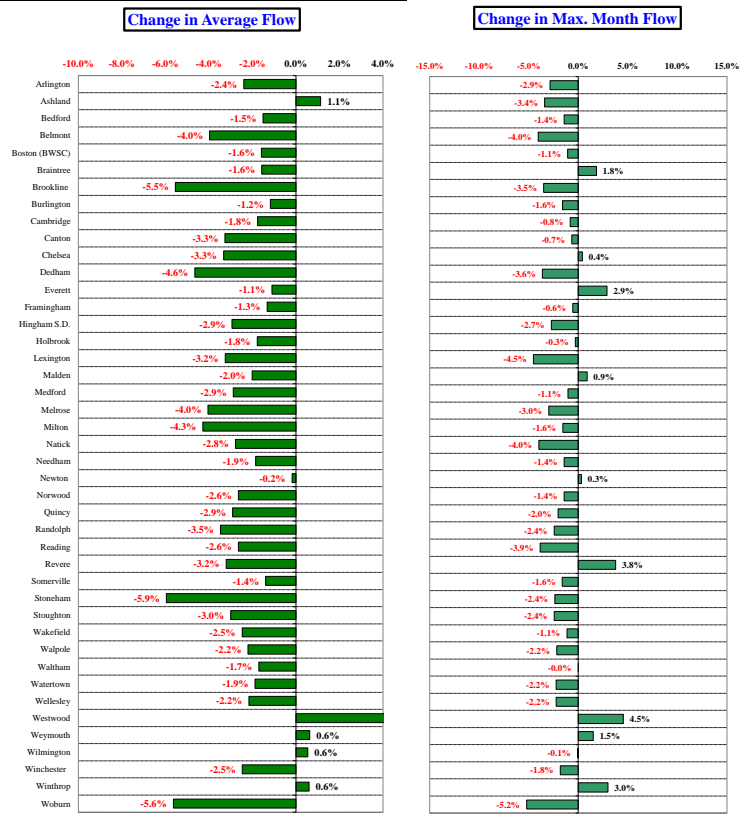
System-wide year to date consumption for CY17 is lower than CY16 with 162.5 mgd being supplied to MWRA customers **through March**. This is 9.0 mgd lower than CY16, and is a decrease of 5.3%.

# Community Wastewater Flows

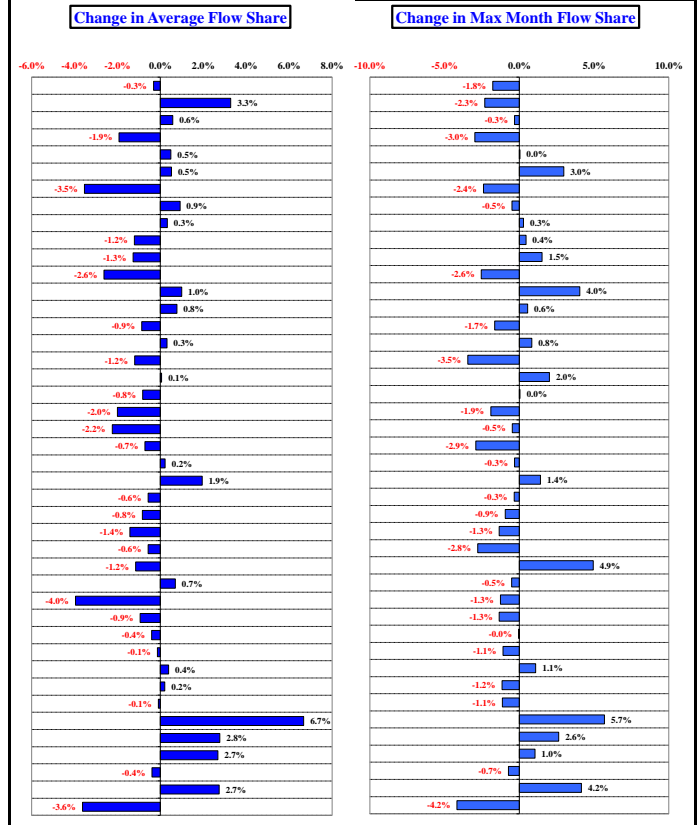
## 3rd Quarter - FY17

### How Projected CY2017 Community Wastewater Flows Could Effect FY2019 Sewer Assessments <sup>1,2,3</sup>

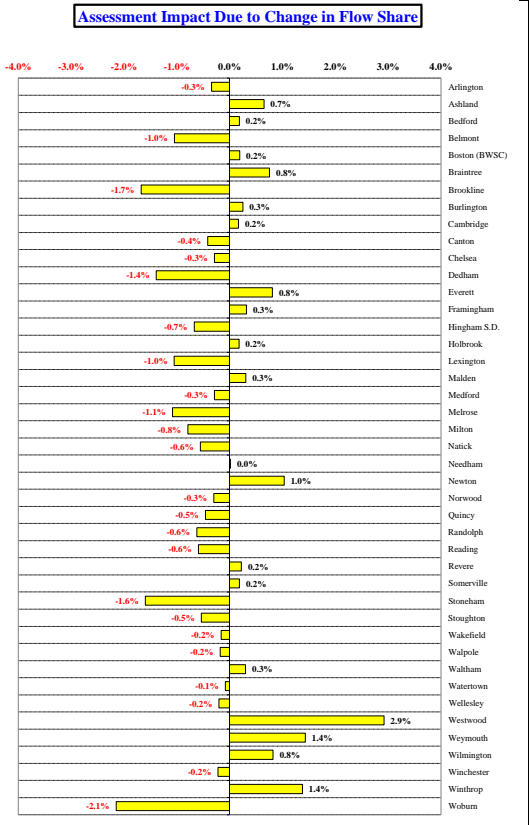
The flow components of FY2019 sewer assessments will be calculated using a 3-year average of CY2015 to CY2017 wastewater flows compared to FY2018 assessments that used a 3-year average of CY2014 to CY2016 wastewater flows.



But as MWRA's sewer assessments are a ZERO-SUM calculation, a community's assessment is strongly influenced by the **RELATIVE** change in CY2015 to CY2017 flow share compared to CY2014 to CY2016 flow share, compared to all other communities in the system.



The chart below illustrates the change in the **TOTAL BASE** assessment due to **FLOW SHARE CHANGES**. <sup>4</sup>



Notes:  
<sup>1</sup> MWRA uses a 3-year flow average to calculate sewer assessments. Three-year averaging smoothes the impact of year-to-year changes in community flow share, but does not eliminate the long-term impact of changes in each community's relative contribution to the total flow.  
<sup>2</sup> Based on CY2014 to CY2017 average wastewater flows as of 04/10/17. Flow data is preliminary and subject to change pending additional MWRA and community review.  
<sup>3</sup> CY2014 to February CY2017 wastewater flows based on actual meter data. March-December CY2017 based on the average of the three prior years.  
<sup>4</sup> Represents **ONLY** the impact on the total BASE assessment resulting from the changes in average and maximum wastewater **FLOW SHARES**.

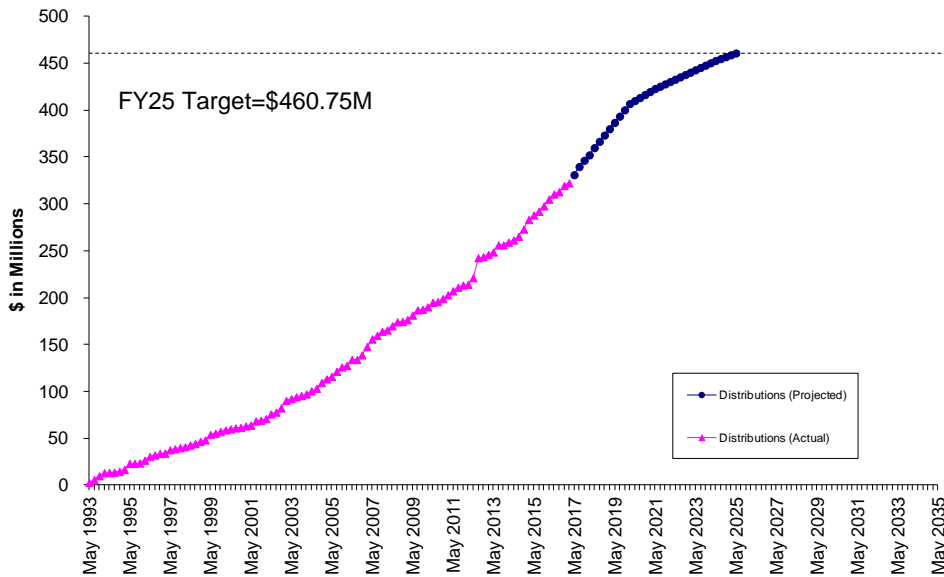
# Community Support Programs

3<sup>rd</sup> Quarter – FY17

## Infiltration/Inflow Local Financial Assistance Program

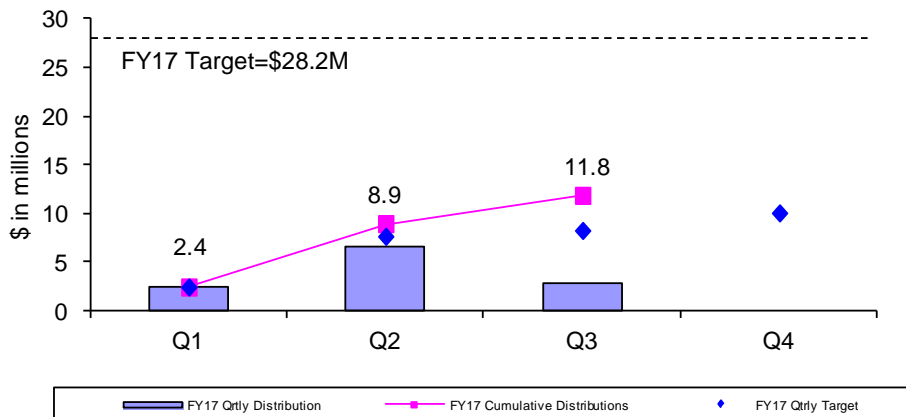
MWRA's Infiltration/Inflow (I/I) Local Financial Assistance Program provides \$460.75 million in grants and interest-free loans (average of about \$14 million per year from FY93 through FY25) to member sewer communities to perform I/I reduction and sewer system rehabilitation projects within their locally-owned collection systems. Eligible project costs include: sewer rehabilitation construction, pipeline replacement, removal of public and private inflow sources, I/I reduction planning, engineering design, engineering services during construction, etc. I/I Local Financial Assistance Program funds are allocated to member sewer communities based on their percent share of MWRA's wholesale sewer charge. Phase 1-8 funds (total \$300.75 million) were distributed as 45% grants and 55% loans with interest-free loans repaid to MWRA over a five-year period. Phase 9 and 10 funds (total \$160 million) are distributed as 75% grants and 25% loans with interest-free loans repaid to MWRA over a ten-year period.

### I/I Local Financial Assistance Program Distribution FY93-FY25



During the 3<sup>rd</sup> Quarter of FY17, \$2.9 million in financial assistance (grants and interest-free loans) was distributed to fund local sewer rehabilitation projects in Arlington, Braintree, Norwood, Quincy, Stoughton and Weymouth. Total grant/loan distribution for FY17 is \$11.8 million. From FY93 through the 3<sup>rd</sup> Quarter of FY17, all 43 member sewer communities have participated in the program and more than \$322 million has been distributed to fund 524 local I/I reduction and sewer system rehabilitation projects. Distribution of the remaining funds has been approved through FY25 and community loan repayments will be made through FY36. All scheduled community loan repayments have been made.

### FY17 Quarterly Distributions of Sewer Grant/Loans



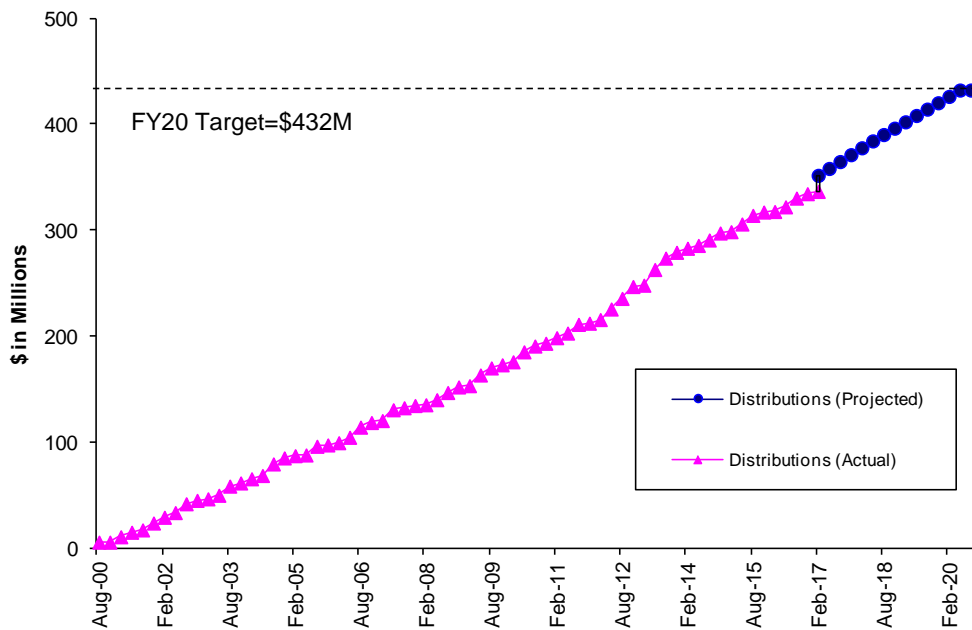
# Community Support Programs

3<sup>rd</sup> Quarter – FY17

## Local Water System Assistance Program

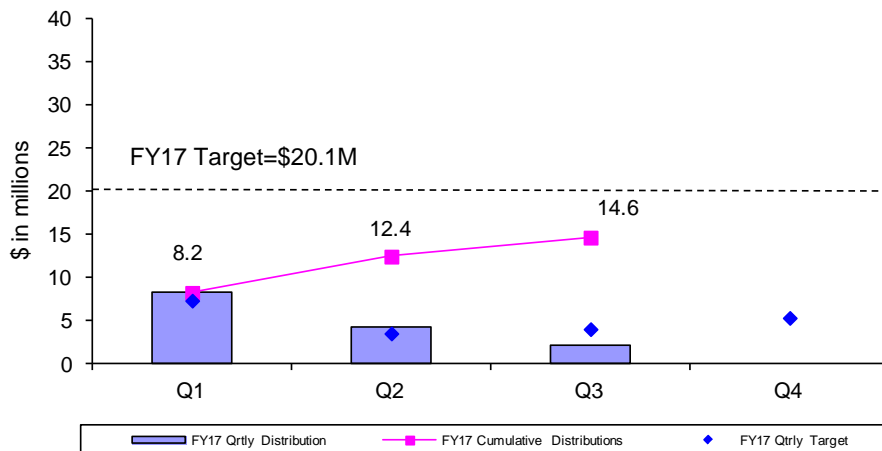
MWRA's Local Water System Assistance Programs (LWSAP) provides \$432 million in interest-free loans (an average of about \$22 million per year from FY01 through FY20) to member water communities to perform water main rehabilitation projects within their locally-owned water distribution systems. Eligible project costs include: water main cleaning/lining, replacement of unlined water mains, lead service replacements, valve, hydrant, water meter, tank work, engineering design, engineering services during construction, etc. MWRA partially-supplied communities receive pro-rated funding allocations based on their percentage use of MWRA water. Interest-free loans are repaid to MWRA over a ten-year period beginning one year after distribution of the funds. The Phase 1 water loan program concluded in FY13 with \$222 million in loan distributions. The Phase 2 - LWSAP continues distributions through FY20.

### Local Water System Assistance Program Distribution FY01-FY20



During the 3<sup>rd</sup> Quarter of FY17, \$2.2 million in interest-free loans was distributed to fund local water projects in Somerville, Wakefield and Winchester. Total loan distribution for FY17 is \$14.6 million. From FY01 through the 3<sup>rd</sup> Quarter of FY17, more than \$336 million has been distributed to fund 380 local water system rehabilitation projects in 38 MWRA member water communities. Distribution of the remaining funds has been approved through FY20 and community loan repayments will be made through FY30. All scheduled community loan repayments have been made.

### FY17 Quarterly Distributions of Water Loans



# Community Support Programs

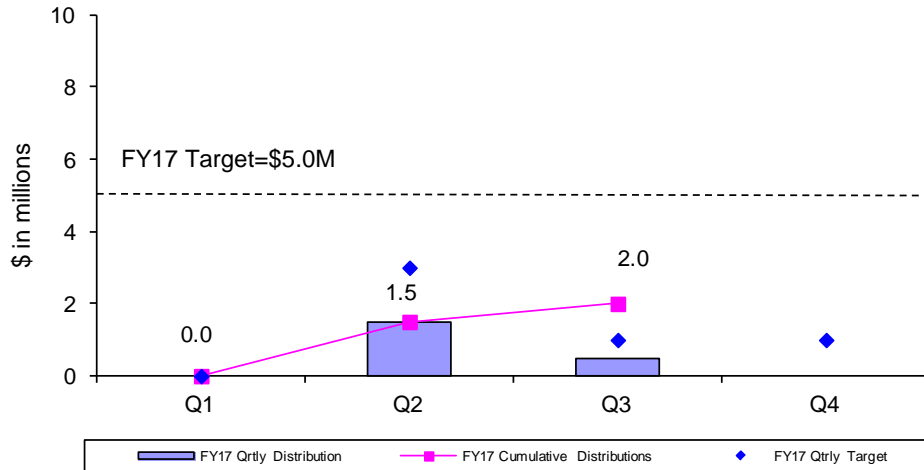
3<sup>rd</sup> Quarter – FY17

## Lead Service Line Replacement Loan Program

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

FY17 is the first year of the Lead Service Line Replacement Loan Program. During the 3<sup>rd</sup> Quarter of FY17, MWRA made the second Lead Loan Program distribution to Winchester for \$0.5 Million.

### FY17 Quarterly Distributions of Lead Service Line Replacement Loans

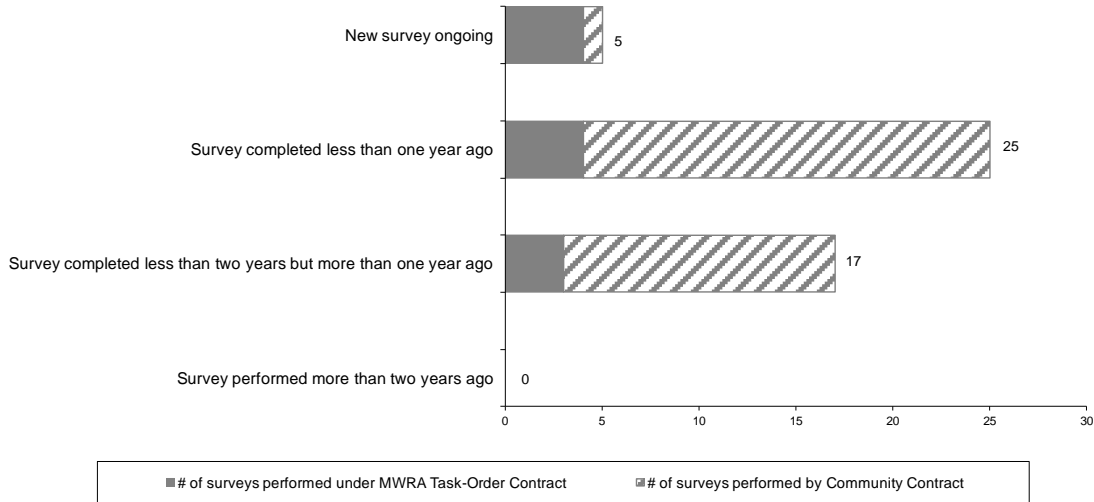


## Community Support Programs

3<sup>rd</sup> Quarter – FY17

### Community Water System Leak Detection

To ensure member water communities identify and repair leaks in locally-owned distribution systems, MWRA developed leak detection regulations that went into effect in July 1991. Communities purchasing water from MWRA are required to complete a leak detection survey of their entire distribution system at least once every two years. Communities can accomplish the survey using their own contractors or municipal crews; or alternatively, using MWRA's task order leak detection contract. MWRA's task order contract provides leak detection services at a reasonable cost that has been competitively procured (3-year, low-bid contract) taking advantage of the large volume of work anticipated throughout the regional system. Leak detection services performed under the task order contract are paid for by MWRA and the costs are billed to the community the following year. During the 3<sup>rd</sup> Quarter of FY17, all member water communities were in compliance with MWRA's Leak Detection Regulation.



### Community Water Conservation Outreach

MWRA's Community Water Conservation Program helps to maintain average water demand below the regional water system's safe yield of 300 mgd. Current 5-year average water demand is less than 205 mgd. The local Water Conservation Program includes distribution of water conservation education brochures (indoor and outdoor bill-stuffers) and low-flow water fixtures and related materials (shower heads, faucet aerators, toilet leak detection dye tabs, and instructions), all at no cost to member communities or individual customers. The Program's annual budget is \$25,000 for printing and purchase of materials. Annual distribution targets and totals are provided in the table below. Distributions of water conservation materials are made based on requests from member communities and individual customers.

	Annual Target	Q1	Q2	Q3	Q4	Annual Total
Educational Brochures	100,000	324	20,778	73,882		94,984
Low-Flow Fixtures (showerheads and faucet aerators)	10,000	3,162	1,944	3,972		9,078
Toilet Leak Detection Dye Tablets	-----	2,265	2,814	2,017		7,096

## BUSINESS SERVICES

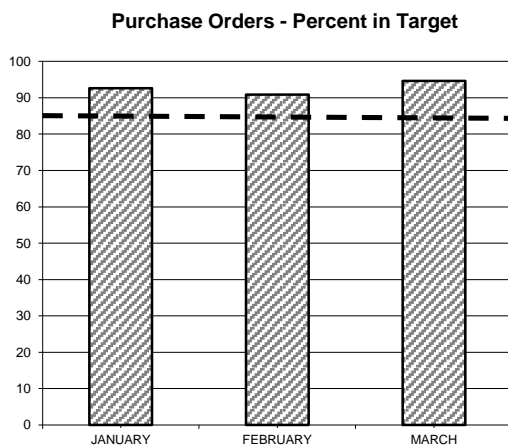
# Procurement: Purchasing and Contracts

## 3rd Quarter - FY17

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

**Outcome:** Processed 93% of purchase orders within target; Average Processing Time was 4.37 days vs. 5.02 days in Qtr 3 of FY16. Processed 57 % (20 of 35) of contracts within target timeframes; Average Processing Time was 104 days vs. 133 days in Qtr 3 of FY16.

### Purchasing



	No.	TARGET	PERCENT IN TARGET
\$0 - \$500	778	3 DAYS	91.9%
\$500 - \$2K	738	7 DAYS	97.1%
\$2K - \$5K	384	10 DAYS	95.6%
\$5K - \$10K	69	25 DAYS	100.0%
\$10K - \$25K	64	30 DAYS	91.6%
\$25K - \$50K	11	60 DAYS	66.6%
Over \$50K	19	90 DAYS	90.0%

The Purchasing Unit processed 2063 purchase orders, 356 less than the 2419 processed in Qtr 3 FY16 for a total value of \$7,471,984 versus a dollar value of \$13,156,591 in Qtr 3 FY16.

The purchase order processing target was not met for the \$25K - \$50K category due to staff summary requirements.

### Contracts, Change Orders and Amendments

Fifteen contracts were not processed within the target timeframes. Eight contracts were not processed within the target timeframe due to delays by the consultants in providing insurance certificates and other contract related documents. For three contracts the procurement process was initiated early. However, services were in place according to schedule. One contract was delayed due to the extended time required to negotiate the engagement letter with the consultant. In addition, it took several weeks for the consultants to sign and return the contract for execution. Two additional contracts were delayed due to specification revisions. The final contract was not processed within the target timeframe due to a delay by the vendor in returning the signed contract in a timely manner.

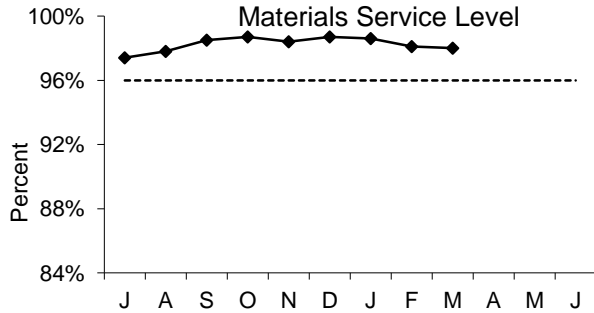
Procurement processed thirty five contracts with a value of \$19,123,993 and eleven amendments with a value of \$3,495,177. Forty change orders were executed during the period. The dollar value of all non-credit change orders during Q3 FY17 was \$1,441,155 and the value of credit change orders was (\$532,577).

Staff reviewed 41 proposed change orders and 44 draft change orders.



## Materials Management

### 3rd Quarter - FY17



The service level is the percentage of stock requests filled. The goal is to maintain a service level of 96%. Staff issued 7,353 (98.2%) of the 7,486 items requested in Q3 from the inventory locations for a total dollar value of \$1,360,403.

### Inventory Value - All Sites

Inventory goals focus on:

- Maintaining optimum levels of consumables and spare parts inventory
- Adding new items to inventory to meet changing business needs
- Reviewing consumables and spare parts for obsolescence
- Managing and controlling valuable equipment and tools via the Property Pass Program

The FY17 goal is to reduce consumable inventory from the July '16 base level (\$8.10 million) by 2.0% (approximately \$162,164), to \$7.94 million by June 30, 2017 (see chart below).

Items added to inventory this quarter include:

- Deer Island – seal kit, gaskets, sleeves, pressure control switches, air filters and pump seals for HVAC; adapter, clamps, actuator motor and couplings, filters and relays for Residuals; transducer, calibration gas, test kits and gas detector for I&C; air pressure regulators for Power & Pump; torches and tubing for Welding; headlamps for Facilities.
- Chelsea – shocks, power steering pumps, lug nuts and filters for Fleet Services; ink cartridges for Field Operations; pocket colorimeter for Metro Maintenance; pressure switches and flap valves for Work Order Coordination group.
- Southboro – pipe straps and gang boxes for Electrical; spot light and mop buckets for Maintenance.

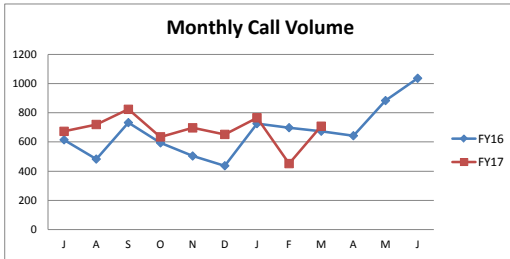
Property Pass Program:

- Eight audits were conducted during Q3.
- Scrap revenue received for Q3 amounted to \$9,500. Year to date revenue received amounted to \$24,903.
- Revenue received from online auctions held during Q3 amounted to \$40,429. Year to date revenue received amounted to \$214,236.

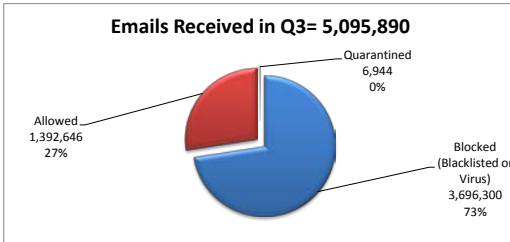
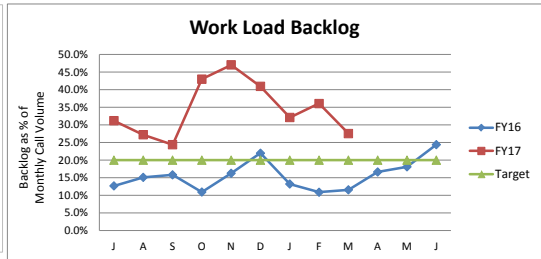
Items	Base Value July-16	Current Value w/o Cumulative New Adds	Reduction / Increase To Base
Consumable Inventory Value	8,108,240	7,919,794	-188,446
Spare Parts Inventory Value	8,841,332	8,853,996	12,664
<b>Total Inventory Value</b>	<b>16,949,572</b>	<b>16,771,790</b>	<b>-177,782</b>

**Note:** New adds are items added at an inventory location for the first time for the purpose of servicing a group/department to meet their business needs/objectives.

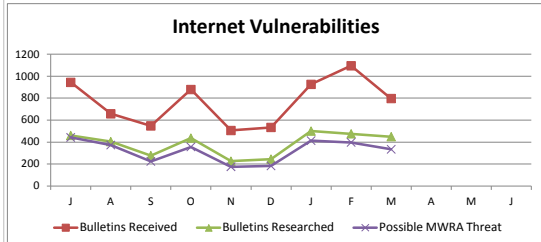
**MIS Program**  
3rd Quarter - FY17



**Performance & Backlog**  
Call Volume: Peaked in January. FY17-Q3 call volume decreased by 8% from FY16-Q3.  
Call Backlog: Peaked in January. FY17-Q3 backlog average is 11.9% above the targeted benchmark of 20%.



**Information Security**  
 In Q3, pushed security fixes/updates to desktops/servers protecting against 593 vulnerabilities. Landesk Antivirus quarantined 26 distinct viruses from 18 PCs. PCs are current with antivirus signatures for known malware.



**Infrastructure:**

Citrix Mobile Application Design and Development: Building virtual desktop infrastructure. Expanded use of Sharefile in Procurement.

Office 2016 Upgrade: A preliminary plan was created for the rollout beginning in July of 2017. User liaisons, from each department were identified to proactively test and identify any issues with macros and databases. Training needs have been identified and courseware development has been scheduled. Began testing Office 2016 products in Citrix environment. Drafted a Statement of Work and scheduled (May) a Microsoft resource to assist with remediation of migration issues encountered during the Office 2016 deployment.

**Applications/Training/Records Center:**

Miscellaneous Lawson Support: Tested and installed latest regulatory tax bulletins from BSI for 2017 tax tables across all Lawson servers. Uploaded the 1095c data file for 2016 to external vendor to publish and distribute the forms. Prepared and printed 1099 and W2 forms and sent electronic W2 files to the SSA and Massachusetts DOR. Began submitting electronic files using the new MARIS (Massachusetts Retirement Information System) interface.

Automatic Vehicle Location (AVL): The new application (NetworkFleet) went live in January. Scheduled and performed vendor vehicle installations and conducted six user training sessions. Data from the old system was archived.

Maximo Upgrade Project: Successful Go Live of Release-1 Maximo Version 7.6 to production. Approximately 200 reports put into production of which 28 are automatically run with recipients notified by email. Conducted functional testing of "Anywhere and Spatial" functionality and developed Training materials. Successfully migrated all Lawson Data to Maximo using Bulk load programs the weekend before January Go-Live. Successfully implemented all 51 interfaces between Lawson and Maximo.

Maximo Contol Desk: Began reviewing and designing Service Catalog Management function and associated service category hierarchy which included conducting six brainstorming sessions with various MIS teams. Developed initial service offerings listings and attended a vendor demo on the out-of-box catalog features and underpinning service desk categories. Scrubbing current data in order to migrate into Control Desk (Assets, Service Requests, and Application-related data from the custom-built Application Configuration Tracking Application).

Electronic Library Notebook (ELN): Installed and configured ELN logbook for the Quabbin laboratory. Deployed new version of ELN Daily and Monthly Balance logs in the Chelsea and Quabbin facilities. The Daily Balance Calibration Check Log and the Monthly Balance Deflection Check Log were put into production.

Telog: Created a new web page hosted on Pipeline that allows staff to access the vendor-developed Telog Web Module that provides reports, trend analysis etc. on meters using three databases: water, wastewater and waterworks facility. The vendor customized the module allowing users read-only access without the need to use an additional login account. Beta testing was performed and the web page was rolled out in March.

Library & Records Center: The Library fulfilled 42 (135 YTD) research requests, and provided 248 (689 YTD) periodicals, standards, books and reports. Research topics included Metrowest tunnel design, algal blooms, earthen embankments effect, and estuarine and coastal modeling. The Records Center added 104 (529 YTD) boxes, handled 254 (1,019 YTD) boxes, disposed of 417 (1,346) boxes and attended one Records Conservation Board Meeting.

IT Training: For the quarter, 56 staff attended 10 classes. 49% of the workforce has attended at least one class year-to-date. 42 staff completed the Verizon NetworkFleet User training. As of March 31, 853 staff completed the Conflict of Interest Law training. Office 2016 training plan was developed. Two Maximo job-aids were developed and distributed: Logging In and Logging Out of Maximo and Updating Maximo Work Orders.

# Legal Matters

## 3rd Quarter - FY 2017

### PROJECT ASSISTANCE

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

- **Licenses:** Drafted four (4) one day DITP licenses. Reviewed electric service license for Chelsea Creek Headworks. Finalized license agreement related to Boston Gas's (NGRID) gas line and meters being installed at MWRA's Clinton Wastewater Treatment Plant. Reviewed First Amendment to NGRID Electric Service License for MWRA's Ware Disinfection Facility. Finalized Eversource Electric Service License related to installation of transformer at Alewife Brook Pump Station.
- **8(m) Permits:** Reviewed and approved sixty-three (63) 8(m) permits.
- **Watershed Preservation Restriction:** Reviewed Wachusett Reservoir Watershed Acquisition W-0001176 located at Campground Road in Sterling, MA.
- **Real Property:** Sent M.G.L. c. 79 §5C offers of purchase relative to two (2) temporary easements needed for MWRA Contract 7504 – Section 111 Southern Extra High Redundancy Pipeline – Dedham North. Recorded order of conditions (DEP File 338-0629) related to the portion of Contract 6453 - Section 111 Southern Extra High Redundancy Pipeline - Westwood. Reviewed MWRA property rights in Chestnut Hill Reservoir area. Recorded Certificate of Compliance for Order of Conditions DEP 081-1150 – Great Esker Marsh Restoration Project in Weymouth. Recorded Order of Conditions DEP 141-0509 for MWRA Contract No. 6453 – Section 111 Southern Extra High Redundancy Pipeline for work in Dedham. Recorded certificate of compliance for order of conditions (DEP File 176-035) related to MWRA Quabbin Power and Security Contract 7338. Drafted letter to the Town of Milton regarding the placement of a new Milton storm drain in the corridor where there is currently an abandoned MWRA 24-inch water main in Adams Street in Milton. Drafted letter to Malden Redeveloper concerning the construction schedule for MWRA Contract No. 6957 - Section 14 Water Pipeline Relocation (Malden). Reviewed draft easement plan related to the easement needed for the relocation of a portion MWRA's Northern High Service Pipeline Section 14 water main from Pleasant Street Extension to Pleasant Street in Malden. Reviewed easement plan for Fore River Shipyard relative to exchange of easements between March Fourth and MWRA. Drafted Letter of Intent related to exchange of easements in Fore River Shipyard by MWRA and March Fourth. Reviewed DCAMM legislation relative a transfer of a parcel of land in Chelsea from DCAMM to MWRA. Drafted letter to MADOT and DCR relative to the removal of debris stockpiled above, or in close proximity to, a portion of MWRA's City Tunnel Extension Distribution Water Line (Section 9-A) and MWRA's sewer interceptor (Section 106) adjacent to Mystic River Valley Parkway in Medford. Reviewed MWRA's property rights relative to 637 Boston Avenue in Medford and Mystic Valley Parkway in Medford.
- **NPDES:** Reviewed and provided comments on letter sent to EPA commenting on MWRA's Final Clinton Wastewater Treatment Plant NPDES Permit.
- **Public Records Request:** Responded to numerous public records requests. Asserted security exemption as to request for production of plans showing locations of key infrastructure sites.
- **Administrative Order - Docket No. 02-25 (Clinton Wastewater Treatment Plant):** Drafted and submitted a letter indicating that CWWTP is now in compliance with the revised copper limits in the final CWWTP NPDES Permit which became effective on March 1, 2017 and no longer requires interim copper limits.

#### Miscellaneous Assistance:

- **Stantec Cost Recovery Settlement:** Monitored deadline for tolling agreement in connection with receipt of cost recovery settlement agreement with Stantec.
- **Tying Issue/Chelsea Creek:** Assisted Procurement with anti-trust issue raised by contractor re: purchase of components for odor control and ejector systems; met with IG and AG representatives to evaluate merits of anti-trust tying arrangement.
- **Bond Issue:** Edited O/S to bring it into line with newest developments re: cross-harbor cable litigation and settlement options.
- **Irish Memorial Agreement:** Final comments to MOU re: installation maintenance and preservation of Irish Memorial planned for Deer Island.

## LABOR, EMPLOYMENT AND ADMINISTRATIVE

### New Matters

One demand for arbitration was filed.

## LITIGATION/TRAC

### New Matters

(Current Employee) v. MWRA: Plaintiff alleges age and gender discrimination against MWRA. The claim is now pending in Superior Court. Plaintiff seeks money damages, including costs and attorneys' fees.

Quinn Worker's Compensation Claim: Risk Management has requested that Law Division review a claim from a worker's compensation insurer for reimbursement from MWRA. On May 31, 2016, there was a motor vehicle accident in Weston involving an MWRA vehicle and another vehicle operated by Isabelle Quinn. Ms. Quinn sustained injuries, and received worker's compensation benefits through her employer. The insurer is now seeking reimbursement from MWRA, and the claim packet is currently under review.

Cach, LLC v. (Current Employee): This is a Wage Garnishment matter from the debtor to collect \$10,742.37. A Summons to Trustee was received on February 14, 2017.

### Significant Claims

There are no Significant Claims.

### Significant Developments

Bay State Regional Contractors, Inc. v. MWRA: This lawsuit arises out of the Gillis Pump Station Rehabilitation project in 2013-2014. The contractor has sued MWRA for alleged balances due and to undo an assessment of liquidated damages. On October 31, 2016, the Superior Court denied MWRA's Motion for Summary Judgment. The matter remains pending and in the discovery phase of the lawsuit. In a related matter, on December 29, 2016, MWRA entered an agreement to pay a direct payment claim to J.F. White, a subcontractor that Bay State had not paid. Bay State agreed to credit MWRA's payment to J.F. White against any payment or settlement of Bay State's claims. An offer of final settlement as to all of Bay State's claims has been communicated to Bay State's counsel.

United States v. NSTAR, HEEC and MWRA, C. A. 16-11470-RGS: Assisted outside counsel with preparation and conduct of eight (8) depositions; reviewed and commented upon revised Stipulation and Order from Army Corps and Massport; contacts with former MWRA employees and forwarded documents to assist in deposition preparation for three witnesses; concluded agreement with key MWRA witness to assist as fact witness as necessary; continued to advise Operations staff re: impacts of potential damage claims re: back-up generation; attended meetings with parties seeking consensus on technical requirements for cable protection work.

### Closed Cases

DOC v. MWRA v. Allied Locke: This action arises out of MWRA Contract 6899, Primary and Secondary Clarifier Rehabilitation, Deer Island Treatment Plant, under which Plaintiff Daniel O'Connell's Sons, Inc., rehabilitated 102 primary and secondary clarifiers at DITP. Plaintiff sought money damages in the amount of \$3,368,567.57, plus interest, costs, and attorney's fees in addition to the additional costs associated with making modifications to the head shaft driven sprockets ("bull sprockets") in the primary and secondary clarifiers at DITP. MWRA initiated a third-party lawsuit against Allied-Locke Industries, Inc. in which that company was joined as an additional party to the pending litigation brought by O'Connell's and Sons against MWRA in December, 2013. In late December 2016, following Board authorization to settle, this matter was settled for a payment to O'Connell for \$2.65 million. A memorandum agreement was signed on December 22, 2016 and the settlement was completed in January 2017.

### Subpoenas

During the Third Quarter of FY 2017, one new subpoena was received and no subpoenas were pending at the end of the Third Quarter FY 2017.

### Public Records

During the Third Quarter of FY 2017, twenty five public records requests were received and fourteen public records requests were closed.

**SUMMARY OF PENDING LITIGATION MATTERS**

<b>TYPE OF CASE/MATTER</b>	<b>As of Mar 2017</b>	<b>As of Dec 2016</b>	<b>As of Sept 2016</b>
Construction/Contract/Bid Protest (other than BHP)	2	3	3
Tort/Labor/Employment	2	1	1
Environmental/Regulatory/Other	2	2	2
Eminent Domain/Real Estate	0	0	0
<b>total – all defensive cases</b>	<b>6</b>	<b>6</b>	<b>6</b>
Other Litigation matters (restraining orders, etc.) <u>MWRA v. Thomas Mercer</u> <u>MWRA v. NSTAR and HEEC</u>	2	2	2
<b>total – all pending lawsuits</b>	<b>8</b>	<b>8</b>	<b>8</b>
Claims not in suit: <u>Joel Chiet Claim</u> <u>Besnick Lalaj and Violeta Lalaj Claim</u> <u>Thang Viet Vu and Oanh Vu Claim</u>	3	3	0
Bankruptcy	1	1	2
Wage Garnishment	15	14	14
TRAC/Adjudicatory Appeals	3	0	2
Subpoenas	0	0	0
<b>TOTAL – ALL LITIGATION MATTERS</b>	<b>30</b>	<b>26</b>	<b>26</b>

**TRAC/MISC.**

**New Appeals:** Three new TRAC appeals were received in March 2017.

Smokehouse, Inc. MWRA Docket No. 17-01.  
Constitution Seafood; MWRA Docket No. 17-02.  
City Fresh Foods, MWRA Docket No. 17-03.

**Settlement by Agreement of Parties** No Settlements by Agreement of Parties.

**Stipulation of Dismissal** No Stipulation of Dismissals.

**Notice of Dismissal Fine paid in full** No cases of Notices of Dismissal, Fine paid in full.

**Tentative Decision** No Tentative Decisions were issued in the 3rd Quarter FY 2017.

**Final Decisions** No Final Decisions was issued in the 3rd Quarter FY 2017.

## INTERNAL AUDIT AND CONTRACT AUDIT ACTIVITIES 3rd Quarter FY17

### Highlights

During the 3rd quarter, Internal Audit (IA) completed an audit of the Deer Island purchase card program. The areas reviewed included compliance with procedures described in the Cardholder User Manual and a review of the manual itself. A number of recommendations were made to strengthen procedures and controls of which five were implemented before the issue of the report.

In addition, 3 preliminary consultant reviews and six construction labor burden reviews were completed. Management advisory services included analyses of design contract estimates compared to awards, FMLA, employee age demographics and succession planning.

### Status of Recommendations

There were 40 recommendations made in FY17 and 19 of these have been closed year to date. An additional 21 recommendations were closed from prior fiscal year audits.

IA follows-up on open recommendations on a continuous basis. All open recommendations have target dates for implementation. When a recommendation has not been acted on within 48 months, the appropriateness of the recommendation is re-evaluated during a subsequent audit. On closed assignments 98% of recommendations have been implemented.

Report Title (issue dates)	Audit Recommendations		
	Total	Closed	Open
Hardware Equipment Management Report (5/22/13)	36	32	4
Follow-Up Report on Fleet Services Activities (12/31/13)	17	16	1
Records Management (12/5/14)	8	7	1
Unmatched Receipts and Accruals (6/30/15)	10	5	5
Warehouse Cycle Counts at DITP (11/5/15), Southboro (11/6/15) and Chelsea (12/4/15)	25	21	4
Security System Alarms (3/3/16)	3	1	2
AVL Tracking 2016 (5/6/16)	9	8	1
MIS Mobile Equipment Asset Tracking (9/26/16)	12	11	1
Wright Express (WEX) Fuel Card Purchases (11/16/16)	13	3	10
Purchase Card Activity on Deer Island (3/31/17)	15	5	10
<b>Total Recommendations</b>	<b>148</b>	<b>109</b>	<b>39</b>

### Cost Savings

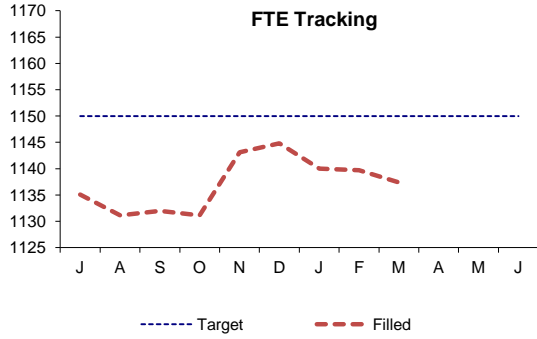
IA's target is to achieve at least \$1 million in cost savings each year. Cost savings vary each year based upon many factors. In some cases, cost savings for one year may be the result of work in prior years.

Cost Savings	FY13	FY14	FY15	FY16	FY17 (3Q)	TOTAL
Consultants	\$587,314	\$294,225	\$87,605	\$88,312	\$235,949	\$1,293,405
Contractors & Vendors	\$2,153,688	\$415,931	\$1,146,742	\$1,772,422	\$2,417,312	\$7,906,095
Internal Audits	\$391,083	\$923,370	\$543,471	\$220,929	\$166,815	\$2,245,668
<b>Total</b>	<b>\$3,132,085</b>	<b>\$1,633,526</b>	<b>\$1,777,818</b>	<b>\$2,081,663</b>	<b>\$2,820,076</b>	<b>\$11,445,168</b>

## OTHER MANAGEMENT

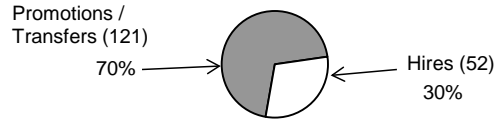
# Workforce Management

## 3rd Quarter - FY17



FY17 Target for FTE's = 1150  
 FTE's as of March 2017 = 1137.4

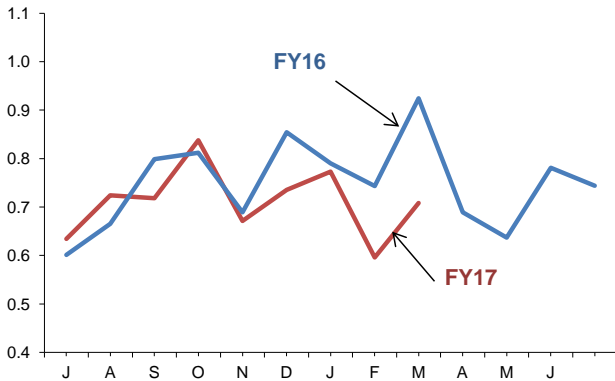
**Positions Filled by Hires/Promotions**  
 FY17-YTD



	Pr/Trns	Hires	Total
FY14	111 (69%)	51 (31%)	162
FY15	133 (67%)	65 (33%)	198
FY16	99 (62%)	60 (38%)	159
FY17	121 (70%)	52 (30%)	173

In Q3 of FY17, the average quarterly sick leave usage decreased 4.7% from the same time last year.

**Average Monthly Sick Leave Usage**  
 Per Employee

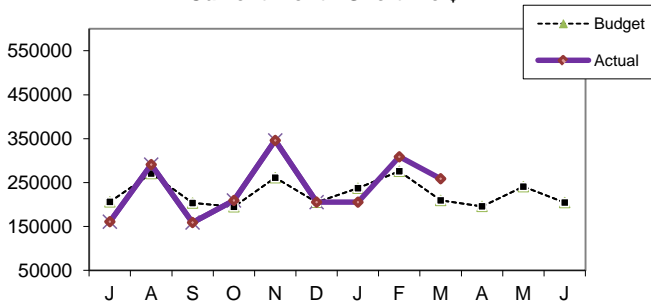


Average monthly sick leave for the 3rd Quarter of FY17 decreased as compared to the 3rd Quarter of FY16 (9.83 to 8.31 days)

	Number of Employees		Annualized Total	Annual FMLA %	
Admin	137	5.82	7.76	13.1%	8.29
Aff. Action	5	4.53	6.04	0.0%	8.05
Executive	5	12.61	16.82	52.6%	10.97
Finance	34	6.64	8.86	34.2%	9.70
Int. Audit	7	4.85	6.46	63.9%	4.44
Law	14	6.87	9.15	7.7%	11.41
OEP	8	4.19	5.59	37.6%	6.62
Operations	934	6.49	8.66	17.0%	9.06
Pub. Affs.	14	4.94	6.58	7.0%	9.16
<b>MWRA Avg</b>	<b>1158</b>	<b>6.40</b>	<b>8.53</b>	<b>17.4%</b>	<b>8.99</b>

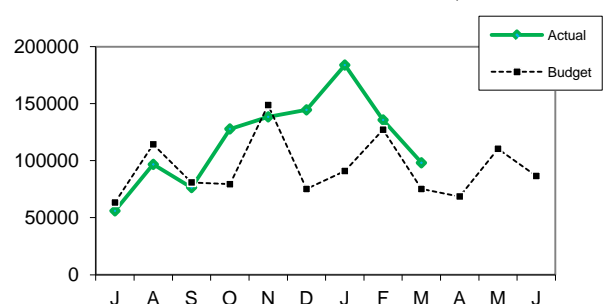
Percent of sick leave usage for FY17, attributable to Family and Medical Leave Act (FMLA) is 17.4% .

**Field Operations**  
 Current Month Overtime \$



Total Overtime for Field Operations for the Third Quarter of FY17 was \$772,822 which is \$50k over budget. Emergency overtime was \$367k, which was \$34k under budget. Rain events totaled \$135, emergency maintenance was \$54k, emergency operations was \$21k, and snow removal was \$125k. Coverage overtime was \$149k, which was \$15k over budget, reflecting the shift coverage requirements for the quarter. Planned overtime was \$257k or \$1k over budget. Spending for the quarter includes maintenance off-hours work at \$87k, maintenance work completion at \$23k, Planned operations at \$47k, half-plant at Carroll at \$47k. YTD, FOD has spent \$2,144,473 on overtime which is \$81k over budget.

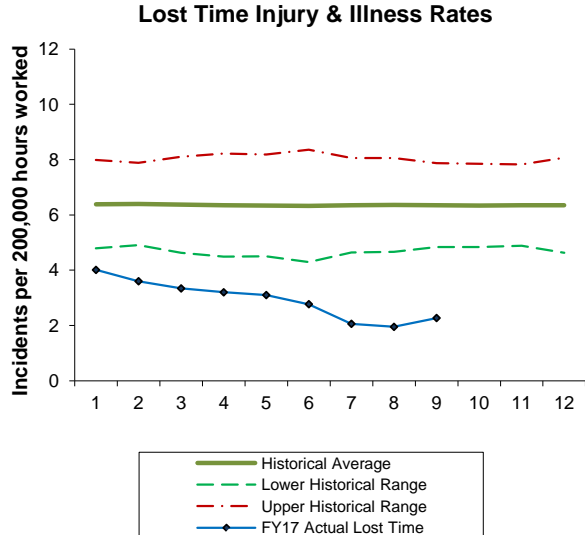
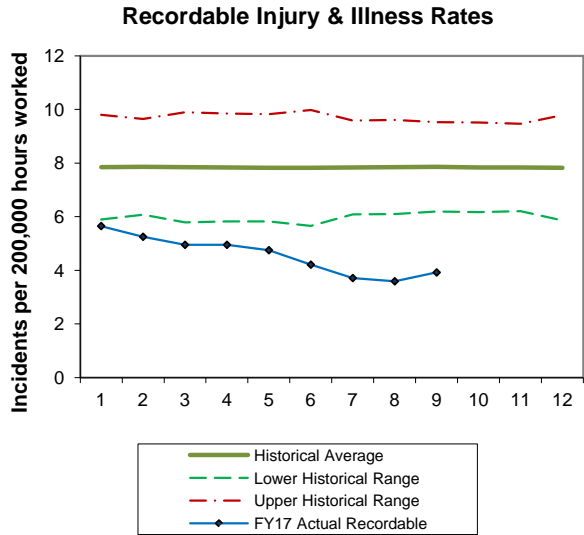
**Deer Island Treatment Plant**  
 Current Month Overtime \$



Total overtime for Deer Island for the third quarter of FY17 \$418K, which was \$124K over budget. A combination of planned/unplanned overtime which was \$115K over budget mainly due to maintenance and operations activities involving the Eversource cable outage and higher shift coverage overtime, \$63K over budget, due to a 3rd Class Engineer on IA and several vacant operator positions. This is offset in part by, less than anticipated storm coverage overtime, (\$57K) or (930) fewer hours. YTD, Deer Island has spent \$1,057,828 on overtime which is \$202K over budget.



## Workplace Safety 3rd Quarter - FY17



- 1 "Recordable" incidents are all work-related injuries and illnesses which result in death, loss of consciousness, restriction of work or motion, transfer to another job, or require medical treatment beyond first aid.
- 2 "Lost-time" incidents, a subset of the recordable incidents, are only those incidents resulting in any days away from work, days of restricted work activity or both - beyond the first day of injury or onset of illness.
- 3 The "Historical Average" is computed using the actual MWRA monthly incident rates for FY99 through FY14. The "Upper" and "Lower Historical Ranges" are computed using these same data – adding and subtracting two standard deviations respectively. FY15 actual incident rates can be expected to fall within this historical range.

### WORKERS COMPENSATION HIGHLIGHTS

	3rd Quarter Information		Open Claims
	New	Closed	
Lost Time	6	14	60
Medical Only	19	36	23
Report Only	22	22	
	QYTD		FYTD
Regular Duty Returns	8		18
Light Duty Returns	2		6

#### COMMENTS:

##### Regular Duty Returns

JAN: One employee returned to regular duty from IA  
 FEB: Four employees returned to regular duty from IA  
 MARCH: Three employees returned to regular duty from IA

##### Light Duty Returns

JAN: One employee returned to light duty from IA  
 FEB: One employee returned to light duty from IA  
 MARCH: No employees returned to light duty from IA

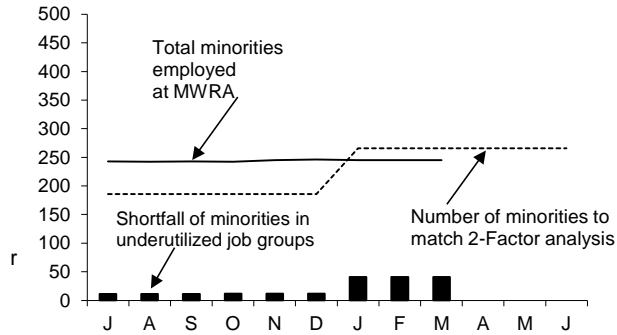
**Note:** Claims may initially be counted in one category and changed to another category at a later date. Examples include a medical treatment only claim (no lost time from work) but the employee may require surgery at a later date resulting in the claim becoming a lost time claim. At that time we would only count the claim as opened but not as a new claim.

\*Report only claims are closed the month they are filed.

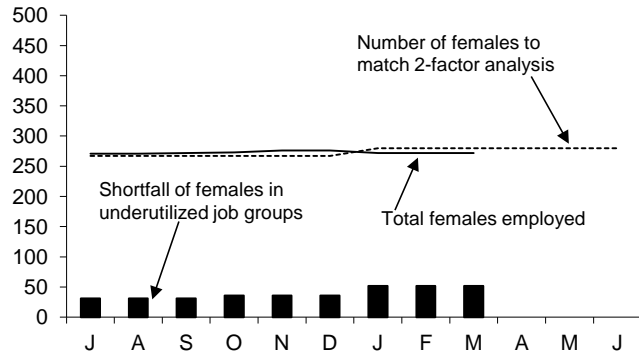
## MWRA Job Group Representation

3rd Quarter - FY17

**Minority - Affirmative Action Plan Goals**



**Female - Affirmative Action Plan Goals**



**Highlights:**

At the end of Q3 FY17, 9 job groups or a total of 41 positions are underutilized by minorities as compared to 5 job groups or a total of 13 positions at the end of Q3 FY16; for females 7 job groups or a total of 52 positions are underutilized by females as compared to 11 job groups or a total of 36 positions at the end of Q3 FY16. During Q3, 1 minority and 2 females were hired. During this same period 2 minorities and 5 females terminated. Effective February 15, 2017, The Board of Directors approved the 2017 Affirmative Action's workforce goals. The new goals are the following: minorities 23.0 % and females 24.1%

**Underutilized Job Groups - Workforce Representation**

Job Group	Employees as of 3/31/2017	Minorities as of 3/31/2017	Achievement Level	Minority Over or Under Underutilized	Females As of 3/31/2017	Achievement Level	Female Over or Under Underutilized
Administrator A	21	2	2	0	6	6	0
Administrator B	19	1	3	-2	4	6	-2
Clerical A	33	12	9	3	14	32	-18
Clerical B	30	8	7	1	9	15	-6
Engineer A	81	21	18	3	17	12	5
Engineer B	57	16	13	3	6	7	-1
Craft A	114	19	27	-8	8	7	1
Craft B	145	28	32	-4	8	4	4
Laborer	67	18	15	3	3	3	0
Management A	97	13	24	-11	40	25	15
Management B	47	10	7	3	6	12	-6
Operator A	69	4	11	-7	3	9	-6
Operator B	64	12	13	-1	18	1	17
Professional A	34	5	8	-3	16	14	2
Professional B	162	46	43	3	54	67	-13
Para Professional	59	17	21	-4	51	32	19
Technical A	52	12	11	1	12	10	2
Technical B	7	1	2	-1	2	2	0
<b>Total</b>	<b>1158</b>	<b>245</b>	<b>266</b>	<b>20/-41</b>	<b>277</b>	<b>264</b>	<b>65/-52</b>

**AACU Candidate Referrals for Underutilized Positions**

Job Group	Title	# of Vac	Requisition Int. / Ext.	Promotions/ Transfers	AACU Ref. External	Position Status
Administrator B	Assistant Director, Internal Audit	1	Int	1	0	Promo = WF
Craft A	Valve Maintenance Foreman	1	Int	1	0	Promo = WM
Craft A	M&O Specialist	2	Int/Ext	1	0	NH = HM; T = WM
Craft A	Valve General Foreman	1	Int	1	0	Promo = WM
Craft A	Trades Foreman	1	Int	1	0	Promo = WM
Craft B	HVAC Technician	1	Int/Ext	0	0	NH = WM
Craft B	Medium Voltage Electrical Specialist	1	Int	1	0	Promo = WM
Craft B	Heavy Equipment Operator I	3	Int	1	0	(3)Promo = WM
Clerical A	Executive Secretary	1	Int	1	0	Promo = WF
Clerical B	Secretary II	1	Int	1	0	Promo = WF
Engineer A	Principal Civil Engineer	1	Int	1	0	Promo = WM
Engineer B	Project Manager	1	Int	1	0	Promo = WF
Engineer B	Project Manager, Process Monitoring	1	Int	1	0	Promo = WM
Laborers	Building & Grounds Worker	1	Int/Ext	0	0	NH = WM
Management A	Deputy Contracts Manager	1	Int/Ext	0	1	In Progress
Professional B	Financial Planner	1	Int/Ext	0	0	NH = WM
Professional B	Account Coordinator	1	Int	0	0	Promo = WM
Professional B	Senior Laboratory Technician	1	Int/Ext	0	1	Rehire = WF
Professional B	Senior Human Resources Analyst	1	Int	1	0	Promo = WF
ParaProfessional	Administrative Systems Coordinator	1	Int	1	0	Promo = WF
Technical A	CADD Manager	1	Int	1	0	Promo = WF
Technical B	Water Quality Technician	1	Int/Ext	0	1	NH = WF

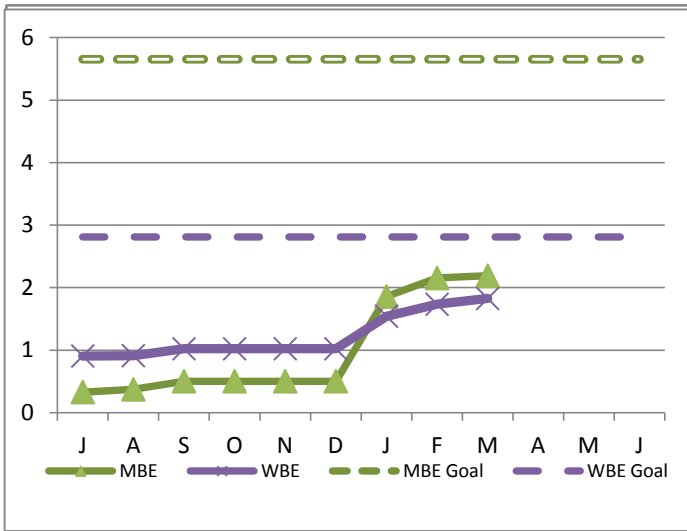
## MBE/WBE Expenditures

3rd Quarter - FY17

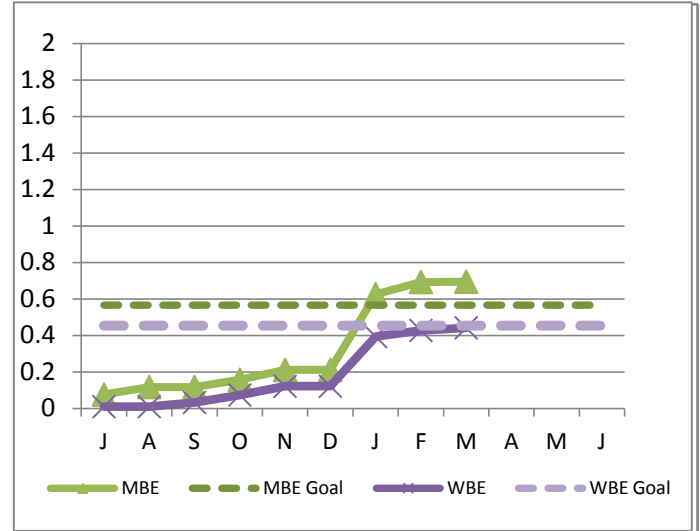
MBE/WBE targets are determined based on annual MWRA expenditure forecasts in the procurement categories noted below. The goals for FY17 are based on 85% of the total construction and 75% of the total professional projected spending for the year. Certain projects have been excluded from the goals as they have no MBE/WBE spending goals.

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

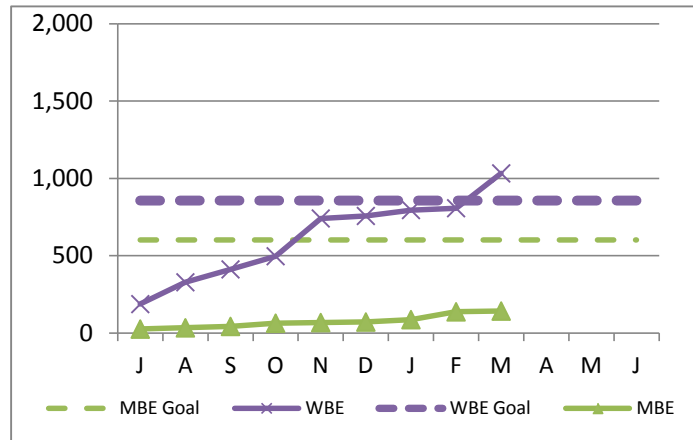
### Construction



### Professional Services



### Goods/Services



FY17 spending and percentage of goals achieved, as well as FY16 performance are as follows:

MBE			
FY17 YTD		FY16	
Amount	Percent	Amount	Percent
2,190,290	38.7%	1,805,604	37.9%
694,439	122.8%	828,841	55.3%
142,021	23.6%	255,324	40.6%
3,026,750	44.4%	2,889,769	41.9%

WBE			
FY17 YTD		FY16	
Amount	Percent	Amount	Percent
1,825,842	64.9%	1,114,916	47.1%
441,492	97.2%	314,752	26.1%
1,032,219	120.7%	1,124,374	160.7%
3,299,553	80.1%	2,554,042	59.8%

Construction  
Prof Svcs  
Goods/Svcs  
**Totals**

FY16 MBE/WBE dollar totals do not include MBE and WBE payments to prime contractors and consultants.

**MWRA FY17 CEB Expenses**  
**3<sup>rd</sup> Quarter – FY17**

	March 2017 Year-to-Date					
	Period 9 YTD Budget	Period 9 YTD Actual	Period 9 YTD Variance	%	FY17 Approved	% Expended
<b>EXPENSES</b>						
WAGES AND SALARIES	\$ 73,142,901	\$ 70,658,182	\$ (2,484,719)	-3.4%	\$ 101,588,897	69.6%
OVERTIME	3,190,876	3,444,721	253,845	8.0%	4,192,676	82.2%
FRINGE BENEFITS	15,064,014	14,558,834	(505,180)	-3.4%	20,242,323	71.9%
WORKERS' COMPENSATION	1,758,143	2,277,351	519,208	29.5%	2,344,190	97.1%
CHEMICALS	6,702,165	6,914,223	212,058	3.2%	9,110,407	75.9%
ENERGY AND UTILITIES	16,169,863	15,185,757	(984,106)	-6.1%	21,541,077	70.5%
MAINTENANCE	22,278,441	22,236,896	(41,545)	-0.2%	31,080,642	71.5%
TRAINING AND MEETINGS	318,407	248,146	(70,261)	-22.1%	435,481	57.0%
PROFESSIONAL SERVICES	4,607,284	4,595,653	(11,631)	-0.3%	6,531,939	70.4%
OTHER MATERIALS	2,987,160	3,226,178	239,018	8.0%	6,219,630	51.9%
OTHER SERVICES	16,890,745	15,924,711	(966,034)	-5.7%	22,974,855	69.3%
<b>TOTAL DIRECT EXPENSES</b>	<b>\$ 163,109,999</b>	<b>\$ 159,270,652</b>	<b>\$ (3,839,347)</b>	<b>-2.4%</b>	<b>\$ 226,262,117</b>	<b>70.4%</b>
<b>INDIRECT EXPENSES</b>						
INSURANCE	1,498,423	1,330,106	(168,317)	-11.2%	1,997,898	66.6%
WATERSHED/PILOT	18,218,451	18,089,080	(129,371)	-0.7%	24,291,268	74.5%
BEC <sub>0</sub> PAYMENT	580,394	590,286	9,892	1.7%	773,859	76.3%
MITIGATION	1,168,500	1,157,100	(11,400)	-1.0%	1,558,000	74.3%
ADDITIONS TO RESERVES	(125,807)	(125,807)	-	0.0%	(167,742)	75.0%
RETIREMENT FUND	4,632,624	4,632,624	-	0.0%	4,632,624	100.0%
POST EMPLOYEE BENEFITS	-	-	-	---	4,876,050	0.0%
<b>TOTAL INDIRECT EXPENSES</b>	<b>\$ 25,972,585</b>	<b>\$ 25,673,389</b>	<b>\$ (299,196)</b>	<b>-1.2%</b>	<b>\$ 37,961,957</b>	<b>67.6%</b>
<b>DEBT SERVICE</b>						
STATE REVOLVING FUND	\$ 62,365,832	\$ 60,601,451	\$ (1,764,381)	-2.8%	\$ 86,971,915	69.7%
SENIOR DEBT	199,948,307	198,248,067	(1,700,240)	-0.9%	268,472,556	73.8%
CORD FUND	-	-	-	---	-	---
DEBT SERVICE ASSISTANCE	-	-	-	---	(873,804)	---
CURRENT REVENUE/CAPITAL	9,150,000	9,150,000	-	0.0%	12,200,000	75.0%
SUBORDINATE MWRA DEBT	50,930,327	50,930,327	-	0.0%	69,997,992	72.8%
LOCAL WATER PIPELINE CP	3,111,931	3,111,931	-	0.0%	4,149,242	75.0%
CAPITAL LEASE	2,412,795	2,412,795	-	0.0%	3,217,060	75.0%
DEBT PREPAYMENT	-	-	-	---	10,994,960	0.0%
VARIABLE DEBT	-	(8,270,383)	(8,270,383)	---	-	0.0%
DEFESANCE ACCOUNT	-	11,735,004	11,735,004	---	-	0.0%
<b>TOTAL DEBT SERVICE</b>	<b>\$ 327,919,192</b>	<b>\$ 327,919,192</b>	<b>\$ -</b>	<b>0.0%</b>	<b>\$ 455,129,921</b>	<b>72.0%</b>
<b>TOTAL EXPENSES</b>	<b>\$ 517,001,776</b>	<b>\$ 512,863,233</b>	<b>\$ (4,138,543)</b>	<b>-0.8%</b>	<b>\$ 719,353,995</b>	<b>71.3%</b>
<b>REVENUE &amp; INCOME</b>						
RATE REVENUE	\$ 521,158,875	\$ 521,158,875	\$ -	0.0%	\$ 694,878,500	75.0%
OTHER USER CHARGES	6,418,831	6,486,897	68,066	1.1%	8,752,834	74.1%
OTHER REVENUE	5,234,429	10,668,844	5,434,415	103.8%	6,519,171	163.7%
RATE STABILIZATION	-	-	-	---	-	---
INVESTMENT INCOME	6,818,279	6,663,050	(155,229)	-2.3%	9,473,490	70.3%
<b>TOTAL REVENUE &amp; INCOME</b>	<b>\$ 539,630,414</b>	<b>\$ 544,977,666</b>	<b>\$ 5,347,251</b>	<b>1.0%</b>	<b>\$ 719,623,995</b>	<b>75.7%</b>

As of March 2017, total expenses are \$512.9 million, \$4.1 million or 0.8% lower than budget, and total revenue is \$545.0 million, \$5.4 million or 1.1% over budget, for a net variance of \$9.5 million.

**Expenses –**

**Direct Expenses** are \$159.3 million, \$3.8 million or 2.4% below budget.

- **Wages & Salaries** are under budget by \$2.5 million or 3.4%. At the end of March, the average Full Time Equivalent (FTE) positions were 1,137, 13 positions fewer than the 1,150 budgeted FTE's.
- **Other Services** are under budget by \$966k or 5.7% mainly due to lower Sludge Pelletization expenses of \$356k reflecting lower year to date quantities, lower Lease/Rentals of \$220k due to lower escrow payments at the Chelsea Facility for taxes and insurance, and lower pass through maintenance cost at the Charlestown Navy Yard Facility, \$177k for Other Services, and \$155k for Grit and Screenings disposal services primarily due to lower quantities.
- **Utilities** are under budget by \$984k or 6.1% mainly due to lower than budgeted electricity costs of \$1.3 million at Deer Island, due to lower electricity prices than budgeted and reduced purchased electricity during HECC related self-generation, partially offset by \$255k in additional diesel for fuel for CTG operations during HECC cable work.
- **Workers** Compensation expenses are higher than budgeted by \$519k or 29.5%. Reserves for two claims increased \$440,000 in March.
- **Fringe Benefits** are under budget by \$505k or 3.4% mainly due to fewer than budgeted participants.
- **Overtime** expenses are higher than budgeted by \$254k or 8.0% mainly at the Deer Island Treatment Plant for the HECC cable location project by Eversource and for off-hours maintenance projects primarily for Field Operations Metro Maintenance.
- **Other Materials** were higher than budget by \$239k or 8.0% mainly due to timing of Vehicle Purchases of \$397k; Lab & Testing Supplies of \$98k; Other Materials of \$64k primarily for gravel at the Clinton Landfill; and Health & Safety of \$43k. This is offset by lower Vehicle Expenses of \$208k due to lower than budgeted fuel prices; Equipment/Furniture of \$56k; Postage of \$43k due to timing of refilling postage meters in the mail room, and Computer Software of \$37k.

**Indirect Expenses** are \$25.7 million, \$299k under budget or 1.2%. Insurance Claims and Watershed Reimbursements are under budget by \$168k and \$129k, respectively.

**Debt Service Expenses** totaled \$327.9 million, which matched budget after the transfer of \$11.7 million year-to-date favorable variance to the Defeasance account. The variable rate savings account for \$8.3 million and \$3.4 million for savings related to the August 2016 refunding, lower SRF funding than planned, and planning to borrow the senior debt in May versus in January.

**Revenue and Income –**

**Total Revenue / Income** is \$545.0 million, \$5.3 million higher than budget, primarily for non-rate revenue including \$4.8 million for water sales related to the summer drought and \$299k for a favorable class action settlement related to derivatives, \$254k for the gains on sale of surplus equipment, and \$184k for energy efficiency incentives from the utility companies, partially offset by lower investment Income of \$155k due to unexpected calls and lower reinvestment rates.

# Cost of Debt

## 3<sup>rd</sup> Quarter – FY17

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

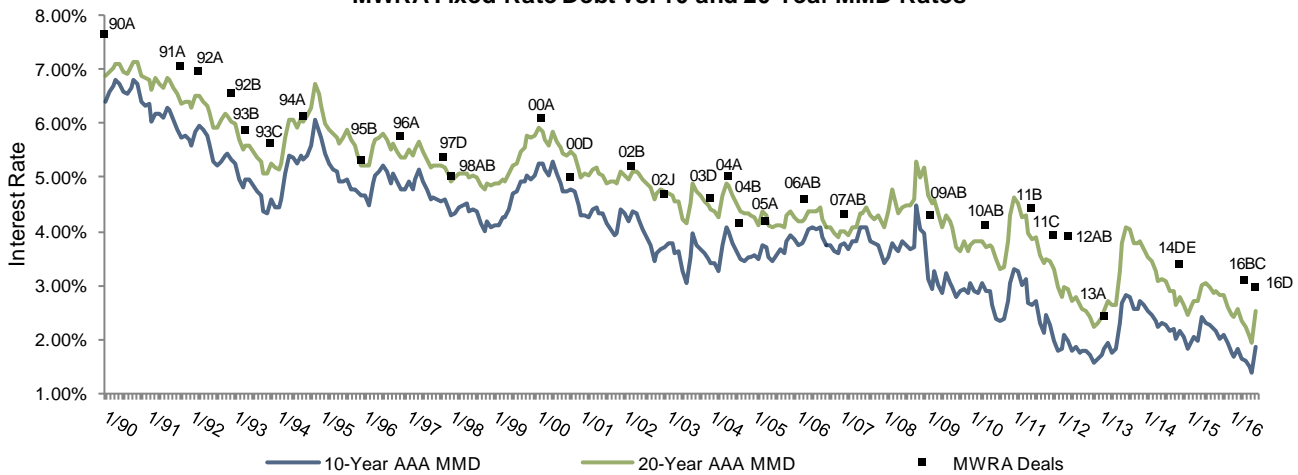
### Average Cost of MWRA Debt FYTD

Fixed Debt (\$3,621)	3.95%
Variable Debt (\$481.2)	1.03%
SRF Debt (\$973.5)	1.38%
 Weighted Average Debt Cost (\$5,076)	 3.18%

### Most Recent Senior Fixed Debt Issue August 2016

2016 Series D (\$104.3) 2.99%

### MWRA Fixed Rate Debt vs. 10 and 20 Year MMD Rates

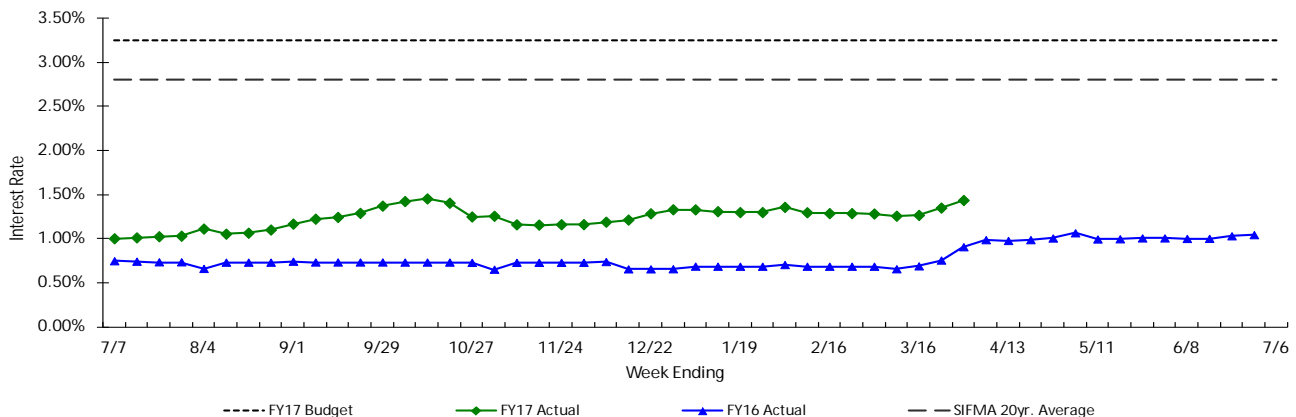


Bond Deal	1992A	1992B	1993B	1993C	1994A	1995B	1996A	1997D	1998AB	2000A	2000D	2002B	2002J	2003D
Rate	6.98%	6.58%	5.89%	5.66%	6.15%	5.34%	5.78%	5.40%	5.04%	6.11%	5.03%	5.23%	4.71%	4.64%
Avg Life	22.6 yrs	6.3 yrs	19.8 yrs	19.1 yrs	19.5 yrs	20.5 yrs	19.5 yrs	21.6 yrs	24.4 yrs	26.3 yrs	9.8 yrs	19.9 yrs	19.6 yrs	18.4 yrs

Bond Deal	2004A	2004B	2005A	2006AB	2007AB	2009AB	2010AB	2011B	2011C	2012AB	2013A	2014DEF	2016BC	2016D
Rate	5.05%	4.17%	4.22%	4.61%	4.34%	4.32%	4.14%	4.45%	3.95%	3.93%	2.45%	3.41%	3.12%	2.99%
Avg Life	19.6 yrs	13.5 yrs	18.4 yrs	25.9 yrs	24.4 yrs	15.4 yrs	16.4 yrs	18.8 yrs	16.5 yrs	17.9 yrs	9.9 yrs	15.1 yrs	17.4 yrs	18.8 yrs

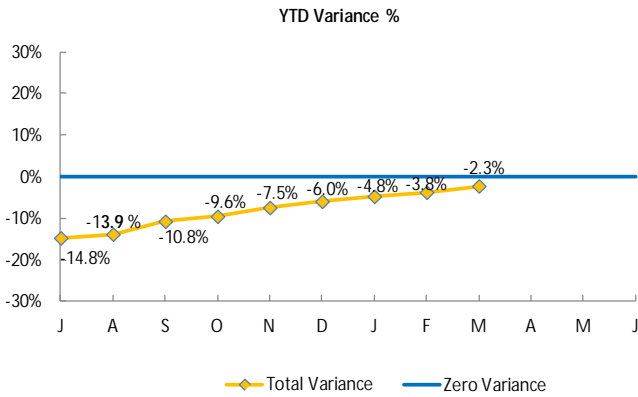
### Weekly Average Variable Interest Rates vs. Budget

MWRA currently has eleven variable rate debt issues with \$903 million outstanding, excluding commercial paper. Of the eleven outstanding series, five have portions which have been swapped to fixed rate. Variable rate debt has been less expensive than fixed rate debt in recent years as short-term rates have remained lower than long-term rates on MWRA debt issues. In March, SIFMA rates ranged from a high of 0.79% to a low of 0.62% for the month. MWRA's issuance of variable rate debt, although consistently less expensive in recent years, results in exposure to additional interest rate risk as compared to fixed rate debt.



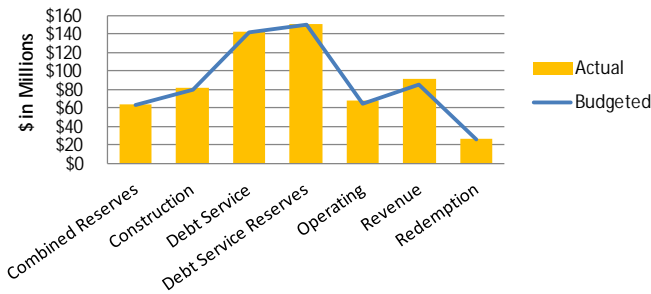
# Investment Income 3<sup>rd</sup> Quarter – FY17

## Year To Date

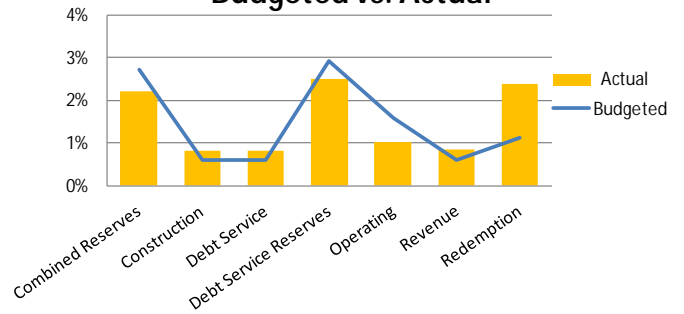


	YTD BUDGET VARIANCE			
	BALANCES IMPACT	RATES IMPACT	TOTAL	%
Combined Reserves	(\$0)	(\$238)	(238)	-18.8%
Construction	\$9	\$111	120	34.1%
Debt Service	\$7	\$242	249	39.9%
Debt Service Reserves	\$15	(\$467)	(452)	-14.0%
Operating	\$38	(\$317)	(279)	-37.0%
Revenue	\$26	\$174	200	52.8%
Redemption	(\$0)	\$245	245	112.0%
<b>Total Variance</b>	<b>\$95</b>	<b>(\$250)</b>	<b>(\$155)</b>	<b>-2.3%</b>

### YTD Average Balances Budgeted vs. Actual

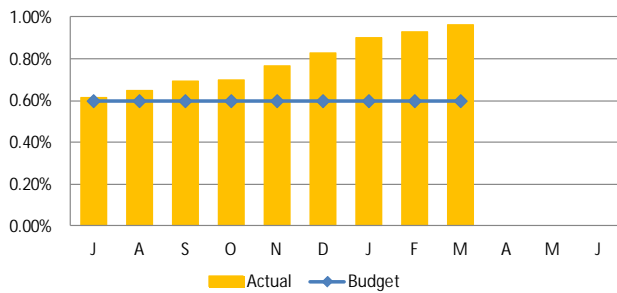


### YTD Average Interest Rate Budgeted vs. Actual

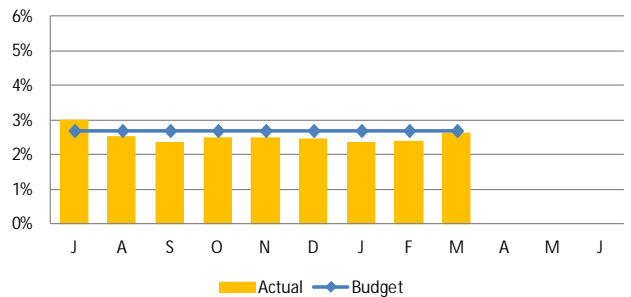


## Monthly

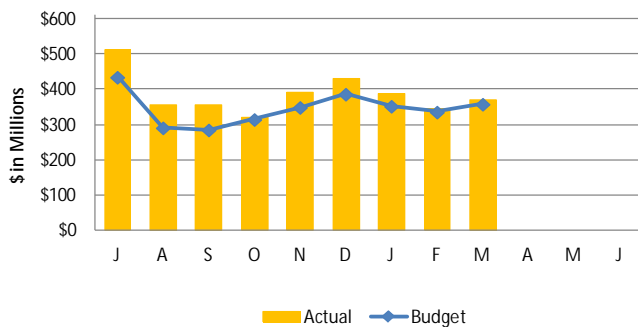
### Short-Term Interest Rates



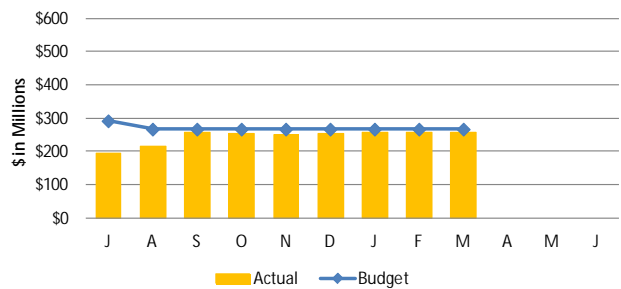
### Long-Term Interest Rates



### Short-Term Average Balances



### Long-Term Average Balances



## STAFF SUMMARY


**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** June 7, 2017  
**SUBJECT:** Revenue Bond Consulting Engineer Services  
CDM Smith Inc.  
Contract F245





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COMMITTEE: Administration, Finance & Audit

VOTE  
 INFORMATION

  
Michele S. Gillen  
Director, Administration

Matthew R. Horan, Treasurer   
Preparer/Title

  
Thomas J. Durkin  
Director of Finance

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### RECOMMENDATION:

To approve the recommendation of the Consultant Selection Committee to select CDM Smith Inc. to provide revenue bond consulting engineer services in connection with the issuance of revenue bonds and to authorize the Executive Director, on behalf of the Authority, to execute said contract with CDM Smith Inc. in an amount not to exceed \$270,122 for a term of 36 months from the Notice to Proceed.

### DISCUSSION:

MWRA's General Bond Resolution requires that every three years an independent engineering firm develop an Engineering and Financial Status Report. In the report, the Consulting Engineer is required to determine if the wastewater and water systems have been properly maintained over the last three years, determine if the Renewal and Replacement Reserve Fund levels are sufficient, and review the adequacy of MWRA's rates and charges. If the Consulting Engineer determines that additional maintenance is required or financial projections need to be adjusted, the report would include its recommendations. This report is an important component in MWRA's ability to sell bonds since it provides investors with an independent review of MWRA's operational condition and financial projections.

In order to complete this report, the Consulting Engineer inspects MWRA's operating facilities and conducts interviews with key Operations Division staff. The Consulting Engineer evaluates MWRA's Capital Improvement Program, Current Expense Budget and financing plans to determine if expenditure levels are sufficient to maintain and improve the system, as well as meet the requirements of the Safe Drinking Water Act and Clean Water Act. As part of the financial

component, independent projections of MWRA wholesale and estimated retail rates for the next five years are developed. These projected rates are part of the Consulting Engineer's assessment of whether MWRA's projected rates and charges are within the ability of the individual Local Bodies and their customer base to afford. In addition to the engineering and financial review, the Consulting Engineer also establishes the Renewal and Replacement Reserve Fund requirement.

The General Bond Resolution requires that a final report be provided to U.S. Bank which is MWRA's Bond Trustee within 120 days of the close of the fiscal year (October 28, 2017).

In addition to the full triennial Engineering and Financial Status Report, the Consulting Engineer provides an update letter report, which is included in the Official Statement for each bond issuance. The letter report provides potential investors with updated five-year financial projections, and notes any significant operational changes which may impact the decision to purchase MWRA's bonds. After the bonds have been sold, the General Bond Resolution requires that the Consulting Engineer provide a certificate that MWRA will be able to meet its senior and subordinate lien coverage requirement in the current and next fiscal year.

**PROCUREMENT PROCESS:**

The procurement process to select a Consulting Engineer utilized a one step Request for Qualification Statements and Proposals (RFQ/P), which was issued on March 29, 2017. The RFQ/P was publically advertized in the Central Register, Boston Herald, Banner Publication, and El Mundo. In an effort to encourage competition, staff developed a list of firms which provide Consulting Engineer services to other revenue bond issuers around the country to augment MWRA's standard advertising procedures. A copy of the advertisement for this work was sent to 31 firms, of which six firms requested a copy of the RFQ/P. On April 10, 2017, MWRA conducted a pre-proposal conference to provide an opportunity for potential proposers to learn more about the contract. One firm (not the incumbent) attended the pre-proposal conference. In addition to developing a direct mailing list and offering a pre-proposal conference to increase competition and level the playing field, the RFQ/P included an allowance to fund the costs for a new firm to familiarize itself with MWRA.

Only one proposal was received on April 28, 2017 from CDM Smith Inc. (CDM), which is the incumbent on this contract. Other firms identified on the plan holder's list were contacted. Firms indicated that either the particular services sought were not the main strength of their firm, or that they did not think they could be price competitive and made a business decision not propose on this work.

The Selection Committee evaluated and ranked the proposal based on the criteria contained in the RFQ/P (Cost, Qualifications and Key Personnel, Experience and Past Performance on Similar Non-Authority Projects, Technical Approach, Capacity/Organization, and Management Approach, and Past Performance on Authority Projects). The proposal for Consulting Engineer Services was ranked as follows:

<u>Firm</u>	<u>Total Points</u>	<u>Total Rank</u>
CDM Smith	438	5



The Selection Committee indicated that it believed CDM's proposal demonstrated excellent experience and included personnel who are qualified to perform this work. CDM proposed lower hourly rates for several members of the team as compared to the rates included in the last year of the current contract. Overall, CDM's proposed weighted average hourly rate increased by approximately \$4 per hour from \$170 to \$174 over the 2014 contract rates. CDM has proposed an annual escalation of 3% on the hourly rates.

The proposed three year not-to-exceed amount, after removal of the allowance for project familiarization, is \$270,122 and includes one triennial Engineering and Financial Status Report, six letter reports and six coverage calculations. In addition to the reports, the cost proposal also includes a \$10,000 allowance to conduct a review of rates, revenue and expenses, if necessary to comply with certain sections of MWRA's General Bond Resolution. The total not-to-exceed cost for this contract is \$5,224 or a 2% higher than the 2014 contract, which had the same scope of work.

The Selection Committee recommends that CDM be awarded this contract. CDM's staff possesses the required skills and the firm has sufficient capacity to meet MWRA's requirements under this contract.

**BUDGET/FISCAL IMPACT:**

Most of the costs associated with Revenue Bond Consulting Engineer Services are included as part of the cost of issuance and are funded from the proceeds of bond transactions. A portion of the work is funded through the CEB. The FY18 CEB as proposed has sufficient funds to pay for the work included in this contract.

**MBE/WBE PARTICIPATION:**

No minimum MBE/WBE participation requirements were included in the RFQ/P due to the lack of subcontracting opportunities.

STAFF SUMMARY

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** June 7, 2017  
**SUBJECT:** MWRA FY18 Insurance Program Renewal



COMMITTEE: Administration, Finance & Audit

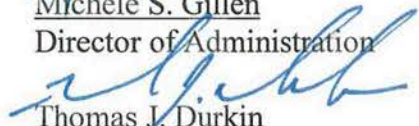
     INFORMATION

  X   VOTE

Paul F. Whelan, Risk Manager  
Preparer/Title



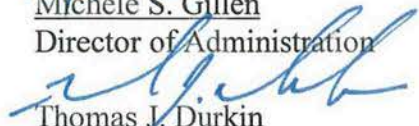
Michele S. Gillen  
Director of Administration



Carolyn Francisco Murphy  
Director of Procurement



Thomas J. Durkin  
Director of Finance



*MWRA's Insurance Program is renewed on an annual basis at the beginning of each fiscal year. Annual renewals are required due to the insurance industry's reluctance to provide firm pricing for more than a one-year period. For the second time, however, staff were able to secure a two-year Property Insurance policy which provides a fixed rate for years FY18 and FY19. All policies under the current program, except for the Treasurer's Bond, expire on June 30, 2017. This year's recommended program totals \$1,562,827 which is \$4,446 less than the expiring FY17 program.*

RECOMMENDATION:

To approve awards to the lowest eligible and responsive proposers for insurance policies, bonds and related broker services for MWRA's FY18 Insurance Program, and to authorize the Executive Director, on behalf of the Authority, to execute contracts for broker services, for the terms, premiums and fees described below, and incorporated by reference for the record, resulting in a total program amount not to exceed \$1,562,827 for FY18:

- 1) Workers' Compensation Excess Policy with New York Marine Insurance Co., submitted by broker Willis of Massachusetts, Inc. (Willis Towers Watson), for the period beginning July 1, 2017, through June 30, 2018, with a \$25 Million limit and a \$500,000 self-insured retention, for a premium of \$183,739;
- 2) Property Policy (including Boiler & Machinery coverage) with FM Global Insurance Co., for the period beginning July 1, 2017, through June 30, 2019, with various limits of coverage, a \$2.5 Million self-insured retention, and a fixed rate two year term, resulting in a FY18 premium of \$745,219, and an amount to be determined for FY19, based upon the established fixed rate;

- 3) General Liability Policies (including Automobile Liability, Marine Liability, Wharfingers, Limited Pollution and Employment Practice Liability) with Lexington Insurance Company submitted by broker Richards Robinson Sheppard Insurance, LLC (Richards Robinson Sheppard), for the period beginning July 1, 2017 through June 30, 2018, with a \$25 Million limit and a \$2.5 Million self-insured retention, for a premium of \$258,552;
- 4) Excess Liability Policies with insurance companies to be determined and submitted by broker Richards Robinson Sheppard, for the period beginning July 1, 2017, through June 30, 2018, providing a combined total of \$75 Million of excess liability coverage for a total combined premium not to exceed \$255,000;
- 5) Public Official's Liability Policy with Chubb/ACE USA Insurance Co., submitted by broker Arthur J. Gallagher Risk Management Services Inc. (Arthur J. Gallagher & Co.), for the period beginning July 1, 2017, through June 30, 2018 with a \$5 Million limit and a \$1 Million self-insured retention, for a premium of \$46,463, including \$6,969 broker commission;
- 6) Fiduciary Liability Policy with Chubb/ACE USA Insurance Co., submitted by broker Arthur J. Gallagher & Co., for the period beginning July 1, 2017, through June 30, 2018, with a \$5 Million limit and a \$1 Million retention, for a premium of \$6,604, including \$1,320 broker commission;
- 7) Public Official's/Crime Bond with Great American Insurance Co., submitted by broker Richards Robinson Sheppard, for the period beginning July 1, 2017, through June 30, 2018, with a \$1 Million limit and a \$25,000 deductible for a premium of \$4,500;
- 8) Treasurer's Bond with a \$1 Million limit with an insurance company to be determined in an amount not to exceed \$2,500, with a one-year term beginning January 2018; and
- 9) Broker contracts with Richards Robinson Sheppard Insurance, LLC for an amount of \$40,000, Willis of Massachusetts, Inc. for an amount of \$20,250, and Arthur J. Gallagher Risk Management Services Inc. for commissions included within the policy premium, from notice of award through June 30, 2018.

**BACKGROUND:**

MWRA's insurance program consists of various types of coverage including: Excess Workers' Compensation, Property (including Boiler and Machinery coverage), General Liability, Excess Liability, Public Official's Liability, Fiduciary Liability, Public Official's/Crime Bond and Treasurer's Bond. The Excess Workers' Compensation policy is required by state statute and is a prerequisite for MWRA to operate as a self-insured entity for Workers' Compensation benefits. Insurance coverage required by MWRA's Enabling Act includes Public Official's/Crime Bond and Treasurer's Bond which serve to protect the Authority against losses due to fraudulent or dishonest

acts, failure to perform duties faithfully or improper accounting of monies or property by employees. Other policies are maintained in order to protect MWRA assets and limit MWRA's financial exposure to loss. In addition, policies are maintained to comply with covenants contained within MWRA's General Revenue Bond Resolution. All policies under the current program (except the Treasurer's Bond) expire on June 30, 2017, and require renewal.

## **DISCUSSION:**

MWRA's insurance program has been renewed on an annual basis for more than ten years due to the reluctance on the part of insurance companies to issue policies for more than a one-year term. The existing FY17 insurance program was procured through a competitive bid process for all lines of coverage, except property which was previously purchased for a two year term. For FY18, staff again conducted a full competitive bid process for all lines of coverage in an effort to obtain the most competitive pricing and coverage available. Staff anticipated a flat to modest increase in rates and premiums on all lines of coverage as insurance companies have continued to benefit from a favorable stock market performance and the absence of major catastrophic losses. When combined with variables specific to MWRA, such as the increased replacement value of insured property due to inflation and increased estimated payrolls, staff anticipated a 4% increase in the overall insurance program cost.

In an effort to take advantage of favorable market conditions and to address the issue of market fatigue associated with annual competitive bidding, staff again made an effort to solicit multi-year policies for the various policies. Staff tailored specifications and assembled an in-house Advisory Committee made up of the Risk Manager, Director of Finance, Director of Administration and Procurement Director to allow for the receipt, review and selection of multi-year policies. The results of this effort were favorable. A two year proposal was again received for the property policy for FY18 and FY19 at a flat fixed rate and additional multi-year proposals were also received for consideration. Overall, the insurance program recommended for FY18 is \$4,446 (or 0.3%) less than the expiring FY17 program. This decrease is primarily due to very competitive pricing received for the General Liability policy offset by an increase in the Workers Compensation Excess policy.

## **PROCUREMENT PROCESS:**

In February, staff began the procurement process by advertising for Letters of Interest from insurance brokers and direct writers<sup>1</sup>. In addition, staff sent direct solicitations to 19 brokers that were known to staff as having an interest or had participated in previous MWRA insurance procurements. In response to the solicitation, six brokers indicated their interest in participating and provided their list of preferred insurance markets. Staff reviewed all requests and assigned more than 33 insurance companies to the brokers. A Request for Qualifications/Proposals (RFQ/P) including technical specifications and rating data was prepared and sent to six firms. On Wednesday April 5, 2017, a tour of MWRA's Deer Island Facility was provided for proposers. During the procurement process,

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<sup>1</sup> A direct writer is an insurance company that deals directly with customers and does not require a broker as an intermediary.

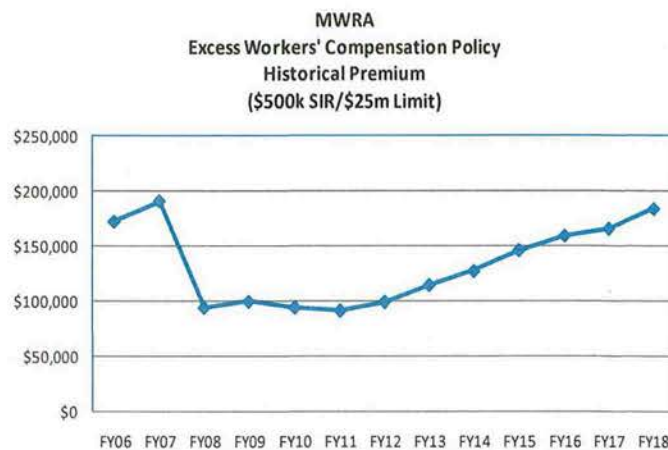
staff received and responded to multiple questions and requests for additional information and issued one information item providing answers to questions and additional rating data. On Thursday, May 4, 2017, six proposals were received.

Proposals received varied with respect to the lines of coverage. As shown in the attached table, at least two proposals were received for each line of coverage. MWRA specified that it could select different lines of coverage from different broker proposals. All proposals were reviewed by MWRA's Insurance Consultant, Kevin F. Donoghue and Associates (KFDA), for adherence to insurance technical specifications and then rated by cost and coverage. In addition, the Advisory Committee reviewed and evaluated the multi-year proposals. The approvals requested herein represent those recommended by KFDA, and where applicable confirmed by the Advisory Committee, for each line of coverage. The attached table provides a summary of all lines of coverage with the limits, deductibles, and premiums comparing the expiring FY17 premiums with the proposed FY18 premiums. Below is a brief summary of each line of coverage.

**Workers' Compensation Excess** – Two proposals were received for this line of coverage. One proposal was from broker Marsh Inc., with insurer AEGIS, for a premium of \$170,000, which was reviewed by KFDA, and found to be deficient as to the level of coverage provided in that certain types of coverage required by the RFQ/P were not and could not be provided by the insurance carrier. The second proposal was from broker Willis Towers Watson, with New York Marine Ins. Co. (the incumbent

carrier). A quote for a policy with \$500,000 self-retention level and a \$25 Million limit, for an annual premium of \$183,739 was provided. This quote is \$17,989 (or 11%) more than last year's cost for the same coverage. This increase in premium is a result of a 7.9% rate increase applied to MWRA's estimated payroll for FY18. As requested in the RFQ/P, New York Marine Insurance Co. also provided a quote for a similar policy with a \$750,000 self-insured retention. This premium was \$142,908, or \$40,831 less than the premium with a \$500,000 self-insured retention. Staff reviewed historical workers compensation claims data and concluded that the potential premium savings do not justify assuming the risk of an additional \$250,000 for each claim or occurrence, as just one catastrophic claim would eliminate more than six years of accumulated premium savings. Also, the maximum self-retention level currently allowed by the Division of Insurance is \$500,000.

Staff recommend the purchase of the policy from New York Marine Insurance Co. with a \$500,000 per occurrence self-insured retention and \$25 Million limit through broker Willis Towers Watson for a premium amount of \$183,739, and an associated broker fee of \$20,250. The chart above shows MWRA's historical premium cost for this line of coverage over the past ten years.



**Property Insurance (including Boiler & Machinery)** – Three proposals were received for this line of coverage. The first proposal was from direct writer FM Global Insurance Co. (FM Global), the incumbent carrier. The proposed policy spans two years from 7/1/17 to 6/30/19 with a fixed rate charge applied to each year. The first year's premium (FY18) is based on a proposed fixed rate applied to MWRA's FY18 estimated Total Insured Value (TIV) and an available membership credit of \$81,002, for a total FY18 net premium of \$745,219. The second year premium will be calculated in the same manner based on the proposed fixed rate applied to an updated FY19 TIV, and if available, a FY19 membership credit. An in-house Advisory Committee was assembled to review multi-year proposals and this group deemed this policy to be in the Authority's best interest because of the competitive fixed rate offered, the unconditional multi-year term, and the lack of broker fee as FM Global is a direct writer.

The second proposal from broker MARSH Inc., with insurance carrier Zurich, provided a similar \$300 Million policy for a higher cost of \$807,000 which includes premium costs and a \$42,000 broker fee. This proposal also included a multi-year commitment; however, it was subject to a number of very broad conditions, any one of which could void the commitment. The Advisory Committee found this proposal less favorable than the unconditional multi-year received from FM Global. The third proposal was from broker Richards Robinson Sheppard, with insurance carrier Liberty Mutual. The policies offered include a limit of \$500Million with a \$2.5Million self-insured retention for \$1.4 Million and a \$5Million self-insured retention for \$1.25 Million. Both proposals were for a one year period. This broker did not provide a quote for the \$300Million limit specified as required in the RFQ/P.

Staff recommend the purchase of the FM Global policy for a two year term from 7/1/17 to 6/30/19 with a self-insured retention of \$2.5 Million and a limit of \$300Million for a FY18 net premium of \$745,219, which includes a membership credit for FY18 of \$81,002. The second year (FY19) premium will be developed based on the same fixed rate applied to the FY19 estimated TIV. Since FM Global is a direct writer, there are no broker fees associated with this policy.

**General Liability** – Three proposals were received for General Liability offering the specified \$25 Million in coverage with a \$2.5Million self-insured retention. Of these three, the lowest cost proposal received was from broker Richards Robinson Sheppard with Lexington Insurance Company (incumbent), for a premium of \$258,552 with an associated broker fee of \$40,000, which also includes broker fees associated with placement of the Excess Liability coverage. This premium represents an 11% decrease from last year. The second proposal was from broker MARSH Inc., with insurance carrier AEGIS, for a premium of \$331,000 with associated broker fee of \$45,000. This proposal included a multi-year commitment with conditions that were deemed by the Advisory Committee to be very broad and loosely defined. A third proposal was received from broker Arthur J. Gallagher & Co., with insurers Trident, Berkshire Hathaway Specialty and Markel Insurance, for a combined premium of \$298,321 with associated broker fees of \$25,000. KFPA reviewed the terms and coverage afforded by this combined proposal and found that they varied between the layers of this proposal which rendered the proposal undesirable from a coverage standpoint.

Staff recommend the acceptance of the proposal from Richards Robinson Sheppard with a policy provided by Lexington Insurance Company for a premium of \$258,552 and an associated broker fee to Richard Robinson Sheppard of \$40,000, which includes fees associated with placement of the Excess Liability policies outlined below.

**Excess General Liability** – The recommended broker for General Liability coverage, Richards Robinson Sheppard, was directed to solicit quotes from insurance companies for the additional excess layers of liability coverage<sup>2</sup>. The companies and final premium costs for the additional \$75 Million of excess liability coverage are still being developed and negotiated and were not available in time for this Board meeting. In order to keep all insurance related items together in one staff summary, staff recommend a not to exceed amount of \$255,000 for this item. This amount represents a flat premium from the expiring FY17 policies. Staff believe this cost is attainable based on the reduction in price for the underlying general liability policy outlined above. Staff will report back to the Board on the status of this item as part of the FY18 Final Current Expense Budget staff summary and presentation on June 28, 2017.

**Public Official's Liability** – Two proposals were received for this line of coverage with the specified \$5 Million limit and \$1 Million self-insured retention. One proposal was from the incumbent, Chubb/ACE USA, submitted through Arthur J. Gallagher & Co., for a premium of \$46,463, including broker commission, which is a flat renewal from last year. The second proposal was from AEGIS submitted by MARSH Inc., for a premium of \$62,200, including broker fee. The AEGIS proposal also included a multi-year commitment; however, it had broad conditions attached with respect to claims and exposures. Staff recommend the placement of this coverage with Chubb/ACE USA for a premium of \$46,463, which includes commission through Arthur J. Gallagher & Co.

**Fiduciary Liability** – Four proposals were received for this line of coverage with the specified \$5 Million limit and \$1 Million self-insured retention. The first was from Chubb/ACE USA, submitted through broker, Arthur J. Gallagher & Co., for a premium of \$6,604 (including fee of \$1,320). The second proposal was from Hudson Insurance Co.(incumbent), submitted through Alliant Insurance Services, for a premium of \$10,346 (including fee of \$1,100). The third proposal was from Alliant Insurance Services from RLI Insurance for a premium of \$9,095 (including fee of \$1,100). The final proposal was from AEGIS, submitted through MARSH Inc., for a premium of \$32,500 (including fee of \$2,500). All proposals were reviewed by KFPA and it was their recommendation to purchase the low cost proposal submitted by Chubb/ACE USA, through Arthur J. Gallagher & Co. Accordingly, staff recommend approval of the Chubb/ACE USA policy offered by Arthur J. Gallaher & Co., with a \$5 Million limit and \$1 Million self-retention, for a premium of \$6,604, which includes a \$1,320 broker fee. This represents a decrease of \$3,741 from the expiring FY17 policy.

**Public Official's/Crime Bond** – Two proposals were received for this line of coverage. One proposal was from incumbent broker Richards Robinson Sheppard with Great American Insurance

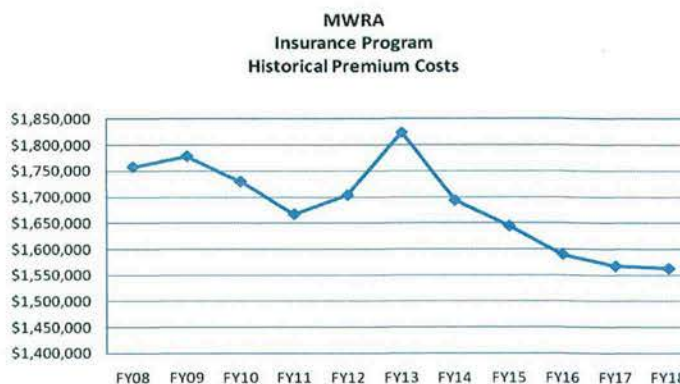
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<sup>2</sup> Excess liability policies cannot be purchased until the underlying policy is first established.

Company, with a premium cost of \$4,500. The second proposal received was from Berkley Insurance Co., through MARSH Inc. with a premium of \$5,100 (including broker commission). Both policies were reviewed by KFDDA and the policy form and coverage provided by the Great American policy was recommended. Staff recommend purchase of this policy from Great American Insurance Company through broker Richards Robinson Sheppard for an amount of \$4,500. This represents a 13% decrease in cost from the expiring FY17 policy.

**Treasurer’s Bond** – The Treasurer’s Bond is required by the MWRA Enabling Act and is written in the name of the person holding the position of Treasurer. Due to personnel changes in this position, the renewal of this bond is off-cycle from the rest of the insurance program and does not expire until January 2018. To keep all insurance program approvals consolidated in one staff summary, staff included a not-to-exceed amount of \$2,500 for the renewal of this bond upon its expiration. The broker fee associated with placement or renewal of this bond is included in the broker scope of services for the general liability policy.

In conclusion, staff recommend the renewal of MWRA’s insurance program for FY18, with the various coverages, limits and self-insured retention levels from various brokers and insurance companies as outlined above and as included in the attached table. If approved, the FY18 total insurance cost will be \$1,562,827, representing a \$4,446 decrease in costs from the expiring FY17 program. The chart at right provides MWRA’s Insurance Program historical costs for the past ten fiscal years.



**BUDGET/FISCAL IMPACT:**

The Draft Final FY18 CEB includes \$2.0 million for the total cost of maintaining MWRA’s insurance program; consisting of \$1.6 million for the payment of premiums and fees and \$.4 million for payment of estimated claims and damages in FY18. The budget contains sufficient funds for the renewal of the insurance program outlined above.

**MBE/WBE PARTICIPATION:**

There were no minimum MBE and WBE participation requirements established for this procurement, as the nature of the services being provided does not allow for subcontracting.



**MWRA FY18 INSURANCE PROPOSALS**

EXPIRING FY17				PROPOSED FY18			
Item #	Coverage	Deductible/ Limit	Actual FY17 Premium	Current (FY17) Insurance Co. (Broker)	Recommended FY18 Bids	FY18 Insurance Co. (Broker)	Notes
1	Excess Workers Comp.	\$500K / \$25M \$500K / \$25M \$750K/\$25M	165,741	N.Y. Marine (Willis Towers Watson)	<b>183,739</b> 176,392 142,908	<b>N.Y. Marine (Willis Towers Watson)</b> AEGIS (MARSH) N.Y. Marine (Willis Towers Watson)	AEGIS proposal has coverage deficiencies. The \$500K deductible option is maximum allowed by Division of Insurance. Net premium increase of \$17,998 (or 11%)
2	Property Insurance (including Boiler & Machinery)	\$2.5M / \$300M \$2.5M / \$300M \$2.5M/ \$500M	730,622	FM Global (No Broker)	<b>745,219</b> 807,000 1,400,000	<b>FM Global (No Broker)</b> Zurich (MARSH) Liberty Mutual (Richards Robinson Sheppard)	FY18 premium is based on a fixed rate applied to a 2% increase in Total Insured Value. FY18 premium is net of \$81,002 Membership Credit available to MWRA for FY18. FY18 is the first year of a two year policy. MARSH proposal includes \$42,000 broker fee.
3	General Liability (Incl., Auto, Marine, Wharfingers, Limited Pollution and Employment Practice Liability)	\$2.5M/\$25M \$2.5M/\$25M \$2.5M/\$25M	291,200	Lexington Insurance Co. (Richards Robinson Sheppard)	<b>258,552</b> 298,321 331,000	<b>Lexington Insurance Co. (Richards Robinson Sheppard)</b> Trident/Berkshire Hathaway/Markel (Arthur J. Gallagher) AEGIS (MARSH)	Premium decrease of 11%. Lexington Ins. premium includes 4% surplus lines fees. AJG proposal had coverage issue between layers.
4	Excess Liability	\$25M/\$100M	255,000	Ironshore, Great American, ACE (Richards Robinson Sheppard)	<b>255,000</b>	<b>To be determined. (Richards Robinson Sheppard)</b>	Premium shown is not-to-exceed amount. This coverage must follow the selection of the General Liability coverage. Amount shown is same as last year.
5	Public Official's Liability	\$1M / \$5M \$1M / \$5M	46,460	ACE USA (Arthur J. Gallagher & C	<b>46,463</b> 60,000	<b>Chubb/ACE (Arthur J. Gallagher)</b> AEGIS (MARSH)	Premium is flat renewal from last year. ACE premium includes \$6,969 broker commission.
6	Fiduciary Liability	\$1M / \$5M \$1M / \$5M \$1M / \$5M \$1M / \$10M \$1M / \$5M	10,346	Hudson (Alliant Underwriting Srvs)	<b>6,604</b> 9,095 10,346 15,579 32,500	<b>Chubb/ACE (Arthur J. Gallagher)</b> RLI (Alliant Underwriting SRVS) Hudson (Alliant Underwriting Srvs) Hudson (Alliant Underwriting Srvs) AEGIS (MARSH)	Premium decrease of \$3,742 from last year. ACE USA/Chubb quote includes \$1,320 brker fee. All other quotes include broker fees.
7	Public Official's/Crime Bond	\$25K / \$1M \$25K / \$1M	5,154	Great American (Richards Robinson Sheppard)	<b>4,500</b> 5,100	<b>Great American (Richards Robinson Sheppard)</b> Berkley Ins. ( MARSH)	Combined cost is \$654 decrease from prior year. Bids shown include associated Broker Fees.
8	Treasurer's Bond	\$0/\$1M	2,500	Travelers Casualty & Surety (Richards Robinson Sheppard)	<b>2,500</b>	<b>To Be Determined (Richards Robinson Sheppard)</b>	Renews in January 2018. Amount shown is not-to-exceed amount.
9	Broker Fees -Various		60,250	Various	<b>60,250</b>	<b>Various - See Note 2</b>	No Change in broker fees.
Total Program Cost			\$ 1,567,273		\$ <b>1,562,827</b>		Total Program Decrease of \$4,446 or 0.3%

Note 1: Proposed for approval shown in bold.

Note 2: Broker Fees are \$40,000 for Richards Robinson Sheppard and \$20,250 for Willis Towers Watson.

Arthur J. Gallagher's commission for Public Official and Fiduciary Policies are included in premiums shown.



# 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. Peña  
H. Vitale

to be held on

Wednesday, June 7, 2017

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

Time: Immediately following AF&A Comm.

### **AGENDA**

#### **A. Approvals**

1. Wastewater Advisory Committee Contract

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the  
Wastewater Policy and Oversight Committee

May 8, 2017

A meeting of the Wastewater Policy and Oversight Committee was held on May 8, 2017 at the Authority headquarters in Charlestown. Vice-Chairman Walsh presided. Present from the Board were Messrs. Blackmon, Carroll, Cotter, Pappastergion, Peña, and Vitale. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Mike Hornbrook, Dave Kubiak, John Vetere, Steve Cullen, Dave Duest, Eleanor Duffy, Jerry Sheehan, and Bonnie Hale. The meeting was called to order at 10:25 a.m.

**Information**

Progress of Cambridge-Implemented CSO Projects and Projected Financial Assistance through September 2017

Staff provided a progress update.

**Approvals**

\*Financial Assistance Agreement with BWSC for Dorchester Interceptor Inflow Removal

Staff summarized the project and the terms of the proposed agreement. The Committee recommended approval of the agreement (ref. agenda item B.1).

**Contract Awards**

\*Electrical Testing and Technical Services – Metropolitan Boston: Infra-Red Building and Power Service Co., Inc., Contract OP-345

Staff described the types and amounts of services to be performed under this contract. There was general discussion and question and answer. The Committee recommended approval of the contract award (ref. agenda item C.1).

\* Approved as recommended at May 8, 2017 Board of Directors meeting.

**Contract Amendments/Change Orders**

**\*Valve and Piping Replacements, Various Facilities – Deer Island Treatment Plant:  
Carlin Contracting Co., Inc., Contract 7275, Change Order 6**

Staff discussed the discovery of missing linkage pins in the check valves, an unforeseen condition necessitating this change order. The Committee recommended approval of Change Order 6 (ref. agenda item D.1).

**Caruso Pump Station Improvement: Waterline Industries Corp., Contract 7362, Change Order 6**

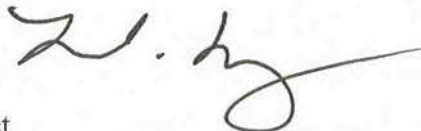
Staff described the work to be performed under the change order. The Committee recommended approval of Change Order 6 (ref. agenda item D.2).

The meeting adjourned at 10:45 A.M.

\* Approved as recommended at May 8, 2017 Board of Directors meeting.

STAFF SUMMARY

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** June 7, 2017  
**SUBJECT:** Wastewater Advisory Committee Contract



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COMMITTEE: Wastewater Policy & Oversight

INFORMATION  
 VOTE

Wendy Leo, Senior Program Manager  
Preparer/Title

Sean Navin   
Director, Intergovernmental Affairs

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**RECOMMENDATION:**

To authorize the Executive Director, on behalf of the Authority, to execute a contract, substantially in the form attached hereto, with the Wastewater Advisory Committee for a term of one year from July 1, 2017 to June 30, 2018, for a total contract cost of \$70,685.44.

**DISCUSSION:**

In addition to the critical oversight functions of the Advisory Board, many of MWRA's policy decisions are made with advice and support from two standing citizens' advisory committees, the Wastewater Advisory Committee (WAC) and the Water Supply Citizens Advisory Committee (WSCAC). A separate staff summary presented at this meeting recommends authorization for the Executive Director to execute a similar contract with WSCAC for FY18.

The Wastewater Advisory Committee (WAC) was created in 1990 to offer independent recommendations on wastewater programs and policies; it is a successor to the Facilities Planning Citizen Advisory Committee established during the planning of the new Deer Island Treatment Plant. WAC's members include citizen advocates, representatives from the Metropolitan Area Planning Council, watershed associations, the engineering and business communities, environmental law, and science and education fields. The Advisory Board has historically appointed a member as well.

The proposed FY18 WAC budget is 2.4% higher than the FY17 budget. Hourly salary increased 1.5% and health insurance increased 9%. All other areas of the budget were level funded. Health insurance is budgeted at 80 percent reimbursement for the Executive Director only, not to exceed \$9,551.62. Office space and support services for WAC are provided by MWRA in the Charlestown Navy Yard. The proposed total FY18 WAC funding is \$70,685.44.

WAC's monthly meetings are geared towards engendering discussion and facilitating timely recommendations to MWRA's Board of Directors and staff on wastewater policies, projects, and program initiatives directly related to MWRA, and public concerns. Current topics of interest to WAC include operations and maintenance, NPDES delegation, climate change adaptation, receiving water monitoring, residuals management, and wastewater/water policy and funding initiatives in Massachusetts.

Pursuant to the terms of the attached contract, WAC's members are approved by MWRA's Board of Directors. WAC elects its chairman and employs an Executive Director (selected by WAC's membership with the concurrence and approval of MWRA's Public Affairs Department). WAC's current chairman is Taber Keally and WAC's current Executive Director is Andreae Downs.

A separate staff summary is being presented at this meeting recommending authorization for the Executive Director to execute a similar contract with the Water Supply Citizens Advisory Committee for FY18.

**BUDGET/FISCAL IMPACT:**

Sufficient funds for the WAC contract are included in the Proposed FY18 Current Expense Budget.

**ATTACHMENT:**

Copy of Agreement between Massachusetts Water Resources Authority and Wastewater Advisory Committee

AGREEMENT

BETWEEN

MASSACHUSETTS WATER RESOURCES AUTHORITY

AND

WASTEWATER ADVISORY COMMITTEE

This Agreement (“Agreement”) is by and between the Massachusetts Water Resources Authority (“Authority”), a body politic and corporate and a public instrumentality of the commonwealth, created by Chapter 372 of the Acts of 1984, with offices at Building 39, Charlestown Navy Yard, Charlestown, Massachusetts 02129 and the Wastewater Advisory Committee (“WAC”) a body created by the Authority’s Board of Directors (“Board”) (collectively “parties”).

WHEREAS, the WAC was created to offer independent advice to the Board and to the professional staff of the Authority, regarding wastewater programs and policies directly related to the Authority; and

WHEREAS, the WAC will (i) review and comment to the Authority on wastewater reports and related proposed documents, and (ii) offer independent commentary and advice on current and proposed wastewater program and policy directions to further Authority objectives; and

WHEREAS, the WAC membership is designed to reflect the knowledge and interest of major affected constituencies, including engineering, construction, business/industry, planning, academic research, and environmental advocacy; and

WHEREAS, the Authority desires the WAC to advise the Authority in wastewater planning, and

WHEREAS, the WAC desires to have a role advising the Authority on such matters;

NOW, THEREFORE, for the consideration of mutual promises contained herein, the Authority and WAC agree as follows:

ARTICLE 1. EFFECTIVE DATE

This Agreement shall be effective from July 1, 2017 through June 30, 2018, inclusive.

## ARTICLE 2. COMPENSATION, BUDGET, PAYMENT, AND EXPENSES

2.1 The Authority shall make funds available as follows:

(a) Executive Director Salary.

In order to minimize the WAC's expenses and for the WAC's convenience, the Authority shall make direct payments to the WAC for the WAC Executive Director salary. Such payments shall not exceed \$59,508.44 from July 1, 2017 through June 30, 2018, inclusive. The hourly salary rate (inclusive of payroll taxes) shall be \$41.13 with annual total hours of 1,447 (average 30 hours per week for 49 weeks).

(b) Reimbursable expenses.

The Authority shall reimburse the WAC for 80% of the health insurance for the WAC Executive Director (not to exceed \$9,552), and for stationery, payroll services expenses, bank expenses, and for mileage costs, public transportation costs, highway tolls and parking expenses for meeting attendance by WAC's Executive Director and membership, and for other miscellaneous expenses of the WAC staff approved by the Authority on a case-by-case basis. Such expenses will be reimbursed when submitted to the Public Affairs Unit. Mileage costs will be reimbursed at the prevailing Authority rate per mile.

The percentage rate for reimbursement of health insurance costs shall be changed to that of MWRA staff if the Group Insurance Commission changes the rate.

The total annual expense reimbursement to WAC, excluding health insurance reimbursements, shall not exceed \$1,625.00.

(c) Non-reimbursable expenses.

The following expenses are not reimbursable: meals, entertainment, room and board expenses, fines, fees, or costs assessed as a result of improper or illegal actions on the part of the member, such as parking tickets or speeding fines.

## ARTICLE 3. RESPONSIBILITIES OF THE AUTHORITY AND WAC.

(a) The WAC shall employ an Executive Director who is prohibited from being a member of the WAC while serving his or her term as a paid employee. The MWRA Public Affairs Office must concur with and approve the selection of the WAC Executive Director by the WAC. The duties of the Executive Director shall be in accordance with the job description prepared by the WAC, and on file with the Authority.

(b) The WAC shall submit weekly statements to the Authority requesting payment for expenses listed in Article 2. Such requests shall be supplemented or accompanied by time sheets, travel and expense vouchers, and by such other supporting data as may be required by the Authority.



(c) The WAC shall maintain accounts, records, documents, and other evidence directly pertinent to performance of work under this Agreement. The parties and their duly authorized representatives shall have access to such records, documents, and other evidence for the purpose of inspection, audit, and copying.

(d) The Authority or its duly authorized agent shall have the right at any and all reasonable times, to examine and audit WAC's records, documents and other evidence.

(e) This Agreement is subject to the laws dealing with the expenditures of public funds, including Chapter 12A of the Massachusetts General Laws.

(f) The parties shall agree to any reasonable modifications or changes in this contract that may be required by the Commonwealth of Massachusetts or any of its agencies.

(g) The WAC acknowledges that the Authority is a state agency for purposes of Chapter 268A of the General Laws (the Massachusetts Conflict of Interest Law) and understands that for the purposes of that law, WAC staff and members are special state employees.

(h) The WAC shall be responsible for compliance with all applicable provisions and requirements of the Massachusetts Open Meeting Law.

#### ARTICLE 4. RESPONSIBILITIES OF THE WAC STAFF.

4.1 The WAC staff shall be responsible for the following tasks:

(a) aiding the WAC in its tasks under Article 6, educating the public, and acting as liaison with the Authority and its staff;

(b) maintaining financial records, minutes of the WAC meetings, and other WAC records;

(c) providing to the Authority copies of the notices for and minutes of all meetings of WAC and of all WAC correspondence relative to Authority projects and proposals as soon as such materials are available; and

(d) administering and maintaining compliance by all its members and staff with the provisions of the Massachusetts Conflict of Interest Law including, without limitation, those mandatory provisions relating to: (i) annual distribution to members and staff of the State Ethics Commission's (SEC) Summary of Law and maintenance and archiving of acknowledgements of receipt of the Summary of Law from all members and staff, and (ii) compliance by members and staff with the SEC's bi-annual educational training exercises.

ARTICLE 5. MEMBERSHIP, MEETINGS, TERMS.

5.1 The WAC membership, meetings and terms shall be as follows:

- (a) The WAC will have a maximum of twenty (20) members (“Members”) approved by the Board. (Alternates or designees are prohibited).
- (b) The WAC shall meet once per month and maintain records of its meetings.
- (c) To the extent reasonable, Members will meet as a committee of the whole, without resort to subcommittees.
- (d) Members will elect their chairman.
- (e) Members’ terms will be three (3) years; members may succeed themselves.
- (f) Members unable to maintain reasonable participation in the committee’s work will be expected to resign. The Authority’s Public Affairs Unit, in consultation with the WAC chairman, will nominate a replacement for Board approval.

ARTICLE 6. WAC TASKS.

The WAC shall undertake the following tasks:

6.1 Wastewater Policies and Programs Review.

Advise the Authority staff and Board. Participate in review and evaluation of wastewater management plans (e.g., local limits, I/I, CSO), reports and new ideas for programs. Provide comments, information, advice, recommendations and guidance as to the direction, intent and execution of wastewater planning and policy directly related to MWRA.

6.2 Outreach and Education.

Strive to increase citizen participation and education by providing assistance in outreach to various groups regarding the Authority’s wastewater programs and state wastewater resource policies. Review programs and explain plans and policies to organizations and citizens.

6.3 Working Group Representation.

When possible, provide a representative on Authority working groups, comprising MWRA staff and consultants, related to wastewater programs and policy, including the Advisory Board and its subcommittees and the Water Supply Citizens Advisory Committee.

6.4 Recommendations on Long Term Public Involvement.

Provide to the Authority staff and Board, proposals for continued effective and efficient long term public involvement in wastewater programs.

6.5 Recommendations and Discussion Documents.

The WAC staff shall be responsible for providing to the Authority's staff, Board, and others, recommendation and discussion documents on wastewater programs and policy. Documents may be in the form of minutes of WAC meetings, memoranda, letters, reports, presentations and discussions as appropriate.

ARTICLE 7. MISCELLANEOUS REQUIREMENTS.

7.1 Nondiscrimination and Equal Employment Opportunity

The WAC agrees to comply with the Authority's policy regarding non-discrimination and affirmative action.

ARTICLE 8. GENERAL PROVISIONS.

8.1 Termination of Contract.

(a) This Agreement may be terminated in writing, at any time, in whole or in part, by the Authority for its convenience or in the event of substantial failure by the WAC to fulfill its obligations, or for violation of any of the covenants and stipulations of this Agreement.

(b) If termination is effected by the Authority an equitable adjustment shall be made providing for payment to the WAC for services rendered and expenses incurred prior to the termination.

(c) No termination hereunder may be effected unless the terminating party gives the other party:

- (1) not less than forty-five days' written notice delivered by certified mail, return receipt requested, of intent to terminate; and
- (2) an opportunity for consultation with the other party prior to termination, or
- (3) by mutual agreement of the parties.

8.2 Assignability.

The WAC shall not assign or transfer this Agreement or delegate its responsibility for the performance of services under this contract.

8.3 Integration Clause.

This Agreement integrates and supersedes all prior negotiations, representations, or agreements.

8.4 Amendment.

This Agreement may be amended only by a writing executed by each of the parties.

8.5 Severability of Provisions.

If any provision of this Agreement shall, to any extent, be held invalid or unenforceable, the remainder of this Agreement shall not be deemed affected thereby.

8.6 Massachusetts Law to Govern.

All parties to this Agreement agree that this Agreement shall be governed by and enforced in accordance with the laws of the Commonwealth of Massachusetts.

8.7 Duplicate Originals.

This Agreement may be signed in more than one identical counterpart, each of which shall be deemed to be an original hereof.

8.8 Notices.

Communications shall be deemed to have been made when mailed postage prepaid or delivered among:

Executive Director  
Wastewater Advisory Committee  
c/o MWRA  
100 First Avenue  
Charlestown Navy Yard  
Boston, MA 02129

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

Director of Public Affairs  
Massachusetts Water Resources Authority  
Charlestown Navy Yard  
100 First Avenue  
Boston, MA 02129

IN WITNESS WHEREOF, this Agreement is executed as of this \_\_\_th day of  
June, 2017.

FOR; WASTEWATER ADVISORY COMMITTEE

By: \_\_\_\_\_  
Taber Keally, Chairman

FOR: MASSACHUSETTS WATER RESOURCES AUTHORITY

By: \_\_\_\_\_  
Frederick A. Laskey, Executive Director



# 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

## WATER POLICY AND OVERSIGHT COMMITTEE MEETING

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

to be held on

Wednesday, June 7, 2017

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

Time: Immediately following Wastewater Comm.

## AGENDA

### **A. Information**

1. 2016 Annual Water Quality Report (Consumer Confidence Report)

### **B. Approvals**

1. Water Supply Citizen's Advisory Committee Contract

### **C. Contract Awards**

1. Supply and Delivery of Sodium Hypochlorite for the John J. Carroll Water Treatment Plant and the William A. Brutsch Treatment Facility: Univar USA, Inc., and H. Krevit & Co., Inc., Bid WRA-4380
2. Water Section 57 & 50 and Sewer Section 19, 20 & 21 Rehabilitation – Medford, Design, Construction Administration and Resident Engineering/ Inspection Services: Weston & Sampson Engineers, Inc., Contract 7540
3. Section 14 Water Pipeline Relocation – Malden: Albanese Brothers Inc., Contract 6957

### **D. Contract Amendments/Change Orders**

1. Wachusett Aqueduct Pumping Station: BHD/BEC JV 2015, A Joint Venture: Contract 7157, Change Order 15

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the  
Water Policy and Oversight Committee

May 8, 2017

A meeting of the Water Policy and Oversight Committee was held on May 8, 2017 at the Authority headquarters in Charlestown. Chairman Blackmon presided. Present from the Board were Messrs. Carroll, Cotter, Pappastergion, Peña, Vitale, and Walsh. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Steve Estes-Smargiassi, Fred Brandon, Peter Grasso, Mike Hornbrook, and Bonnie Hale. The meeting was called to order at 10:45 a.m.

**Information**

Update on Lead and Copper Rule Compliance Testing – Spring 2017

Staff summarized the testing results.

**Contract Awards**

\*Peabody Water Pipeline Project, Section 109 Extension: CDM Smith Inc., Contract 6895

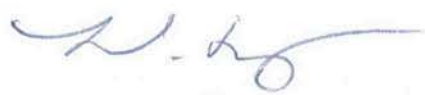
Staff gave a presentation on various aspects of the project, and there was general discussion and question and answer. The Committee recommended approval of the contract award (ref. agenda item B.1).

The meeting adjourned at 11:05 a.m.

\* Approved as recommended at May 8, 2017 Board of Directors meeting.

**STAFF SUMMARY**


**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** June 7, 2017  
**SUBJECT:** 2016 Annual Water Quality Report (Consumer Confidence Report)



COMMITTEE: Water Policy & Oversight

INFORMATION  
 VOTE

Joshua Das, Project Manager, Public Health  
Ria Convery, Special Assistant to Exec. Director  
Stephen Estes-Smargiassi, Director, Planning  
Preparer/Title

  
Michael J. Hornbrook  
Chief Operating Officer

**RECOMMENDATION:**

For information only. The 2016 Annual Water Quality Report will be mailed to every household in MWRA's service area between June 1 and June 28, 2017 to meet EPA's Consumer Confidence Report Rule deadline of July 1. This staff summary highlights the report's key findings and features. Copies will be available at the Board meeting.

**DISCUSSION:**

EPA's Consumer Confidence Report (CCR) program has been an important national initiative that has promoted better information and education for consumers about their publicly supplied drinking water. The Report has been an integral part of MWRA's drinking water communication program since 1999, along with monthly printed and on-line water quality reports.

MWRA staff have again produced three separate versions of the CCR: one for each of the fully-supplied communities in metropolitan Boston and MetroWest, one for each of the partially-supplied communities in metropolitan Boston and MetroWest, and one for the three Chicopee Valley Aqueduct communities. A Spanish translation and a large print version are also produced. All communities in metropolitan Boston and MetroWest that use MWRA's CCR again took the opportunity to provide a community-specific letter to report additional local information.<sup>1</sup>

As in prior years, the 2016 CCR emphasizes MWRA's excellent source water, state of the art treatment, investments in the water system, and all of the test results from the reservoir to the tap. This year, there are two additional themes: answering questions on lead in tap water and promoting conservation. The report again has two full pages, plus part of the Executive Director's letter, concentrating on lead. The two lead pages highlight lead service line

<sup>1</sup> The partially-served communities of Peabody, Stoughton, and Wellesley each send their own CCR geared toward local source water quality, with additional information on MWRA water provided in their reports by MWRA staff.



information, and how to find out if you have one, and how to get it replaced. The pages also emphasize how to get your water tested for lead; steps customers can take to make sure there is no lead in their tap water, and also a brief summary of the school lead testing program and where to find more information.

This year, there is information on how the drought affected the reservoirs, with the emphasis that every drop counts. Also included is a half page cut-out of conservation tips.

The report is printed on paper which is recycled and certified by the Forest Stewardship Council and Sustainable Forestry Initiative, with appropriate logos included on the cover.

Consistent with past efforts, MWRA will conduct an outreach effort to increase awareness of the CCR, including e-mailing copies to local officials, health care professionals, and other interested parties, and sending press releases to more than fifty weekly publications and all regional newspapers. Information and pictures of the CCR, with links to MWRA's website, will be provided to cable access television stations, community web pages, and local public health and environmental organizations.

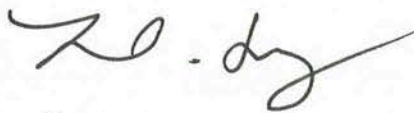
Mailing of the CCR will begin on June 1, 2016 and should be arriving in customers' mailboxes through the last week of June. Certification of the CCR to DEP is due by July 1, 2016. MWRA provides certification materials to DEP on behalf of each community.

MWRA is using the flexibility offered by EPA under their eCCR guidance to include web links to additional more comprehensive information on unregulated contaminants. Also, one partial community included a web-link in their printed letter to a longer on-line letter with additional information about local issues, and Cambridge provided links to additional information about the water they purchased from MWRA in their own local report.

#### **BUDGET/FISCAL IMPACT:**

The FY17 Current Expense Budget includes sufficient funds for the estimated \$60,000 for printing and mailhouse services, and the estimated \$150,000 for postage. Production and graphic design are performed in-house by MWRA staff. The cost of preparing, printing, and mailing almost 900,000 copies of the 2016 CCR is approximately \$0.26 per copy.


## STAFF SUMMARY


**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director   
**DATE:** June 7, 2017  
**SUBJECT:** Water Supply Citizens Advisory Committee Contract

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COMMITTEE: Water Policy & Oversight

INFORMATION  
 VOTE

Stephen Estes-Smargiassi, Director, Planning   
Preparer/Title

Sean Navin, Director   
Intergovernmental Affairs

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### RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to execute a contract, substantially in the form attached hereto, with the Water Supply Citizens Advisory Committee for a term of one year from July 1, 2017 to June 30, 2018, with a total contract cost of \$104,376.77.

### DISCUSSION:

In addition to the critical oversight functions of the Advisory Board, many of MWRA's policy decisions are made with advice and support from two standing citizens' advisory committees, the Water Supply Citizens Advisory Committee (WSCAC) and the Wastewater Advisory Committee (WAC). A separate staff summary presented at this meeting recommends authorization for the Executive Director to execute a similar contract with WAC for FY18.

WSCAC originated in 1978 when its predecessor committee, the Northfield Citizens Advisory Committee, was formed at the direction of the Secretary of the Executive Office of Environmental Affairs. WSCAC has received direct funding from MWRA since MWRA's formation in 1984.

The proposed FY18 WSCAC budget is 1.96% greater than the FY17 budget. Hourly salaries increased 1.5% and health insurance increased 9%. All other areas of the budget were level funded. Health insurance is budgeted at 80 percent reimbursement for the Executive Director only, not to exceed \$9,551.62.

Current topics of interest to WSCAC include water system expansion issues, changing drinking water regulations, the Water System Master Plan, and watershed management and protection issues. The committee currently has 14 members, 11 of whom are considered active. WSCAC continues to work to identify additional members in categories which are not well represented on the committee.

WSCAC's office is located at Quabbin Reservoir in a Department of Conservation and Recreation (DCR) building, and most meetings are held at MWRA's Southborough facility. WSCAC's Executive Director is Lexi Dewey (selected by WSCAC's Executive Committee), and the current chairman is Whitney Beals, elected from among the members.

A separate staff summary is being presented at this meeting recommending authorization for the Executive Director to execute a similar contract with the Wastewater Advisory Committee for FY18.

**BUDGET/FISCAL IMPACT:**

Sufficient funds for the WSCAC contract are included in the proposed FY18 Current Expense Budget.

**ATTACHMENT:**

Copy of Agreement between Massachusetts Water Resources Authority and Water Supply Citizens Advisory Committee

**AGREEMENT**  
**BETWEEN**  
**MASSACHUSETTS WATER RESOURCES AUTHORITY**  
**AND**  
**WATER SUPPLY CITIZENS ADVISORY COMMITTEE**

This Agreement ("Agreement") is by and between the Massachusetts Water Resources Authority ("Authority"), a body politic and corporate and a public instrumentality of the commonwealth created by Chapter 372 of the Acts of 1984 with offices at Building 39 First Avenue, Charlestown Navy Yard, Charlestown, Massachusetts 02129 and the Water Supply Citizens Advisory Committee ("WSCAC") an organization initially created under the Massachusetts Environmental Policy Act ("MEPA") to ensure public representation and participation in Authority water supply activities, with offices currently at 485 Ware Road, Belchertown, MA 01007 (collectively "Parties").

WHEREAS, the Authority is required to meet the water needs of its communities;

WHEREAS, the Authority desires WSCAC to continue to advise in water supply planning and programming; and

WHEREAS, WSCAC desires to have a continued role advising the Authority;

NOW, THEREFORE, for the consideration of mutual promises contained herein, the Authority and WSCAC agree as follows:

Article 1. Effective Date.

This Agreement shall be effective from July 1, 2017 through June 30, 2018, inclusive.

Article 2. Compensation, Budget, Payment, and Expenses.

2.1 The Authority shall make funds available as follows:

(a) Salaries and Duties.

Director. An Executive Director shall be chosen by WSCAC members at a salary not to exceed \$68,506.41 for the year commencing on July 1, 2017 through June 30, 2018, inclusive. The hourly salary rate (inclusive of payroll taxes) shall be \$41.12 with annual total hours of 1,666 (average 34 hours per week for 49 weeks). The duties of the Executive Director shall be in accordance with the job description prepared by the Executive Committee of WSCAC and on file with the Authority.

Administrative Assistant. A part-time Administrative Assistant shall be chosen by the WSCAC Executive Director in consultation with the Executive Committee of WSCAC at a salary not to exceed \$14,234.36 for the year commencing on July 1, 2017 through June 30, 2018, inclusive. The hourly salary rate shall be \$21.18 (inclusive of payroll taxes) with annual total hours of 672 (average 14 hours per week for 48 weeks). The duties of the Administrative Assistant shall be in accordance with the job description prepared by the Executive Committee of WSCAC and on file with the Authority.

(b) Annual Expenses.

The Authority shall reimburse WSCAC for the following items: 80% of the health insurance for the Executive Director (not to exceed \$9,551.67), travel for WSCAC staff and members, office supplies (such as letterhead, envelopes, pencils, paper clips), postage, office telephone and internet access, and general administrative and office expenses. The percentage rate for reimbursement of health insurance costs shall be changed to match that of MWRA staff if the Group Insurance Commission changes the rate.

(c) Miscellaneous Expenses.

The Authority shall also reimburse WSCAC for the following expenses when submitted with a written reimbursement request supported by a receipt or voucher:

(1) mileage costs incurred by WSCAC staff and members from attendance at WSCAC meetings, pertinent conferences and seminars, or while performing other functions directly related to its scope of services. Mileage costs will be reimbursed at the prevailing Authority rate per mile;

(2) postage, phone calls, meeting expenses, public transportation costs, highway tolls and parking expenses incurred by WSCAC staff and members while performing WSCAC duties;

(3) the purchase or rental by WSCAC staff of books, films, cassettes, tapes, etc., if specifically approved by the Authority in advance, except that single copies of individual publications, books, and other written documents may be purchased for the WSCAC library use without prior approval, provided that the cost per item does not exceed \$200. All materials purchased under this section shall be considered property of the Authority.

(4) other miscellaneous expenses of the WSCAC staff approved by the Authority on a case-by-case basis. When possible, approval of the Authority should be received in advance of incurring such expenditures.

The Authority may advance up to \$750 to WSCAC, such advance to be applied to the payment of Miscellaneous Expenses as defined herein and as approved and budgeted under the terms of this Agreement. Payments made from an advance shall be accounted for in the same manner as all other Miscellaneous Expense payments. Prior to the expiration of this Agreement, any outstanding balance on an advance shall be applied against amounts due WSCAC.

The annual total reimbursement to WSCAC for annual and miscellaneous expenses combined shall not exceed \$21,635.67 from July 1, 2017 through June 30, 2018, inclusive.

(d) Non-reimbursable expenses.

The following expenses are not reimbursable: meals, entertainment, room and board expenses, fines, fees, or costs assessed as a result of improper or illegal actions on the part of the member, such as parking tickets or speeding fines.

ARTICLE 3. RESPONSIBILITIES OF THE AUTHORITY AND WSCAC.

(a) WSCAC shall employ an Executive Director, who is prohibited from being a member of WSCAC while serving his or her term as a paid employee.

(b) WSCAC shall, whenever applicable, take all necessary steps to receive an exemption from the Massachusetts Sales and Use taxes for materials, printing, and equipment purchased by WSCAC on behalf of the Authority.

(c) WSCAC shall submit monthly or periodic statements to the Authority requesting payment for salary, and for annual and miscellaneous expenses listed in Article 2. Such requests shall be supplemented or accompanied by time sheets, travel and expense vouchers, and by such other supporting data as may be required by the Authority.

(d) WSCAC shall maintain accounts, records, documents, and other evidence directly pertinent to performance of work under this Agreement. The Parties and their duly authorized representatives shall have access to such records, documents, and other evidence for the purpose of inspection, audit, and copying.

(e) The Authority or its duly authorized agent shall have the right at any and all reasonable times, to examine and audit WSCAC's records, documents and other evidence.

(f) This Agreement is subject to the laws dealing with the expenditures of public funds, including Chapter 12A of the Massachusetts General Laws.

(g) The Parties agree to consent to any reasonable modifications or changes in this contract that may be required by the Commonwealth of Massachusetts or any of its agencies.

(h) WSCAC acknowledges that the Authority is a state agency for purpose of Chapter 268A of the General Laws (the Massachusetts Conflict of Interest Law) and understands that for the purposes of that law, WSCAC staff and members are special state employees.

(i) WSCAC shall be responsible for compliance with all applicable provisions and requirements of the Massachusetts Open Meeting Law.

#### ARTICLE 4. RESPONSIBILITIES OF THE WSCAC STAFF.

4.1 The WSCAC staff shall be responsible for the following tasks:

- (a) aiding WSCAC in its tasks under Article 6, managing the WSCAC office, educating the public, and acting as liaison with the Authority and its staff;
- (b) preparing monthly progress reports for submission to the WSCAC Executive Committee, the WSCAC members, and the Authority;
- (c) maintaining financial records, minutes of the WSCAC meetings, and other WSCAC records;
- (d) assuring that at least every other meeting be held in Eastern Massachusetts at a location to be jointly agreed upon by WSCAC and the Authority where Authority attendance is expected.
- (e) providing to the Authority copies of the notices for and minutes of all meetings of WSCAC and of all the WSCAC correspondence as soon as such materials are available.
- (f) administering and maintaining compliance by all its members and staff with the provisions of the Massachusetts Conflict of Interest Law including, without limitation, those mandatory provisions relating to: (i) annual distribution to members and staff of the State Ethics Commission's (SEC) Summary of Law and maintenance and archiving of acknowledgements of receipt of the Summary of Law from all members and staff, and (ii) compliance by members and staff with the SEC's bi-annual educational training exercises.

#### ARTICLE 5. MEMBERSHIP

##### 5.1 Membership of WSCAC

- (a) Membership of WSCAC shall maintain parity between those individuals representing the interests of the communities listed in section 8(d) of the Authority's Enabling Act, c. 372 of the Acts of 1984, ("User Representatives") and those individuals representing the interests of the watershed communities ("Donor Representatives") and those individuals representing the interests of statewide or other appropriate interests as mutually agreed upon by WSCAC and the MWRA ("Other Representatives").
- (b) In order to maintain WSCAC membership status, members must be active participants, as defined in the WSCAC by-laws.

5.2 The appointment of WSCAC members shall be by joint designation by WSCAC and the MWRA and shall have a goal of achieving at least 10% minority representation on WSCAC.

## ARTICLE 6. WSCAC TASKS.

WSCAC shall undertake the following tasks:

### 6.1 Water Supply Programs Review.

Advise the Authority staff and Board in the performance of their duties relating to water supply planning and policies. Participate in the design, review and evaluation of research, reports and new ideas for programs. Provide comments, information, advice, recommendations and guidance as to the direction, intent and execution of water planning and policy development.

### 6.2 Outreach and Education.

Assure informed public input by providing assistance in outreach to various groups regarding the Authority's water supply programs and policies, and state water resources legislation and policies. Review programs with and explain plans and policies to organizations and citizens, including the scheduling of workshops, meetings and conferences. Provide comments and assistance on legislation of importance to the Authority.

### 6.3 Working Group Representation.

When requested, provide a representative on Authority working groups, comprising MWRA staff and consultants, related to water supply planning and policy development, including the Advisory Board and its subcommittees and the Wastewater Advisory Committee.

### 6.4 Recommendations on Long Term Public Involvement.

Provide to the Authority staff and Board, proposals for continued effective and efficient long-term public involvement in water programs.

### 6.5 Recommendations and Discussion Documents.

The WSCAC staff shall be responsible for providing to the Authority's staff, Board, and others, recommendation and discussion documents on the subjects of the above tasks. Documents may be in the form of minutes of WSCAC meetings, memoranda, letters, reports, presentations and discussions as appropriate.

## ARTICLE 7. MISCELLANEOUS REQUIREMENTS.

### 7.1 Nondiscrimination and Equal Employment Opportunity.

(a) WSCAC agrees to comply with all Federal and State laws pertaining to Civil Rights and Equal Opportunity, including executive orders and rules and regulations regarding employment, demotion, transfers, recruitment, layoffs or termination, rates of pay or other compensation and



training, including apprenticeships. With regard to WSCAC membership, WSCAC agrees to affirmatively solicit minority representation.

(b) WSCAC agrees to comply with the Authority's policy regarding non-discrimination and affirmative action.

## ARTICLE 8. GENERAL PROVISIONS.

### 8.1 Termination of Contract.

(a) This Agreement may be terminated in writing, at any time, in whole or in part, by the Authority for its convenience or in the event of substantial failure by WSCAC to fulfill their obligations, or for violation of any of the covenants and stipulations of this Agreement.

(b) If termination is effected by the Authority an equitable adjustment shall be made providing for payment to WSCAC for services rendered and expenses incurred prior to the termination. In addition, termination settlement costs reasonably incurred by WSCAC relating to commitments, which had become firm prior to the termination, shall be paid.

(c) This agreement may be terminated at any time, in whole or in part, in writing by WSCAC in the event of substantial failure by the Authority to fulfill its obligations or for violation by the Authority to fulfill its obligations or for violation by the Authority of any of the covenants and stipulations of this agreement.

(d) No termination hereunder may be effected unless the terminating party gives the other party: (1) not less than forty-five days' written notice delivered by certified mail, return receipt requested of intent to terminate; and (2) an opportunity for consultation with the other party prior to termination, or (3) by mutual agreement of the parties.

### 8.2 Ownership of Property.

Upon termination of this Agreement for any reason, WSCAC shall turn over to the Authority all materials, equipment, including computer equipment currently on loan from the Authority and owned by the Authority, unused office supplies, books, pamphlets, publications and all other properties for which Authority or MDC reimbursements were made in whole or in part, directly or indirectly.

### 8.3 Assignability.

WSCAC shall not assign or transfer this Agreement or delegate its responsibility for the performance of services under this contract.

### 8.4 Integration Clause.

This Agreement may be amended only by a writing executed by each of the Parties.

8.5 Severability of Provisions.

If any provision of this Agreement shall, to any extent, be held invalid or unenforceable, the remainder of this Agreement shall not be deemed affected thereby.

8.6 Massachusetts Law to Govern.

All parties to this Agreement agree that this Agreement shall be governed by and enforced in accordance with the laws of the Commonwealth of Massachusetts.

8.7 Duplicate Originals.

This Agreement may be signed in more than one identical counterpart, each of which shall be deemed to be an original hereof.

8.8 Notices.

Communications shall be deemed to have been made when mailed postage prepaid or delivered to among:

Chair and  
Executive Director  
Water Supply Citizens Advisory Committee  
485 Ware Road  
Belchertown, MA 01007

Director of Public Affairs  
Massachusetts Water Resources Authority  
Charlestown Navy Yard  
Building 39, First Avenue  
Boston, Massachusetts 02129

Executive Director  
Massachusetts Water Resources Authority  
Charlestown Navy Yard  
Building 39, First Avenue  
Boston, Massachusetts 02129

IN WITNESS WHEREOF, this Agreement is executed as of this      day of      , 2017.

FOR: WATER SUPPLY CITIZENS ADVISORY COMMITTEE

By: \_\_\_\_\_  
Title: Chair, Water Supply Citizens  
Advisory Committee

Dated:

FOR: MASSACHUSETTS WATER RESOURCES AUTHORITY

By: \_\_\_\_\_  
Title: Executive Director

Dated:

**STAFF SUMMARY**


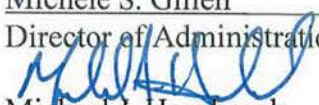
**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** June 7, 2017  
**SUBJECT:** Supply and Delivery of Sodium Hypochlorite for the John J. Carroll Water Treatment Plant and the William A. Brutsch Treatment Facility  
Univar USA, Inc. and H. Krevit & Company, Inc.  
Bid WRA-4380



COMMITTEE: Water Policy & Oversight

       INFORMATION  
  X   VOTE

David W. Coppes, P.E, Director, Waterworks  
Carolyn Francisco Murphy, Director of Procurement  
Preparer/Title

  
Michele S. Gillen  
Director of Administration  
  
Michael J. Hornbrook  
Chief Operating Officer

**RECOMMENDATION:**

To approve the award of Purchase Order Contract WRA-4380, a one-year contract for the supply and delivery of sodium hypochlorite to the lowest responsive bidders, Univar USA, Inc., and H. Krevit & Company, Inc., and to authorize the Executive Director, on behalf of the Authority, to execute said purchase order contract amounts not to exceed \$1,141,896 with Univar USA, Inc. for the John J. Carroll Water Treatment Plant, and \$72,480 with H. Krevit & Company, Inc. for the William A. Brutsch Treatment Facility, for a period of one year, from July 17, 2017 through July 16, 2018.

**DISCUSSION:**

MWRA uses sodium hypochlorite at 15% solution at the John J. Carroll Water Treatment Plant in combination with aqua ammonia, to form monochloramines for secondary disinfection. Monochloramines provide a stable and persistent disinfectant residual throughout MWRA's entire water distribution system. Staff estimate that approximately 1,942,000 gallons will be required during this one-year contract period.

MWRA also uses sodium hypochlorite for primary disinfection at the William A. Brutsch Water Treatment Facility. At the Brutsch facility, MWRA uses sodium hypochlorite at 11% solution because staff typically doses only 90-120 gallons per day and the chemical feed pumps are sized for this lower demand. In addition, since two of the determining factors of sodium hypochlorite degradation are initial concentration and time, staff have determined that 11% solution degrades less quickly. Staff estimate that the total usage for William A. Brutsch Treatment Facility will be 48,000 gallons during the one-year contract term.

These are estimates of usage only for purposes of comparison of bids; MWRA will only pay for product delivered and received.

**Procurement Process**

Bid WRA-4380 was advertised in the following publications: Boston Herald, Goods and Services Bulletin, El Mundo, and Banner Publications. In addition, bids were made available for public downloading on MWRA’s e-procurement system (Event 2950) and four potential bidders were solicited through the e-Portal.

On May 15, 2017, Event 2950 closed, with the following results:

Univar USA, Inc.	Estimated Gallons	Percent Solution	Unit Price Per Gallon	Extended Bid Price
Brutsch Facility	48,000	11% Solution	\$1.628	78,144.00
<b>Carroll Plant</b>	<b>1,942,000</b>	<b>15% Solution</b>	<b>\$0.588</b>	<b>\$1,141,896.00</b>
			<b>Total Bid</b>	<b>\$1,220,040.00</b>
H. Krevit Company, Inc.	Estimated Gallons	Percent Solution	Unit Price Per Gallon	Extended Bid Price
<b>Brutsch Facility</b>	<b>48,000</b>	<b>11% Solution</b>	<b>\$1.51</b>	<b>\$72,480.00</b>
Carroll Plant	1,942,000	15% Solution	\$0.76	\$1,475,920.00
			Total Bid	\$1,548,400.60
<b>Borden &amp; Remington Corporation</b>	Estimated Gallons	Percent Solution	Unit Price Per Gallon	Extended Bid Price
Brutsch Facility	48,000	11% Solution	NO BID	NO BID
Carroll Plant	1,942,000	15% Solution	\$0.6097	\$1,184,037.40
			Total Bid	\$1,184,037.40

Under the current contract with Borden & Remington Corporation and Univar USA, Inc., which will expire on July 16, 2017, MWRA is paying a fixed price of \$0.5995 per gallon for the Carroll Treatment Plant and \$1.4832 for the Brutsch Treatment Facility respectively. The new bid prices represent a \$0.0115 per gallon decrease at the Carroll Plant and a \$0.0268 per gallon increase at the Brutsch Treatment Facility.

Sodium hypochlorite is manufactured from two different products in approximately equal parts, chlorine and caustic soda. Market experts view current market conditions for caustic soda as being stable, but with cost increases from the major producers. This year’s bid prices reflect the highly competitive market between suppliers as indicated by a \$0.0217 per gallon differential from the low bidder and second lowest bidder at the Carroll Treatment Plant

Staff have reviewed the current bids and have determined that Univar USA, Inc. and H. Krevit & Company, Inc. have met all of the requirements of the bid specifications. Therefore, staff recommend splitting the award, and awarding two separate one-year purchase order contracts.

One to Univar USA, Inc. for the Carroll Treatment Plant for an amount not to exceed \$1,141,896 and the other to H. Krevit & Compnay, Inc. for the William A. Brutsch Treatment Facility for an amount not to exceed \$72,480.

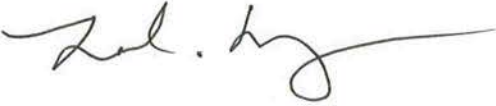
**BUDGET/FISCAL IMPACT:**

There are sufficient funds included in the FY18 Current Expense Budget for this contract. Sufficient funding will be included in the Proposed FY19 CEB for the remaining term of the contract.

**MBE/WBE PARTICIPATION:**

Neither Univar USA, Inc. or H. Krevit & Company, Inc. are certified Minority- or Women-owned businesses.

**STAFF SUMMARY**



**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director   
**DATE:** June 7, 2017  
**SUBJECT:** Water Sections 50 & 57 and Sewer Sections 19, 20 & 21 Rehabilitation – Medford  
Design, Construction Administration and Resident  
Engineering/Inspection Services  
Weston & Sampson Engineers, Inc.  
Contract 7540

COMMITTEE: Water Policy & Oversight

     INFORMATION

  X   VOTE

Patrick E. Smith, P.E., Program Manager  
A. Navanandan, P.E., Chief Engineer  
John P. Vetere, Deputy Chief Operating Officer  
Preparer/Title

  
Michele S. Gillen  
Director of Administration  
  
Michael J. Hornbrook  
Chief Operating Officer

**RECOMMENDATION:**

To approve the recommendation of the Consultant Selection Committee to award Contract 7540, Water Sections 50 & 57 and Sewer Sections 19, 20 & 21 Rehabilitation – Medford, Design, Construction Administration and Resident Engineering/Inspection Services to Weston & Sampson Engineers, Inc., and to authorize the Executive Director, on behalf of the Authority, to execute said contract in an amount not to exceed \$5,980,403, for a contract term of 58 months from the Notice to Proceed.

**BACKGROUND:**

MWRA Contract 7540 includes professional services for a pipeline rehabilitation/replacement project in Medford and Malden for work on MWRA’s Water Northern High Service Section 50 and Northern Low Service Section 57, and North Metropolitan Sewer Sections 19, 20 and 21, with a project total of 31,000 linear feet of pipe (see Attachment 1). Staff propose to rehabilitate both water and sewer pipes, which are adjacent to each other, under a single construction contract.

The water sections have a history of leaks and repairs, and the sewer section is 125-years old with noted defects, located adjacent and below Water Section 57.

A description of each pipeline to be rehabilitated is summarized below:

**Northern Low Service Water Section 57.** Section 57 is a 48-inch diameter steel pipeline within MWRA's Northern Low Service System. It traverses through Medford (predominately within Riverside Avenue), across the Malden River to Everett and Chelsea. The pipeline was installed in 1938 and is approximately 26,000 feet in length. To date, 18,000 linear feet of Section 57 have been cleaned and cement mortar-lined, sliplined, or replaced between 1986 and 2011. The remaining 8,000-ft segment is included in this contract. There have been 21 leaks in this segment in the last 30 years.



**Figure 1. Section 57 at Riverside Avenue and Fourth Street, Medford.**

**Northern High Service Water Section 50.** Section 50 is a 20-inch diameter cast iron pipe within MWRA's Northern High Service System traversing from Winchester Street in Medford easterly across Interstate 93 and the Mystic River to Highland Avenue in Malden. The pipeline was installed in 1922 and is approximately 14,000 feet in length. In 2014 approximately 2,000 linear feet of Section 50 west of Mystic Avenue in Medford was cleaned and cement-mortar lined. The remaining 12,000 feet of Section 50 is included in this contract. Section 50 also includes several hundred feet of 20-inch cast iron main which sits on exposed wood pilings and supports in poor condition through a wetland and crossing of Winter Brook in Medford. This contract includes evaluation of the replacement of this section.



**Figures 2 and 3. Water Section 50 on Wood supports at Winter Brook, Medford.**

**North Metropolitan Sewer Section 19, 20 & 21.** Parallel to water Section 57 in several streets in Medford is MWRA's horseshoe-shaped brick gravity sewer consisting of Sections 20, 21 and a 48-inch inverted siphon Section 19, all part of MWRA's North Metropolitan Sewer (NMS) System. The NMS parallels water Section 57, to within a three to five foot vertical separation (water invert to sewer crown) and within zero to one foot horizontal separation.

Sections 20 and 21 were completed in 1893 of brick construction ranging in size from 51-inches x 54-inches to 56-inches x 61-inches. Section 19 includes a 16-foot wide sand catcher and 48-inch diameter cast-iron siphon under the Malden River completed in 1916.

The North Metropolitan Sewer conveys wastewater flow to Deer Island from MWRA's North System communities. The MWRA Technical Inspection Unit, through CCTV inspections, identified many areas of light, medium and heavy infiltration, crown cracks and open joints and missing bricks within this sewer.

In 2011, approximately 1,700 linear feet of the NMS in Everett east of the Malden River was cured-in-place-pipe lined. This project includes the NMS from Section 19 at the Malden River to a midpoint of Section 21 in Medford at the project termination of Water Section 57, approximately 11,000 linear feet in length.





Figures 4 and 5. Sections 20/21 existing conditions.

**DISCUSSION:**

Contract 7540 will include design, construction administration, and resident engineering/inspection services for the inspection, evaluation and rehabilitation/replacement of approximately 20,000-linear feet of water pipelines and 11,000-linear feet of sewer pipeline and associated valves, structures, manholes and related appurtenances. The pipeline rehabilitation/replacement work is as follows:

- Water Section 57: 8,000 linear feet of 48-inch steel water pipe (includes 500-foot Malden River Crossing);
- Water Section 50: 12,000 linear feet of 20-inch cast iron water pipe (includes 500-foot Mystic River Crossing);
- Sewer Sections 20/21: 10,500 linear feet of 51-inch x 54-inch and 56-inch x 61-inch brick sewer; and
- Sewer Section 19: 500 feet of 48-inch cast iron inverted siphon under Malden River crossing (includes 60-foot x 10-foot sand catcher).

The scope of services includes: reviewing previous assessments and project documentation; performing a condition assessment and determining which portions are not suitable for rehabilitation and must be replaced; performing geotechnical and hazardous materials analyses; evaluating rehabilitation alternatives and providing a recommended alternative; obtaining all required permits; determining construction control measures for residents, businesses, pedestrians, and traffic in Medford and Malden; investigating bypass alternatives; and preparing construction contract documents, including drawings and specifications. The scope also includes engineering services during construction to review submittals, evaluate change orders and respond to contractor questions, as well as providing resident engineering and inspection

services. This combined water and sewer rehabilitation project will require detailed design and construction sequencing coordination with several agencies and the Cities of Medford and Malden.

Design and construction bidding services are estimated to take 22 months from Notice to Proceed. Construction is estimated to take 24 months plus a 12-month warranty period, for a project total of 58 months.

**Procurement Process**

On March 1, 2017, MWRA issued a one-step Request for Qualifications Statements/Proposals (RFQ/P) which was publically advertized in the Central Register, Boston Herald, Banner Publications and El Mundo. In addition, the RFQ/P was sent directly to 32 firms. The RFQ/P included the following evaluation criteria: Cost - 20 points; Capacity/Qualifications and Key Personnel - 20 points; Technical Approach/Organization and Management Approach - 20 points; Experience/Past Performance on Similar Non-Authority Projects - 20 points; Past Performance on Authority Projects - 15 points; and MBE/WBE participation - 5 points.

On May 5, 2017, MWRA received proposals from four firms: Arcadis U.S., Inc. (Arcadis); Hazen and Sawyer, P.C. (Hazen & Sawyer); Kleinfelder Northeast, Inc. (Kleinfelder); and Weston & Sampson Engineers, Inc. (Weston & Sampson). The proposal costs and levels of effort are presented below:

PROPOSER	PROPOSED CONTRACT COST	LEVEL OF EFFORT (LOE)
Arcadis U.S., Inc	\$4,910,789*	28,975 hours**
<i>Engineer's Estimate</i>	<i>\$5,799,000</i>	<i>34,470 hours</i>
Kleinfelder Northeast, Inc.	\$5,845,030*	34,066 hours
<b>Weston &amp; Sampson Engineers, Inc.</b>	<b>\$5,980,403*</b>	<b>43,242 hours</b>
Hazen and Sawyer, P.C.	\$6,709,192	40,616 hours

\*Reflects corrections made due to mathematical errors.

\*\* Reflects additional hours noted in proposal text.

The proposals from Kleinfelder and Weston & Sampson are within approximately 3 percent of the Engineer's Estimate, while the proposals from Arcadis and Hazen and Sawyer are approximately 15 percent below and 16 percent above the Engineer's Estimate, respectively.

The five voting members on the Selection Committee reviewed, scored, and ranked the proposals as follows:

PROPOSER	TOTAL POINTS	*ORDER OF PREFERENCE/ TOTAL SCORE	FINAL RANKING
<b>Weston &amp; Sampson Engineers, Inc.</b>	391.5	5	1
Kleinfelder Northeast, Inc.	376.0	10	2
Arcadis U.S., Inc	283.5	17	3
Hazen and Sawyer, P.C.	285.0	18	4

NOTE: 'Order of Preference' governs (over Total Points) in determining Final Ranking.

\*Order of Preference 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.

### **Evaluation of Proposals**

Weston & Sampson was unanimously ranked first by the Selection Committee. Although Weston & Sampson's cost proposal was second highest, it included the highest level of effort and the lowest labor cost per hour. The firm received the most points in the cost criterion, and the consensus of the Selection Committee was that Weston and Sampson provided the best value due to the proposed level of effort, the distribution of hours among labor category and tasks, and the labor cost per hour. In addition to the Cost category, Weston & Sampson received the most points in the Past Performance on Authority Projects category, with references noting that the firm is very responsive and technically strong, and the MBE/WBE Participation category.

Weston & Sampson tied for the most points in the Capacity/Qualifications/Key Personnel criteria. The Selection Committee agreed that the team of Weston & Sampson and its design subconsultants, Green International Affiliates and Simpson, Gumpertz & Heger, had significant capacity and highly qualified key personnel with very strong water and sewer rehabilitation design and construction background. Weston & Sampson also tied for the most points in the Technical Approach/Organization and Management Approach criteria. The firm provided the most detail of all proposers, including detailed discussions to the subtask level, clear understanding of the work, and approaches to address project challenges.

Kleinfelder was unanimously ranked second by the Selection Committee. Kleinfelder scored equal to first-ranked Weston & Sampson in the categories of Capacity, Qualifications/Key Personnel and Technical Approach, Organization and Management Approach. The firm

Personnel and Technical Approach, Organization and Management Approach. The firm received the second highest points in the Cost criterion due to its higher labor cost per hour and lower level of effort compared to Weston and Sampson. The firm received the second lowest number of points in the Past Performance on Authority Projects category, and the least amount of points in the MBE/WBE Participation category.

Arcadis ranked third overall. Arcadis proposed the lowest level of effort and cost of all firms, and its price was more than 15% (\$888,211) below the Engineer's Estimate. The firm received the third lowest points in Cost primarily because its proposed low level of effort for both design and construction tasks, which the Selection Committee concluded was insufficient to complete the scope of services. Arcadis also included a large number of cost assumptions, which limited its responsibility to complete certain scope items. The Selection Committee agreed that many of the cost assumptions were too restrictive and not appropriate. Arcadis received the third lowest points in Capacity/Qualifications and Key Personnel primarily due to less relevant experience of key personnel than other proposers, and in Technical Approach/Organization and Management Approach primarily due to a less detailed narrative than other proposers. Finally, Arcadis scored the least number of points in the Experience/Past Performance on Similar Non-Authority Projects and Past Performance on Authority Projects categories.

Hazen and Sawyer ranked fourth overall. Hazen and Sawyer proposed the highest cost, which was 15.7% (\$910,192) above the Engineer's Estimate. The firm received the least number of points in the Cost category primarily because of the excessive overall cost and highest labor cost per hour. Hazen & Sawyer's proposal also scored the lowest on Capacity, Qualifications & Key Personnel due primarily to the fact that its team had less water pipe rehabilitation experience than other proposers. Hazen & Sawyer also scored the lowest in Technical Approach/Organization and Management Approach, providing far less detail for this section than other proposals.

**BUDGET/FISCAL IMPACT:**

The Proposed FY2018 CIP includes a budget of \$5,783,000.00 for Contract 7540. The contract award amount is \$5,980,403 or \$181,403 over budget. This amount will be covered within the five-year CIP spending cap.

**MBE/WBE PARTICIPATION:**

The minimum MBE and WBE participation requirements for this project were established at 7.18% and 5.77% respectively. Weston & Sampson has committed to 26% MBE and 8.00% WBE participation.

**STAFF SUMMARY**

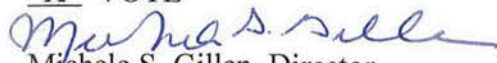
**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** June 7, 2017  
**SUBJECT:** Section 14 Water Pipeline Relocation - Malden  
Albanese Brothers, Inc.  
Contract 6957



COMMITTEE: Water Policy & Oversight

     INFORMATION

  X   VOTE



Michele S. Gillen, Director  
of Administration



Michael J. Hornbrook  
Chief Operating Officer

Mike Rivard, P.E., Program Manager  
A. Navanandan, P.E., Chief Engineer  
Preparer/Title

**RECOMMENDATION:**

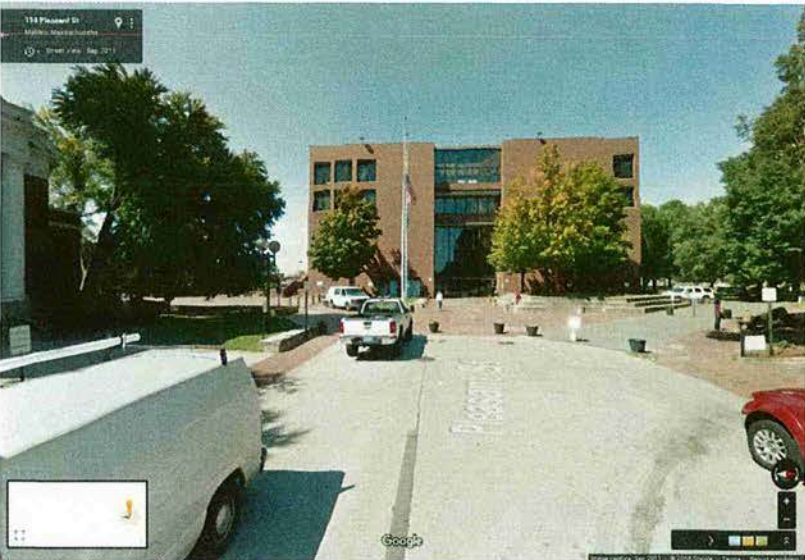
To approve the award of Contract 6957, Section 14 Water Pipeline Relocation - Malden, to the lowest responsible and eligible bidder, Albanese Brothers, Inc., and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of \$1,404,500 for a contract term of 161 calendar days from the Notice to Proceed.

**DISCUSSION:**

MWRA's Section 14 water main was constructed in 1896 with modifications in the vicinity of the Malden Center MBTA Station in 1916, and relocation of pipe around the proposed Malden City Hall site in 1972. Presently, the City of Malden has sold the City Hall site to the Jefferson Group who is actively reconfiguring and developing the site for mixed retail, commercial, residential and city government uses. (See attached Figure 1- current site).

The existing Malden City Hall will be demolished and three new buildings will be constructed on the site. One of the new buildings will be located immediately adjacent to and partially over MWRA's 45-year old existing main and a portion of the new building's foundation was proposed to be located under MWRA's main. In addition, a proposed pedestrian bridge connecting two of the buildings would have limited vertical clearance potentially impacting future MWRA replacement or maintenance. To avoid any potential construction and long-term maintenance impacts to MWRA's water main, MWRA staff propose to replace and relocate the water main with a larger diameter pipe in a new alignment within the reconstructed Pleasant Street through the existing City Hall site. The project involves installing approximately 400 feet of new 36-inch ductile iron water pipe. A 36-inch gate valve will also be installed as well as a blow-off setup.

The developer's contractor is actively demolishing the existing City Hall building, police station and church at the site. MWRA's contractor will be tasked with coordinating the installation of the new MWRA 36-inch water main and appurtenances with the developer's contractor on the site following demolition of the City Hall building and re-grading the site to its future street elevation. Schedule compliance is a critical factor in this contract due to the coordination with the developer on this important city redevelopment project. The contract includes some night work due to the level of vehicular and pedestrian traffic in the vicinity of the work at Commercial and Pleasant Streets adjacent to the Malden Center MBTA Station.



## Procurement Process

Contract 6957 was advertised in the Central Register, Boston Herald, Banner Publication, El Mundo and COMMBUYS and competitively bid in accordance with Massachusetts General Laws, Chapter 30. Six bids were received and opened on May 18, 2017 with the following results:

<u>Bidders</u>	<u>Bid Amount</u>
M.E. Smith Incorporated <sup>1</sup>	\$1,303,300 <sup>1</sup>
Albanese Brothers, Inc.	\$1,404,500
P. Caliacco Corp.	\$1,428,500
<i>Engineer's Estimate</i>	<i>\$1,454,000</i>
Albanese D&S, Inc.	\$1,659,140
R. Zoppo Corp.	\$1,804,493
RJV Construction Corp.	\$1,823,500

<sup>1</sup>Bid rejected for reasons set forth below.

The three lowest bids are within 10% of each other, an indication of the reasonableness of the bids. The three other bids are 27% to 40% higher than the low bid. The second lowest bidder, Albanese Brothers Inc.'s bid is \$101,200 higher than the low bid and \$49,500 (3.4%) lower than the Engineer's Estimate.

Qualifications and references for M.E. Smith Inc. (M.E. Smith), the apparent low bidder, were checked and found to be lacking in large water pipe experience. M.E. Smith has performed no large diameter water pipe projects (e.g., over 30-inches) within the last five years. According to the project references provided, 16-inch diameter water pipe was the largest installed by this contractor. Also, three out of six references reported issues on projects performed by M.E. Smith, such as problems with paperwork, incomplete work or not completing work in a timely manner. Given the lack of any large water pipe experience and the above reports, M.E. Smith's bid was rejected for this time sensitive project.

Qualifications and references for Albanese Brothers, Inc., the second low bidder, were checked. Albanese has completed several water and sewer projects for the Authority including the Lynnfield Saugus Pipeline, the Upper Neponset Relief Sewer and Section 53 water project in Malden. The recent Lynnfield Saugus pipeline included substantial 36-inch, 24-inch and 12-inch water pipe along Route 1. Albanese's performance on these projects was good. Staff also checked references for non-Authority projects which were favorable.

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

**BUDGET/FISCAL IMPACT:**

Funds have been included in the proposed FY18 CIP for this project. The contract amount will be covered within the five year CIP spending cap.

**MBE/WBE PARTICIPATION:**

There were no MBE or WBE participation requirements established for this contract.

**ATTACHMENT:**

Figure 1 - Section 14 Water Pipeline Relocation - Malden Location Map



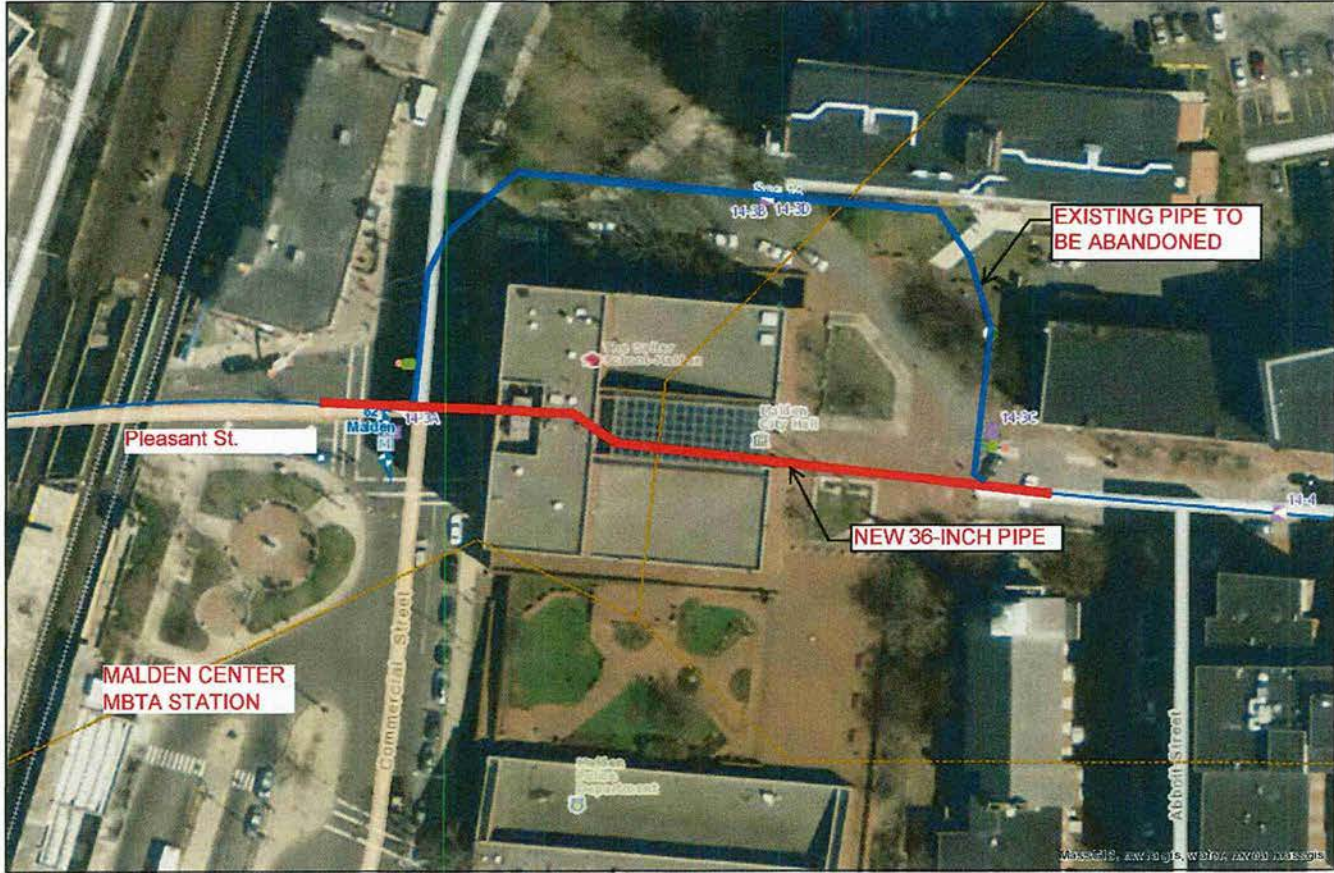
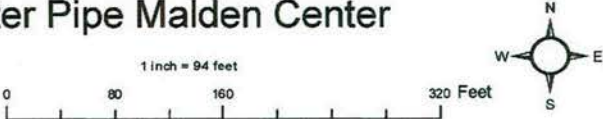


Figure 1 - Section 14 Water Pipe Malden Center

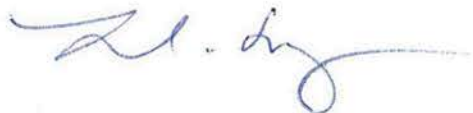


Date: 12/5/2016  
 Security Operational - For MWRA use ONLY



## STAFF SUMMARY

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** June 7, 2017  
**SUBJECT:** Wachusett Aqueduct Pumping Station  
BHD/BEC JV 2015, A Joint Venture  
Contract 7157, Change Order 15



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**COMMITTEE:** Wastewater Policy and Oversight

Vincent Spada, Construction Coordinator  
Corinne M. Barrett, Director, Construction  
Preparer/Title

     INFORMATION  
  X   VOTE



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Michael J. Hornbrook  
Chief Operating Officer

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### RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to approve Change Order 15 to Contract 7157, Wachusett Aqueduct Pumping Station, with BHD/BEC JV 2015, A Joint Venture, for a lump sum amount of \$306,664.00, increasing the contract amount from \$46,531,208.29 to \$46,837,872.29 with no increase in contract term.

Further, to authorize the Executive Director to approve additional change orders as may be needed to Contract 7157 in an amount not to exceed the aggregate of \$250,000, in accordance with the Management Policies and Procedures of the Board of Directors.

### DISCUSSION:

The water transmission system between Wachusett Reservoir and the John J. Carroll Water Treatment Plant (Carroll Plant) consists of the Cosgrove Tunnel and the Wachusett Aqueduct. The Cosgrove Tunnel provides the primary raw water supply to the Carroll Plant and the Wachusett Aqueduct is an emergency back-up. Although rehabilitation of the Wachusett Aqueduct in 2003 allowed its use during short winter duration so that the Cosgrove Tunnel could be connected to the Carroll Plant, it is limited in its flow capacity and it cannot meet the grade line requirements of the Carroll Plant in the event of an emergency. Since the Wachusett Aqueduct operates at a lower hydraulic grade line than the Cosgrove Tunnel, water cannot flow from it into the Carroll Plant's ozone contactors without pumping. If the Wachusett Aqueduct were needed in an emergency, the Carroll Plant would have to be shut down and temporary chlorination facilities would have to be installed at the Wachusett Reservoir-end of the aqueduct to provide disinfection.

Once completed, this new pumping station will allow the Wachusett Aqueduct to provide redundancy for the Cosgrove Tunnel. Completion of the Hultman Aqueduct rehabilitation and interconnections project provided redundancy for the MetroWest Water Supply Tunnel. Together, these projects will provide water transmission redundancy from Wachusett Reservoir to the metropolitan tunnel system.

### **This Change Order**

Change Order 15 consists of the following three items:

#### Furnish and Install Interior Pipe Bracing for Surge Tank

\$219,776

The surge tank shop drawing was reviewed and approved and the surge tank was fabricated and ready for delivery to the site. In reviewing the backfill loading calculations, it was discovered that the 3/8-inch thickness of the surge tank shell was susceptible to crushing during placement of lean concrete backfill. An interior bracing system is necessary to offset the external load caused by the lean concrete backfilling. The susceptibility to crushing is temporary only until the lean concrete achieves its compressive strength and is allowed to cure a minimum of three days. Once the concrete has cured, the interior bracing is no longer needed and can be removed. As a result, the Contractor must now furnish and install three levels of interior pipe bracing for the surge tank installation below ground prior to backfilling with lean concrete. When backfilling is complete, the Contractor must then cut, remove, and dispose of the temporary pipe bracing.

Staff plan to bring a separate staff summary concerning this surge tank about an unforeseen condition of the lower existing ledge elevations requiring a redesign of the surge tank foundation. This is currently under design and will be presented at a future Board meeting.



**Surge Tank Excavation**

The approved PCO for this item has been identified by MWRA staff as a design error. MWRA staff, the Consultant, and the Contractor have agreed to a lump sum amount of \$219,776 for this additional work with no increase in contract term. The Contractor proceeded with this work at its own risk in order to proceed with the remainder of the contract work.

Furnish and Install a New Intake Channel Bar Rack

\$54,763



Hultman Intake Building

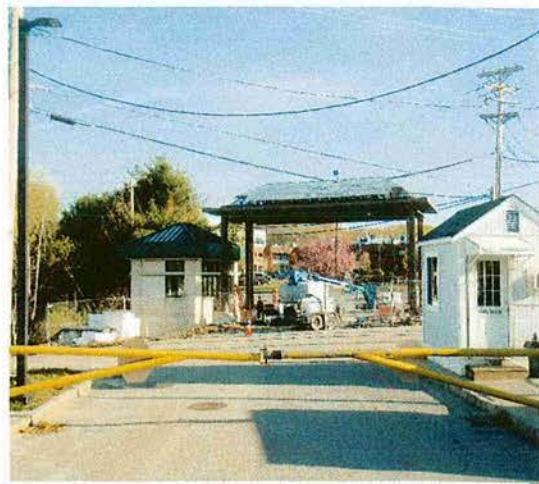
The existing bar rack in the Hultman Aqueduct Intake Structure was not shown on the contract drawings. However, the existing bar rack prevents the Contractor's access to reach and remove the existing sluice gates and install the new sluice gates within the Hultman Aqueduct Intake Structure. Therefore, the Contractor must remove and dispose of the existing bar rack and furnish and install a new bar rack to be able to perform the specified contract work at the sluice gates. The Designer omitted the removal and replacement of the existing bar rack from the contract requirements.

The approved PCO for this item has been identified by MWRA staff as a design omission. MWRA staff, the Consultant, and the Contractor have agreed to a lump sum amount of \$54,763 for this additional work with no increase in contract term. The Contractor proceeded with this work at its own risk in order to proceed with the remainder of the contract work.

Furnish and Install Fiber Optic Cable for the Fire Alarm System

\$32,125

The Electrical Site Plan for the electrical filed subcontractor shows the Front Guardhouse location and a separate site plan showing the Operations Building. The designer omitted an overall Electrical Site Drawing that includes the entire distance of fiber optic cable for the fire alarm system needed to connect the Operations Building and the Front Guardhouse. Therefore, the electrical filed subcontractor did not include in its bid the supply and installation of 1,475 feet of fiber optic cable for the fire alarm system in an existing buried signal ductbank.



New Guard House

The approved PCO for this item has been identified by MWRA staff as a design omission. MWRA staff, the Consultant, and the Contractor have agreed to a lump sum amount of \$32,125 for this additional work with no increase in contract term. The Contractor proceeded with this work at its own risk in order to proceed with the remainder of the contract work.

Staff are compiling a list of all change order items that have resulted from an error or omission on the part of the Design Consultant, Stantec, and will notify Stantec, in writing, of the current status of these findings and of MWRA's intention to seek appropriate cost recovery.

**CONTRACT SUMMARY:**

	<u>Amount</u>	<u>Time</u>	<u>Dated</u>
Original Contract:	\$47,011,000.00	1,260 Days	03/01/16
Change Orders:			
Change Order 1*	(\$1,500,000.00)	(180) Days	07/25/16
Change Order 2*	\$14,766.00	0 Days	10/26/16
Change Order 3*	\$24,822.00	0 Days	11/16/16
Change Order 4*	\$199,629.92	0 Days	12/12/16
Change Order 5	\$328,039.00	0 Days	12/23/16
Change Order 6*	\$23,202.00	0 Days	01/18/17
Change Order 7*	\$24,533.12	0 Days	02/06/17
Change Order 8*	\$189,495.00	0 Days	03/06/17
Change Order 9	\$100,079.80	0 Days	03/23/17
Change Order 10*	\$24,521.45	0 Days	04/03/17
Change Order 11*	\$24,455.00	0 Days	04/12/17
Change Order 12*	\$24,659.00	0 Days	04/19/17
Change Order 13*	\$22,491.00	0 Days	05/03/17
Change Order 14*	\$19,515.00	0 Days	05/22/17
Change Order 15	<u>\$306,664.00</u>	<u>0 Days</u>	Pending
Total of Change Orders:	(\$173,127.71)	(180) Days	
Adjusted Contract:	\$46,837,872.29	1,080 Days	

\*Approved under delegated authority

If Change Order 15 is approved, the cumulative total value of all change orders to this contract will be (\$173,127.71) or (0.37%) of the original contract amount. Work on this contract is 42.3% complete.

**BUDGET/FISCAL IMPACT:**

The FY17 CIP includes a budget of \$45,511,000 for Contract 7157. Including this change order for a lump sum amount of \$306,664, the adjusted sub phase total will be \$46,837,872.29 or \$1,326,872.29 over budget. This amount will be covered within the five year spending cap.

**MBE/WBE PARTICIPATION:**

The MBE/WBE participation requirements for this project were established at 3.4% and 3.8%, respectively.



# 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

### 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, June 7, 2017

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

Time: Immediately following Water Comm.

## AGENDA

### **A. Approvals**

1. PCR Amendments – June 2017
2. Appointment of Associate General Counsel, Law
3. ~~Appointment of Assistant Director, Engineering & Construction (withdrawn)~~
4. Appointment of Project Manager, Process Control and Project Support
5. Appointment of Senior Sampling Associate, TRAC
6. FY2018 Non-Union Compensation

## MASSACHUSETTS WATER RESOURCES AUTHORITY

### Meeting of the Personnel and Compensation Committee

May 8, 2017

A meeting of the Personnel and Compensation Committee was held on May 8, 2017 at the Authority headquarters in Charlestown. Vice-Chair Cotter presided. Present from the Board were Messrs. Blackmon, Carroll, Peña, Vitale, and Walsh; Mr. Pappastergion joined the meeting in progress. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Karen Gay-Valente, Michele Gillen, and Bonnie Hale. The meeting was called to order at 11:05 a.m.

#### **Approvals**

##### **\*Appointment of Associate General Counsel, Litigation, Law Division**

The Committee recommended approval of the appointment of Ms. Meghan L. McNamara (ref. agenda item A.1).

##### **\*Appointment of Deputy Contracts Manager, Procurement Department, Administration Division**

The Committee recommended approval of the appointment of Mr. Tsuyoshi Fukuda (ref. agenda item A.2).

##### **\*Appointment of Program Manager Engineering & Construction, Operations Division**

The Committee recommended approval of the appointment of Ms. Kathleen M. Cullen, P.E. (ref. agenda item A.3).

All MWRA staff, with the exception of recording secretary Bonnie Hale, left the room.

#### **Annual Meeting of the Personnel and Compensation Committee Independent of Management**

##### **Authority Accountability and Transparency Act Compliance**

Vice-Chairman Cotter called the Annual Meeting of the Personnel and Compensation Committee Independent of Management to order, in compliance with the provisions of the above-referenced Act.

\* Approved as recommended at May 8, 2017 Board of Directors meeting.

Members of the Committee analyzed and assessed the data provided regarding executive compensation at comparable state agencies and authorities, as well as for-profit private sector employees, and national water and wastewater utilities. It was observed that the level of MWRA compensation was in the middle range of similar positions at other entities. There was discussion of considering increasing the Cost of Living Allowance for the four MWRA executive positions being compared in the materials presented, and it was noted that that issue could be raised during consideration of the Executive Director's performance evaluation and/or proposed union agreements.

The meeting adjourned at 11:15 a.m.

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\* Approved as recommended at May 8, 2017 Board of Directors meeting.

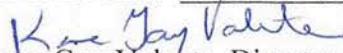


STAFF SUMMARY

**TO:** Board of Director  
**FROM:** Frederick A Laskey, Executive Director  
**DATE:** June 7, 2017  
**SUBJECT:** June PCR Amendments




COMMITTEE: Personnel and Compensation

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

         INFORMATION

  X   VOTE

  
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.

**June PCR Amendments**

There are four PCR amendments, one related to changes in the Affirmative Action Division and 3 related to changes in the Operations Division.

The amendments are:

1. Title, grade and location change to a vacant position in the Pipe Maintenance WW Department, Operations Division, Assistant District Supervisor, Unit 2, Grade 19, to Buildings & Grounds Supervisor, Unit 2, Grade 17, to address current staffing needs in the Trade Labor Maintenance Department, Deer Island.
2. Title, grade and location change to a vacant position in the DI Directors Office Department, Operations Division, Deputy Director, O&M Support, Non-Union, Grade 15, to establish a Manager, Energy, Non-Union Grade 14 to lead and direct the Energy Management Unit, Operations Administration Department, Operations Division.

3. Title and grade change to a vacant position in the Affirmative Action Department, Affirmative Action Division, Executive Secretary, Confidential 1, Grade 18 to Administrative Systems Coordinator, Confidential 1, Grade 20, to address current staffing needs.
4. Title, grade and location change to a vacant position in the Engineering & Construction Department, Operations Division, Sr. Survey Engineer, Unit 9, Grade 23, to Project Manager, Services Contracts, Unit 9, Grade 25, to address current staffing needs in the Operations Division.

The first two amendments require approval by the Personnel and Compensation Committee. The third and fourth amendments require Board approval after review by the Personnel and Compensation Committee.

**BUDGET/FISCAL IMPACT:**

The annualized budget impact of these PCR amendments is between a savings of \$68,732 and a cost of \$36,700 depending on the individuals selected for the vacant positions upon the completion of the hiring processes. Staff will ensure that any cost increase associated with these PCR amendments will not result in spending over the approved FY17 Wages and Salary budget.

**ATTACHMENTS:**

New/Old Job Descriptions

**MASSACHUSETTS WATER RESOURCES AUTHORITY  
POSITION CONTROL REGISTER AMENDMENTS  
FISCAL YEAR 2017**

**PCR AMENDMENTS REQUIRING PERSONNEL & COMPENSATION COMMITTEE APPROVAL - June 7, 2017**

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
P13	Operations Pipe Maintenance WW 5434017	V	T,G,L	Assistant District Supervisor	2	19	Buildings & Grounds Supervisor	2	17	\$69,490	\$53,105 - \$73,801	-\$16,385 - \$4,311	To address current staffing needs in the Trade Labor Maintenance Department, Deer Island, Operations Division
P14	Operations DI Director's Office 2915011	V	T,G,L	Deputy Director, O&M Support	NU	15	Manager, Energy	NU	14	\$129,152	\$89,200 - \$130,000	-\$39,952 - \$848	To provide management of the Energy Management Unit, Operations Administration Department, Operations Division
<b>PERSONNEL &amp; COMP COMMITTEE TOTAL =</b>					<b>2</b>						<b>SUBTOTAL:</b>	-\$56,337 - \$5,159	

**PCR AMENDMENTS REQUIRING BOARD APPROVAL - June 2017**

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
B27	Affirmative Action Affirmative Action 8410006	V	T,G	Executive Secretary	C1	18	Administrative Systems Coordinator	C1	20	\$51,341	\$56,899 - \$74,303	\$5,558 - \$22,962	To address current staffing needs in the Affirmative Action Department
B28	Operations E&C 55250104	V	T,G,L	Sr Survey Engineer	9	23	Project Manager, Service Contracts	9	25	\$93,101	\$75,148 - \$101,680	-\$17,953 - \$8,579	To address current staffing needs in the Operations Division
<b>BOARD TOTAL =</b>					<b>2</b>						<b>SUBTOTAL:</b>	-\$12,395 - \$31,541	
<b>GRAND TOTAL =</b>					<b>4</b>						<b>TOTAL ESTIMATED COSTS:</b>	-\$68,732 - \$36,700	



**MWRA  
POSITION DESCRIPTION**

**POSITION:** Assistant District Supervisor

**PCR#:**

**DIVISION:** Operations

**DEPARTMENT:** Field Operations

**BASIC PURPOSE:**

Assists in the supervision of crews' work in the inspection, operation, and maintenance of the Authority's sewer lines and associated MWRA sewer system facilities and performs related work as required.

**SUPERVISION RECEIVED:**

Works under the general supervision of the District Supervisor.

**SUPERVISION EXERCISED:**

Exercises close supervision over Sewer Maintenance Foreman and personnel who comprise the pipeline maintenance crews.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Assists in the preparation of pipeline maintenance plans including work sequencing, scheduling, cost estimating, and assembling work order packages.
- Assists in the preparation of daily and weekly job status and time utilization reports to track execution of written work plan. Details include, but are not limited to, crew time productivity, material utilization and costs, equipment utilization and costs, and pipeline data collection and identification information.
- Reviews and distributes computer generated work orders on a daily basis.
- Utilizes computer technology, computerized maintenance management software, and other software to perform work order reporting, time utilization and written work plan completion.

- Conducts applicable training sessions such as "Tool Box Talks" and develops training programs as needed.
- Maintains effective working relationships with municipal officials.
- Works in a supervisory capacity on a pipeline maintenance crew performing required work as needed.
- Responds to and rectifies complaints related to sewer/drain lines within the Authority's Sewer District.
- Assists with the supervision of pipeline maintenance support activities such as community assistance, metering and technical inspection projects.
- Performs related administrative activities as required such as completing personnel actions and generating budgeting reports.

**SECONDARY DUTIES:**

- Performs related duties as required.

**MINIMUM QUALIFICATIONS:**

Education and Experience:

- (A) High school education or equivalent. Associates degree in a related engineering field preferred; and
- (B) Three (3) to five (5) years of related experience within a large municipal sewer collection system with a minimum of three (3) years in a supervisory capacity, or
- (C) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

- (A) Thorough knowledge of methods, practices, techniques and equipment used in sewer line maintenance.
- (B) Ability to read and understand blueprints.
- (C) Knowledge of construction methods and applicable hydraulics.
- (D) Knowledge of applicable safety practices and equipment.

(E) Basic computer skills.

**SPECIAL REQUIREMENTS:**

Grade II Wastewater Collection Systems Operator License or ability to obtain within one year.

A current and valid Massachusetts Class B Commercial Drivers License (CDL). Will be subject to be controlled substances and alcohol testing policy and the random drug-testing program.

**TOOLS AND EQUIPMENT USED:**

Motor vehicles, sewer maintenance equipment, power and hand tools, mobile radio, portable gas monitors, confined space entry equipment, telephone, beeper.

**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 duties.

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 to reach with hands and arms. The employee frequently is required to stoop, kneel, crouch or crawl. The employee is occasionally required to stand, walk, talk, hear, sit, climb or balance.

The employee must frequently lift and/or move up to 25 pounds and occasionally lift and/or move up to 100 pounds. Specific vision abilities required by this job include close, distance and peripheral vision, and the ability to adjust focus.

**WORK ENVIRONMENT:**

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

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

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

**July, 1999**

Page 3 of 3

Assistant District Supervisor - Old

**NEW**

**MWRA  
POSITION DESCRIPTION**

**POSITION:** Building and Grounds Supervisor

**PCR:**

**DIVISION:** Operations

**DEPARTMENT:** Maintenance/Deer Island

**BASIC PURPOSE:**

Performs a variety of maintenance and repair tasks to roads, grounds, buildings, structures and associated appurtenances.

**SUPERVISION RECEIVED:**

Works under the general supervision of the Facilities Manager.

**SUPERVISION EXERCISED:**

Primarily responsible for supervision of Building & Grounds Workers and other unskilled labor, as assigned.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Supervises, inspects and assists with the set-up and cleaning of process tanks, galleries, drains, culverts and structures as required.
- Supervises, inspects and assists with the clean-up of process spills and upsets as required.
- Supervises, inspects and assists with the cleaning of roadways, walkways, and repair of fencing and gates as necessary.
- Supervises, inspects and assists with the removal of snow and ice from roadways, walkways, buildings and structures as necessary.

- Inspects the appearance of the plant grounds and supervises and assists with the cutting, trimming and/or weeding grass, shrubs, trees and ornamental beds.
- Supervises and assists with the excavation and/or refills of ditches and holes. Breaks, removes and repairs concrete as required.
- Inspects and supervises the disposal of trash and other waste materials.
- Operates machinery, vehicles, material handling equipment, snow removal equipment, and tools as necessary to perform assigned work such as (but not limited to) tractors, mowers, cement mixers, cleaning machinery, etc.
- Operates motor vehicles such as vans and pick up trucks to transport materials and equipment to work sites, pick up and deliver materials, etc.
- Supervises and assists with washing and cleaning vehicles, tools and equipment.
- Supervises and assists with moving material and supplies.
- Supervises and assists with loading and unloading vehicles, carts, trailers, etc., as required.
- Performs work in a safe and professional manner.
- Reports and documents work being performed.
- Plans the daily assignments for assigned staff and distributes work accordingly. Establishes deadlines and priorities on the basis of the maintenance schedule or emergencies.
- Follows established safety, operating, and emergency response procedures and policies established by MWRA.
- Prepares daily and weekly job status and time utilization to track execution of written work plan. Details include, but are not limited to: crew time productivity, material utilization and costs, equipment utilization and costs.
- Utilizes personal computer, data terminals and specialized MAXIMO/Lawson software application packages to perform related duties, included but not limited to: work planning and scheduling, inventory maintenance, purchase order placement/tracking, work order reporting; time, utilization, and written work plan completion.
- Oversees, measures and where appropriate, improves assigned work crew productivity.



- Supervises assigned crews including taking disciplinary actions (issuing verbal warnings and initiating written warnings) when necessary, conducting performance reviews, and preparing regular reports, as required, on work accomplished and crew productivity.
- Trained in Confined Space Entry, CPR and First Aid, and be capable of entering, setting up, installing, disassembling confined space equipment and ability to work in a confined space.
- Performs clean-up and housekeeping tasks for work area to maintain a clean environment within designated area.
- Inspects plant equipment and processes of designated area regularly to determine efficiency of operation, cleanliness, maintenance requirements and adherence to safety and environmental restrictions. Periodically conduct safety inspections.
- Monitors work-in-progress and provides final check that work is completed in accordance with specifications for the job, applicable vendors specifications, trade standards, etc., and that final clean-up is satisfactory. Personally, conducts audits of completed tasks.
- Assists Planner/Scheduler in determining appropriate preventive maintenance and corrective maintenance priorities, schedules and estimated levels of effort to ensure that equipment performance is maximized.
- Supervises other trades in the performance of their work, as required, or as assigned.
- Creates efficient work schedules and monitors staff performance in order to minimize travel time and staff downtime, and maximizes staff productivity. Keeps time utilization records and continuously strives for productivity improvements.
- Identifies and monitors unit's tools, parts and material requirements and works with Planner/Scheduler to insure timely procurement and maintenance of adequate inventory levels.
- Assists maintenance crews with troubleshooting assigned work orders, and provides instruction on difficult work operations.
- Performs light maintenance independently or as part of a team. Light maintenance shall include but not limited to:
  - Operates forklift or other light equipment not requiring a special license.
  - Inspects and troubleshoots various systems and equipment

- Installs and retrofits/new equipment related to plant systems.
- Modifies and/or aligns existing equipment to specifications.
- With proper training sets up ladders, staging and rigging and utilizes hoists, jacks, dollies, lifts, etc. for proper access to job and to remove and install equipment.
- Operates portable pumping, ventilation and other equipment necessary to support and accomplish assigned tasks.
- Greases and lubricates, replaces oil reserves, minor packing adjustments and opens hatches.
- Installs safety rails.
- Conducts routine testing, lockout/tagout, operation (startup/shutdown) and adjustment of process equipment.
- Provides training to employees on a regular basis.

**SECONDARY DUTIES:**

- Performs related duties as required.
- Promotes and participates in productivity improvement plan.

**MINIMUM QUALIFICATIONS:**

Education and Experience:

- (A) Basic reading, writing, mathematical, scientific and oral communication skills as normally attained through a high school education or the equivalent; and
- (B) Requires two (2) to four (4) years supervisory experience, preferably in a large industrial or commercial facility;
- (C) Satisfactory completion of training program in accordance with the productivity improvement program as established at MWRA;
- (D) A working knowledge of the occupational hazards and safety practices common to the trade.

- (E) The ability to plan, organize, direct, train and assign duties to subordinates, as obtained through successful completion of supervisory training program or an approved institution.
- (F) Demonstrated verbal and written communication skills
- (G) Any equivalent combination of education/training and experience.

Necessary Knowledge, Skills and Abilities: \_\_\_\_\_

- (A) A working knowledge of the methods and tools required to perform building and grounds maintenance functions, to include the operation of a wide variety of machinery, vehicles, material handling equipment, hand and power tools and specialized machinery for roads, grounds, galleries, structures and facilities care.
- (B) Ability to follow written and oral instructions.
- (C) Skill in the operation of the listed tools and equipment. Ability to demonstrate basic computer literacy including the preparation of spreadsheets, word-processing documents, and e-mail.
- (D) Ability to supervise staff effectively and to establish and maintain effective working relationships with subordinates, superiors and associates.
- (E) Ability to keep manual and computer-based records and write reports.

**SPECIAL REQUIREMENTS:**

- A Valid Massachusetts Class D Vehicle Operators License.
- Complete competency based training program related to **ESSENTIAL DUTIES AND RESPONSIBILITIES** as outlined above and successfully demonstrates required competencies.

**TOOLS AND EQUIPMENT USED:**

Motor vehicle, power and hand tools, mobile radio, telephone, and beeper.

**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 stoop, kneel, crouch, or crawl. The employee occasionally is required to stand, walk, talk or hear, sit, climb, or balance.

The employee must frequently lift and/or move up to 25 pounds and occasionally lift and/or move more than 100 pounds. Specific vision abilities required by this job include close vision, distance, and peripheral vision, depth perception, and the ability to adjust focus.

### **WORK ENVIRONMENT:**

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

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

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

**August 2001**

MWRA  
POSITION DESCRIPTION



**POSITION:** Deputy Director, O&M Support

**PCR#:**

**DIVISION:** Operations

**DEPARTMENT:** Deer Island

**BASIC PURPOSE:**

Directs all Deer Island Wastewater Treatment Plant's (DIWWTP) support systems such as technical services, administrative, fiscal, training, safety and FIS. Directs the budget management and financial control function, plant personnel/payroll and records coordination activities, the procurement and distribution of office supplies, mail distribution and the procurement and efficient performance of various contracted services.

**SUPERVISION RECEIVED:**

Works under the general supervision of the Division Director.

**SUPERVISION EXERCISED:**

Provides general supervision to Manager, Administration & Finance, Safety Supervisor, Field Training Supervisor, and a Secretary I.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Directs the development and management of the DIWWTP's \$40 million CEB and \$10 million CIP, which will grow to \$75 million and \$20 million by 1999. Oversees variance reporting, reallocations, APPO process and schedule reporting.
- Serves as the Director's designated representative for approval of administrative items such as personnel hiring, requisitions, budget allocations, etc., serves as the Acting Director for administrative matters in the absence of the Plant Director.
- Oversees the coordination of engineering support functions provided to both operations and maintenance departments.

- Directs the plant-training program, including Apprenticeship, Phase IV, CLC and vendor training.
- Manages the coordination effort with the MIS department.
- Provides consultation and advice to the DIWWTP Director to assist in the resolution of operational, management, budgetary, fiscal, safety, training and FIS issues.
- Acts as liaison between the plant/sewerage division and other divisions on administrative, FIS, training and safety matters, and directs the implementation of relevant policies and procedures.
- Directs development and implementation of all safety programs for Deer Island and coordinates efforts with the central safety group.
- Directs development and implementation of the plant's FIS system including OMS, MMS, administrative systems and network support.
- Administers the application of collective bargaining agreement provisions and personnel policies in the workplace and serves as Step-II grievance hearing officer for support services.
- Conducts employee performance reviews in accordance with MWRA procedures, recommends hires, merit raises and promotions.

**SECONDARY DUTIES:**

- Performs related duties as required.

**MINIMUM QUALIFICATIONS:**

Education and Experience:

- (A) Administrative and analytical skills as normally attained through a four (4) year college program in business administration or a related field. An advanced degree preferred; and
- (B) Knowledge of financial management, budgeting, the procurement and contract management processes, and management and administrative systems as acquired by nine (9) to twelve (12) years of progressive responsible experience in MIS or administration, of which five (5) should in be in supervisory capacity; or
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Proficient in the use of personal computers and software applications packages for financial analysis and management such as MS Word and Excel.
- (B) Excellent interpersonal, written and oral communication skill required.

**SPECIAL REQUIREMENTS:**

A registered professional engineer in the Commonwealth of Massachusetts or the eligibility for acceptance by reciprocity.

**TOOLS AND EQUIPMENT USED:**

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

**PHYSICAL DEMANDS:**

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

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

There are no requirements that weight be lifted or force be exerted in the performance of this job. Specific vision abilities required by this job include close 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 regularly works in an office environment.

The noise level in the work environment is usually a moderately quiet office setting.

**November, 1992**



MWRA  
POSITION DESCRIPTION

**POSITION:** Manager, Energy

**PCR#:**

**DIVISION:** Operations

**DEPARTMENT:** Operations Administration

**BASIC PURPOSE:**

Provides management of Energy Management Unit. Responsible for the development and implementation of a comprehensive Energy Management Plan. Oversees MWRA's renewable energy portfolio, energy efficiency initiatives, and cost reduction programs and contracts related to the operations of MWRA facilities. The position will play a central role within the agency, providing coordination and communication with MWRA management and staff, as well as outside agencies and regulators, to ensure the continued success of these programs.

**SUPERVISION RECEIVED:**

Works under the general supervision of the Deputy Chief Operating Officer, Programs, Policy and Planning.

**SUPERVISION EXERCISED:**

Provides direct supervision of the Program Manager, Energy Management; Program Manager, Energy and Environmental Management and Project Engineer, and other staff as assigned.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Develops and oversees implementation of a Comprehensive Energy Management Plan.
- Oversees and directs MWRA and consultant staff in the execution of projects related to energy supply for all MWRA facilities, including power and/or combined heat and power generation, transmission and distribution, and fuel supply.
- Coordinate energy management team with representation from variety of MWRA Departments.



- Oversees MWRA's renewable energy portfolio, and manages Renewable Portfolio Standards (RPS) Contracts for renewable energy certificates (RECs).
- Recommends new renewable energy projects and oversees the development of the planning and design phases of renewable energy and energy efficiency projects including feasibility and operational impact reports, detailed plans and specifications, permitting, work schedules, technical assistance, progress review and evaluation.
- Oversees management of new projects from development of scope of services, specifications, cost estimates, work schedules, through negotiations, and preparations of contract award recommendations. Oversees compliance with contract budgets, schedules and terms.
- Stays abreast of energy-related regulations, grant funding opportunities,
- Oversees management of ongoing energy contracts.
- Oversees the development of energy management budget.
- Oversees the management of energy-related data including collection, evaluation and summary of energy usage, costs, savings, and variables impacting them.
- Directs and oversees the developments energy conservation programs. Such programs will include: (a) a method for evaluating what level of energy conservation is cost-effective for particular facilities; (b) facility energy conservation plans; and (c) a priority list for energy conservation projects.
- Recommends agency, program or division energy policy by analyzing cost, operational and environmental impacts of proposed policy on division projects.
- Represents MWRA and coordinates projects with communities, government agencies, professional organizations and other MWRA departments. Oversees the provision of technical information and assistance. Addresses professional and community groups and initiates outreach projects as required, and acts as liaison with representatives of other agencies.
- Oversees the preparation of and reviews, as necessary, staff summaries to the Board of Directors.
- Ensures compliance with MWRA policies, procedures and directives, and regulatory requirements and applicable engineering standards. Ensures all activities are coordinated with operation staff, MWRA divisions and outside concerns as appropriate.
- Serves on MWRA consultant selection committees as requested.

**SECONDARY DUTIES:**

- Oversees personnel management. Ensures that major initiatives and policy changes are properly communicated to all staff. Identifies needed improvements to work practices and works with Operations Management and Labor Relations staff to bring about changes.
- Identifies organizational needs and proposes re-organization plans to address changing needs.
- Oversees staff productivity monitoring and continual improvement through staff skills development, strategic planning, SOP improvements and research and implementation of technology advances.
- Reviews assigned employees' performance per MWRA procedures.
- Assists in maintaining harmonious labor management relations through proper applications of collective bargaining agreement provisions and established personnel policies.

**MINIMUM QUALIFICATIONS:**

Education and Experience:

- (A) A four (4) year college program in environmental, civil or mechanical engineering or related field; and,
- (B) Master's degree in public policy, public administration, planning, environmental, civil or mechanical engineering with a focus on energy/sustainability preferred; and
- (C) Ten (10) or more years of experience in the area of energy management related to complex industrial/wastewater/water facilities, with at least 4 in a supervisory capacity; and

Necessary Knowledge, Skills and Abilities:

- (A) Knowledge of energy markets at the state and federal level.
- (B) Knowledge of equipment energy demand principles, energy production systems and their impacts on plant performance and budgets.
- (C) Knowledge of state and federal regulations related to energy.

(D) Outstanding computer skills to include proficiency with MS Office software package as well as MS Project and statistical data analysis packages.

(E) Demonstrated excellent organizational, written and verbal communication skills.

**SPECIAL REQUIREMENTS:**

None

**TOOLS AND EQUIPMENT USED:**

Office machines as normally associated with the use of telephone, personal computer including word processing, databases and other software, copy machine and fax machine. Field equipment used may include flashlight, tape measure, air, water and soil sampling equipment and sampling containers, and various hand held measuring devices such as LEL meters.

**PHYSICAL DEMANDS:**

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

While performing the duties of this job, the employee is regularly required to sit and talk or hear. The employee is frequently required to use hands to finger, handle or operate objects, including office equipment and controls, and reach with hands and arms, and unroll plans. The employee is also required to stand, walk and be able to climb staging and or ladders as associated with construction site visits in order to see facilities, associated equipment, and observe conditions, record information, and collect samples or take meter readings. In addition, the employee will need to be able to lift and carry reports, proposals and project files.

**WORK ENVIRONMENT:**

The work environment characteristics described here are representative of those an employee would encounter performing the essential functions of the job. While performing the duties of this job the employee works in an office environment as well as working in the field, at facilities, construction sites, or pipelines and easements.

April 2017

MWRA

**OLD**

**POSITION DESCRIPTION**

**POSITION:** Executive Secretary

**PCR#:**

**DIVISION:** Executive, Finance, Operations, Law, Administration

**DEPARTMENT:** Central Support, Environmental Quality, Executive Office, Treasury, Operations Administration, Operations Planning, FOD Administration, Human Resources, Law, Procurement, Program Management, Affirmative Action

**BASIC PURPOSE:**

Provides complete administrative and secretarial support. This description provides a range of possible duties but the incumbent will not necessarily perform all the duties listed below.

**SUPERVISION RECEIVED:**

Works under the general supervision of the departmental Director or Manager.

**SUPERVISION EXERCISED:**

May exercises supervision of secretaries or other entry-level staff.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Takes dictation, prepares meeting minutes; coordinates preparation of and/or composes and edits correspondence, reports, agendas, special projects and other materials on word processor.
- Attends division, department and unit meetings that includes meetings covering grievance resolution and collective bargaining strategy; takes notes and transcribes materials as needed.

- Answers phones, processes internal and external official information requests tactfully, records messages and routes calls. Greets and welcomes visitors/job applicants. Processes mail.
- Schedules appointments, meetings, and conferences, and makes travel arrangements; prepares expense reports.
- Develops and maintains a number of types of filing systems, including departmental and personal. Records, updates and tracks files using database management system or spreadsheets as required.
- Orders and distributes office supplies, coordinate purchasing and invoicing, prepare personnel actions, monitor the budget, and records payroll and attendance information.

**SECONDARY DUTIES:**

- Performs related duties as assigned.

**MINIMUM QUALIFICATIONS:**

Education and Experience:

- (A) Knowledge of administrative and secretarial procedures as normally attained through a two (2) year college, secretarial or business school program; and
- (B) Understanding of administrative and office procedures as acquired through five (5) to seven (7) years executive secretarial/administrative experience; or
- (C) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

- (A) Demonstrated proficiency in Microsoft Office products including Outlook, Word, Excel, Access and PowerPoint.
- (B) Excellent organizational, communication and interpersonal skills, including ability to handle confidential information.

**SPECIAL REQUIREMENTS:**

Must have successfully completed the MIS and professional development-related ACP requirements for this position. If no qualified ACP certified applicant applies for the position, the selected candidate will have 6 months to complete the ACP program.

**TOOLS AND EQUIPMENT USED:**

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

**PHYSICAL DEMANDS:**

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

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

There are no requirements that weight be lifted or force be exerted in the performance of this job. Specific vision abilities required by this job include close 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 regularly works in an office environment.

The noise level in the work environment is usually a moderately quiet.

**July 2002**

**NEW**

**MWRA  
POSITION DESCRIPTION**

**POSITION:** Administrative Systems Coordinator

**DIVISION:** Operations, Law, Administration, Affirmative Action & Finance

**DEPARTMENT:** Deer Island, Operations Administration, Administration, Lab Services, Public Affairs, Real Property and Management, Law, Affirmative Action

**BASIC PURPOSE:**

Assists in labor relations matters, administrative tasks, inventory control, recordkeeping, development and implementation of various computer software programs. Provides a range of possible duties, but will not necessarily perform all the duties listed below.

**SUPERVISION RECEIVED:**

Works under the general supervision of the location Director, Deputy Director, or Manager.

**SUPERVISION EXERCISED:**

Exercises supervision over assigned entry-level and clerical employees.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Manages all administrative activities such as payroll, accounting, inventory control and purchasing of items including equipment, supplies, and materials.
- Assists in the dissemination, direction and implementation of administration policies and procedures.
- Assists in yearly budget requests and manages databases for current expense budget for accounts and to-date reporting or expenditures. Answers quarterly variance questions and all other related budgetary questions.
- Coordinates the implementation of and manages the efficient use of the computerized programs in accordance with Authority policies and procedures.
- Under the supervision of the supervisor, reviews professional services invoices to verify the accuracy of data submitted and cross references data against contract documents. Assists in setting up detailed spreadsheets used to track contract data such as overhead rates, contract

hourly rates, fees and salaries. Enters and updates spreadsheet data as necessary to maintain the accuracy of contract invoice details.

- Reviews assigned employee performance in accordance with Authority Policies and Procedures.
- Coordinates the preparation of documents, reports, etc. for all administrative, human resources, payroll, and inventory functions.
- Performs all secretarial duties such as correspondence, telephones, files, calendar, conferences etc.
- Develops and implements computer generated work order systems and coordinates some with material requirements.

**SECONDARY DUTIES:**

- Coordinates special projects as needed.
- Performs related duties as required.

**MINIMUM QUALIFICATIONS:**

Education and Experience:

- (A) A two (2) year undergraduate degree, bachelor of arts or bachelor of science or related field; and
- (B) Organizational and administrative skills as attained through four (4) to seven (7) years experience; or
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Demonstrated proficiency in Microsoft Office products including Outlook, Word, Excel, Access and PowerPoint.
- (B) Familiarity of database and HRIS software
- (C) Demonstrated experience in planning, organizing, and supervising projects.
- (D) Excellent analytical, interpersonal, oral and written communication skills.

**SPECIAL REQUIREMENTS:**



Must have successfully completed the MIS and professional development-related ACP requirements for this position. . If no qualified ACP certified applicant applies for the position, the selected candidate will have 6 months to complete the ACP program.

**TOOLS AND EQUIPMENT USED:**

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

**PHYSICAL DEMANDS:**

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

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

The employee must regularly lift and/or move up to 10 pounds. Specific vision abilities required by this job include close vision, 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 regularly works in an office environment.

The noise level in the work environment is usually a moderately quiet office setting.

**December 2014**

**MWRA**  
**POSITION DESCRIPTION**

**OLD**

**POSITION:** Senior Survey Engineer

**PCR#:**

**DIVISION:** Operations

**DEPARTMENT:** Engineering & Construction

**BASIC PURPOSE:**

Oversees and performs, with minimal supervision, survey services for various engineering, construction and field operations. Performs surveying work requiring the application of surveying principles and manages technical assistance survey contracts and task orders.

**SUPERVISION RECEIVED:**

Works under the general supervision of a senior manager.

**SUPERVISION EXERCISED:**

May exercise supervision over assigned professional and technical staff as needed.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Manages, with minimal supervision, task orders and survey contracts, and survey consultant selection, including the development of scope of services, plans and specifications, cost estimates, work schedules, technical review of consultant work, negotiations, and preparation of contract award recommendations. Ensures compliance with contract budgets, schedules, and terms.
- Performs survey projects of substantial difficulty. Determines methods to be used in performing surveys in accordance with Department/Professional standards.

- Performs survey calculations for control surveys, topographic and construction surveys.
- Performs high accuracy survey and mapping of MWRA systems. May supervise resources and staff assigned to field survey projects.
- Works with the CADD group to place surveys onto plan drawings.
- Performs research at Registry of Deeds, Land Court, state, county and municipal agencies, utility companies and other agencies.
- Prepares topographic plans and other survey drawings.
- Maintains the survey database on survey assignments.
- Provides Planning staff with survey data used for mapping purposes. Works with Planning staff to perform quality assurance and control on survey data collection.
- Operates and maintains advanced survey equipment and devices. Keeps abreast of changes in survey and mapping technology in order to ensure appropriate technology is researched and considered for application.
- Develops and recommends and upon approval implements survey standards and procedures.
- Organizes and manages survey group files, databases, field books, drawings and other records used in the performance survey duties.
- Coordinates projects with communities, external public interest groups, government agencies, and other MWRA departments. Provides technical information and assistance. May address professional and community groups and initiate outreach projects.

**SECONDARY DUTIES:**

- Performs related duties as required.

**MINIMUM QUALIFICATIONS:**

Education and Experience:

- (A) A four (4) year college program in surveying, surveying engineering, civil engineering or related field; and
- (B) Five (5) years surveying experience; or
- (C) Any equivalent education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Proficiency with electronic total stations and data collectors required, including generating of finished plots using Survey CADD Civil 3-D software.
- (B) Experience with AutoCAD and ArcInfo software required.
- (C) Experience with GPS required, including mission planning, field observations and post processing.
- (D) Demonstrated ability to function independently with minimal supervision.
- (E) Familiarity with the Technical and Procedural Standards for the Practice of Land Surveying in Massachusetts (250 CMR).
- (F) Familiarity with state and local laws regarding the practice of land surveying.
- (G) Familiarity with computer software packages such as MS Office.

**SPECIAL REQUIREMENTS:**

Valid Massachusetts Class D driver's license.

**TOOLS AND EQUIPMENT USED:**

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

**PHYSICAL DEMANDS:**

The physical demands described are representative of those that must be met by an employee to

successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

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

The employee may occasionally be required to lift and/or move up to ten pounds. Specific vision abilities required by this job include close vision.

**WORK ENVIRONMENT:**

The work characteristics described here are representative of those an employee encounters while performing the essential functions of this job. While performing the duties of this job, the employee occasionally works in outside weather conditions.

The noise level in the work environment is moderately quite in an office setting.

**March 2013**



MWRA

**POSITION DESCRIPTION**

**POSITION:** Project Manager, Service Contracts

**PCR#:**

**DIVISION:** Operations

**DEPARTMENT:** Maintenance

**BASIC PURPOSE:**

Provides technical assistance in support of the overall maintenance program, civil design services and field-inspection services for various Operations construction and maintenance projects. Manages service contracts including oversight, development, procurement, implementation and administration for metropolitan Boston and Authority wide facilities, equipment, systems and property.

**SUPERVISION RECEIVED:**

Works under the general supervision of a Program Manager and Sr. Program Manager Maintenance

**SUPERVISION EXERCISED:**

Exercises close supervision of assigned staff.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Solicits input from stakeholders and develops new and modified service contracts as assigned in a timely fashion to ensure contract continuity.
- Manages assigned staff in support of service contracts and other maintenance activities.
- Prepares required documentation to procure service contracts including but not limited to: cost estimates, contract requisition, contract bid packages, prevailing wage rates, responses to bidders, bid evaluations, and staff summaries. Works with procurement staff and managers to finalize all required contract and award documentation.
- Administers assigned service contracts, including but not limited to scheduling, documenting, and tracking preventative, corrective & emergency services; documenting and tracking certificate/permit needs; and tracking project budgets.

- Analyzes Maximo data for assigned assets to evaluate equipment maintenance effectiveness and to make improvement recommendations. Works with maintenance and work coordination managers to ensure documentation is being recorded in the maintenance management system (MAXIMO) for all assigned service contracts.
- Performs periodic site assessments/audits/inspections of work performed on assigned service contracts to ensure contract compliance. Reviews and approves invoices after confirmation that it corresponds with the work performed.
- Tracks all Operations Division service contracts to provide reports on budget and schedule updates to managers and financial staff upon request.
- Identifies the need for change orders and prepares change order documentation (PCO, Staff Summaries, CO, etc.) to meet financial shortfalls, and closes out assigned service contracts.
- Develops and administers warranty program for assigned assets.
- Defines, develops, administers and refines programs to support a pro-active maintenance environment. Guides efforts to ensure reliability and maintainability of equipment, processes, utilities, facilities and safety systems.
- Responsible for annual condition assessment and development of asset replacement strategy for assigned assets.
- Coordinates project and service contract activities with engineering consultants, contractors, manufacturers, and operations and maintenance staff as required.
- Develops conceptual sketches, field measurements and reviews manufacturer product data. Compiles designs and drawings, provides first draft layouts, and details options for review. Incorporates review comments into a final version with minimal technical guidance, supervision and direction.
- Oversees modifications to operation and maintenance documentation with respect to facility design modification and upgrades.
- Develops and maintains files and familiarity with all applicable codes, code addenda, code cases and industry standards applicable to facility equipment, buildings and grounds. Ensure that service contract documents comply.
- Provides oral and written reports detailing results of problem investigations and economic justification for proposed changes.

**SECONDARY DUTIES:**

- Performs related duties as required.

**DESIRED MINIMUM QUALIFICATIONS:**

**Education and Experience:**

- A. A four (4) year college degree or Bachelor of Science in civil, mechanical or facilities engineering or a related field; and
- B. A thorough knowledge of the operation and maintenance of large Municipal Water & Sewerage systems, facilities and equipment as normally attained through five (5) to seven (7) years of experience; or
- C. Any equivalent combination of education and experience.

**Necessary Knowledge, Skills and Abilities:**

- A. Demonstrated knowledge of building, equipment and grounds maintenance, including general and specific knowledge of installation and maintenance principles and practices.
- B. Knowledge of Massachusetts bidding laws including M.G.L., Chapter 30 and Chapter 149 construction bidding regulations.
- C. Demonstrated ability to procure and administer contracts used to inspect, service, and repair facilities and facility components of similar magnitude and complexity to those under MWRA responsibility.
- D. Demonstrated abilities to work as part of a project team, to develop and maintain productive working relationships with external parties, and to function independently with minimal supervision.
- E. Familiarity with state-of-the-art asset management strategies including reliability centered maintenance, and preventative and predictive maintenance programs.
- F. Proficiency with personal computers, handheld computer devices, word processing, spreadsheets, CMMS and engineering applications software required.
- G. Ability to prepare applications and obtain occupancy permits, wetland permits and historic permits from relevant local, state and federal agencies.
- H. Excellent interpersonal, verbal and written communications skills required.

**SPECIAL REQUIREMENTS:**

A valid Massachusetts Class D Motor Vehicle Operator's License.

Registered Professional Engineers license preferred.

A valid Grade II Water Treatment Operators License or Grade II Distribution Operators License, or Grade 2 Wastewater Operator's license 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, including office equipment or controls and reach with hands and arms. The employee frequently is required to sit and talk or hear. The employee is required to stand, walk, climb or balance, stoop, kneel, crouch or crawl, and smell.

The employee must frequently lift and/or move up to 20 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, depth perception, peripheral vision and the ability to adjust focus.

**WORK ENVIRONMENT:**

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

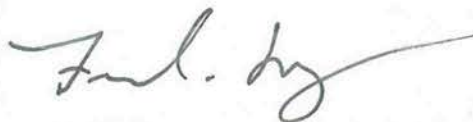
While performing the duties of this job, the employee regularly works in an office environment. The employee occasionally works near moving mechanical parts, and is occasionally exposed to outdoor weather conditions.

The noise level in the work environment is usually moderately quiet in an office setting.

**May 2017**

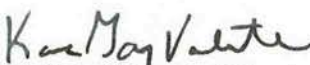
**STAFF SUMMARY**

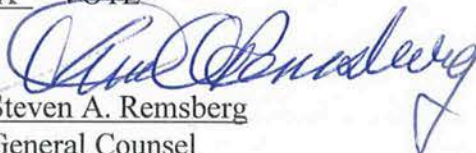
**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** June 7, 2017  
**SUBJECT:** Appointment of Associate General Counsel



COMMITTEE: Personnel & Compensation

       INFORMATION  
  X   VOTE

  
Karen Gay-Valente, Director, Human Resources  
Preparer/Title

  
Steven A. Remsberg  
General Counsel

**RECOMMENDATION:**

That the Board approve the appointment of Michael J. Altieri to the position of Associate General Counsel, Operations, Law Division (Non-union, Grade 15) at an annual salary of \$130,000 commencing on a date to be determined by the Executive Director.

**DISCUSSION:**

A vacancy has been created in the position of Associate General Counsel (Operations) in the Law Division as a result of the retirement of the incumbent. on January 13, 2017. The position reports to the General Counsel and has traditionally involved a broad range of duties involving legal guidance and assistance arising out of MWRA's day-to-day operations. Areas of responsibility handled by this position and supporting staff include issues relating to public procurement laws, environmental law, negotiation of terms and conditions of contracts and purchase orders, real estate transactions including review of DCR watershed parcel acquisitions, 8(m) permit approvals, insurance and surety bond matters, and energy law issues. The position also handles and supervises a variety of additional matters involving compliance with public records requests, cost-recovery analysis of completed construction and design contracts, and handling of transactions and agreements with other state entities.

**SELECTION PROCESS:**

The position was posted internally and externally. Thirty applications were received from which four candidates were selected to be interviewed, including one internal candidate. The interviews were conducted by the General Counsel, the Director of the Affirmative Action and Compliance Unit, and the Director of Administration. Following the first round of interviews, two finalists were unanimously agreed upon. Follow-up interviews were then conducted for these two candidates by MWRA's General Counsel, the Chief Operating Officer and the Director of Procurement. Upon completion of the second round of interviews, Michael J. Altieri was identified as the most qualified candidate based upon the education, experience and knowledge required for the position.

Mr. Altieri began his legal practice in New York State in the Office of General Counsel of New York's Department of Environmental Conservation where he logged more than 5 years of experience with issues arising under both the Clean Water Act and the Safe Drinking Water Act, including work involving a filtration avoidance determination for two of New York City's drinking water sources, CSO compliance issues, and permitting requirements under NPDES and SPDES permits. Attorney Altieri next worked in the Office of General Counsel for the Massachusetts Department of Environmental Protection for 2 ½ years where he worked on a range of matters including vehicle emissions, solid wastes, hazardous wastes, water resources matters, and asbestos remediation and wetlands enforcement. Attorney Altieri next served as an Assistant General Counsel for the Massachusetts Department of Conservation & Recreation for 3 ½ years where he dealt with a variety of construction and procurement matters, participated in DCR/MWRA real estate and watershed acquisition transactions, and handled energy-related matters and continued his experience with environmental compliance matters arising under Massachusetts law (chapter 21E) and under the federal CERCLA statute. Attorney Altieri presently serves as the General Counsel for the Massachusetts Department of Energy Resources (DoER) where he heads up a legal team involved with the agency's contract, finance and procurement needs and with a wide variety of energy policy issues, including the handling of energy-related matters before the Massachusetts Department of Public Utilities. Prior to his appointment as DoER General Counsel in January 2016, Attorney Altieri served for three years with that agency first as Counsel and later as its Acting General Counsel prior to his appointment to his current post.

Attorney Altieri meets the educational and licensing requirements for the position. He earned a Bachelor of Arts degree from the State University of New York (Buffalo) in 1995 and a Juris Doctor degree from Union University (Albany Law School) in 1999. He was admitted to practice in New York in 2000 and in Massachusetts in 2006. He is in good standing in both jurisdictions.

**BUDGET/FISCAL IMPACT:**

There are sufficient funds in the FY17 CEB to fund this position.

**ATTACHMENTS:**

- Resume of Michael J. Altieri
- Position Description
- Law Division's Organization Chart

# MICHAEL J. ALTIERI

New York State - Admitted 2000

Massachusetts - Admitted 2006

## EXPERIENCE

### **Mass. Dept. of Energy Resources, Office of General Counsel, Boston, MA,**

*General Counsel*, January 2016 - present

*Acting General Counsel*, October 2015 - December 2015

*Counsel*, November 2012 - September 2015

- Provide direct legal counsel to the Department's Commissioner and executive staff while leading a team of attorneys who service the legal needs of the Department.
- Serve as the primary legal counsel to the Department's finance office. Responsible for reviewing the Department's procurement solicitation documents; contracts; federal and state grants and trusts; and other documents crucial to the Department's contracting operations.
- Represent the Department in dockets before the Massachusetts Department of Public Utilities. Prepared legal memoranda, pleadings, Department witnesses, and testimony for administrative hearings, including rate cases, energy efficiency, and various investigations.
- Conduct hearings and performed drafting necessary for the promulgation of Department regulations concerning Energy Management Services contracting, the Commonwealth's Renewable Energy Portfolio Standard, and its Green Communities Programs.
- Collaborate with agency analysts in preparing briefing memos and researching energy policy issues regarding the implementation of the Commonwealth's Climate Protection and Green Economy Act.
- Provided counsel to the Green Communities and Renewable and Alternative Energy Development Divisions on a variety of legal issues. Examples include counsel and support on public record requests, non-disclosure agreements, data privacy, and procurements for renewable energy.

### **Mass. Dept. of Conservation & Recreation, Office of General Counsel, Boston, MA,**

*Assistant General Counsel*, June 2008 – October 2012

- Represented Department Staff in administrative proceedings to demonstrate compliance with the Commonwealth's various public procurement and construction laws that led to favorable reported decisions in the following matters:
  - *Hi-Way Safety Systems Inc. v. DCR*, Attorney General Bid Protest Decision (2009); *The Aulson Company v. DCR*, Attorney General Bid Protest Decision (2009); *Dagle Electrical Construction Corporation v. DCR*, Attorney General Bid Protest Decision (2009); and *Tasco Construction, Inc. v. DCR*, Attorney General Bid Protest Decision (2012).
- Served as the Department's liaison counsel, responsible for developing litigation strategies, drafting affidavits, and related litigation documents in a proceeding that challenged the Department's award of a significant bridge rehabilitation contract, in which the reviewing court upheld the Department's actions in all respects. *MIG Corporation, Inc. v. Mass. Dep't. of Cons. and Rec. and SPS New England, Inc.*, Middlesex Sup. Ct., No. MICV 2012-1429 (April 30, 2012).

- Served as counsel to the Department's Division of Contract Administration and Procurement, including matters related to the Department's procurement of energy management systems and renewable energy facilities.
- Reviewed and prepared legal documents associated with Commonwealth land acquisition and disbursement projects, including the negotiation and drafting of watershed preservation restrictions, easements, and fee interest documents.
- Provided legal counsel to various Department Divisions and Bureaus on compliance with M.G.L. c. 21E, the Massachusetts Contingency Plan, CERCLA, which touch and concern Departmental programs including, but not limited to, contaminated lands under the care, custody, and control of the Department.

**Mass. Dept. of Environmental Protection, Office of General Counsel, Boston & Wilmington, MA;**  
*Senior Counsel & Senior Regional Counsel, January 2006 – May 2008.*

- Provided legal counsel and support for all aspects the Commonwealth's Motor Vehicle Enhanced Emissions and Safety Test Program. Drafted and completed negotiation of one of the Commonwealth's largest service-based public contracts necessary for the implementation of the Commonwealth's Motor Vehicle Enhanced Emissions and Safety Test Program.
- Represented the Department's central and regional offices in all aspects of contested administrative proceedings challenging Department permits, licenses, and enforcement orders.
- Negotiated administrative orders on consent and drafted administrative enforcement orders.
- Provided legal assistance to the Department's central and regional offices regarding program implementation and enforcement of Massachusetts solid wastes, hazardous waste, and water resources matters, with a particular emphasis on asbestos and wetlands enforcement.

**New York State Dept. of Environmental Conservation, Office of General Counsel, Albany, NY**  
*Senior Attorney, October 2000 – January 2006.*

- Served as the legal advocate for Department's negotiating team regarding the USEPA's 2002 *Filtration Avoidance Determination*, allowing New York City to continue to avoid filtering its Catskill/Delaware water supply systems. Acquired working knowledge of the Federal Clean Water and Safe Drinking Water Acts and New York State Clean Water laws, including the enforcement and permitting requirements under the NPDES/SPDES programs.
- Department's liaison counsel, responsible for developing litigation strategies, drafting affidavits, and related litigation documents in the following environmental judicial proceedings:
  - *Altman v. Town of Amherst, N.Y., EPA, and NYSDEC*, 98-CV-237 (W.D.N.Y.) (Clean Water Act / Pesticides Proceedings); *Catskill Mountains Chapter of Trout Unlimited, et al. v. City of New York et al.* 00-CV-0051 (N.D.N.Y.) (Clean Water Act / Shandaken Tunnel Proceedings); and *Wisconsin Builders Association v. EPA*, 03-2908 (7<sup>th</sup> Cir.) (In Re EPA, Final NPDES General Permit for Storm Water Discharge From Construction Activities).
- Department's counsel / co-counsel of record in the following environmental administrative proceedings:
  - *In the Matter of the New York City Department of Environmental Protection*, NYSDEC Case Nos. NY0026191, *et al.* (NYC 14 SPDES Permits / Long Island Sound TMDL); and *In the Matter of the City of Plattsburgh*, NYSDEC Case No. NY-0026018 (SPDES Permit / Lake Champlain TMDL).

**General Electric Corporation, Energy (formerly Power Systems) - Legal, Schenectady, NY**  
*Law Clerk, September 1999 - October 2000.*

Served as a law clerk to the GE Environment, Health, & Safety (EHS) Senior Counsel, Counsel, and EHS professionals. Aided in many areas of Power Systems' EHS regulatory compliance. Substantive experience in the following environmental regulatory compliance areas: CAA (Title V & NSR), CWA, CERCLA/EPCRA, RCRA, and TSCA. Assisted with legal research as applicable to environmental audits, EHS issues in acquisitions and divestitures, and risk management for new products and services. Completed a comprehensive project, which analyzed individual state minor source CAA permitting requirements.

**NYS Office of the Attorney General, Environmental Protection Bureau, Albany, NY**  
*Legal Aide, May 1998 - May 1999; Legal Extern, 1997 - 1998.*

Assisted attorneys in analyzing legal issues and researching solutions critical to protecting New York's environmental interests. Drafted legal memoranda and affidavits on issues including: the CAA, the CWA, the NYC Watershed Agreement, wetlands enforcement, Adirondack Park land use enforcement, RCRA, solid waste, public nuisance, and Brownfields redevelopment.

#### EDUCATION

**Albany Law School of Union University, Albany, NY**  
Juris Doctor, May 1999

- Concentration: Environmental Law
- *Coordinating Editor*, Albany Law Environmental Outlook Journal
- Gary M. Peck '79 Memorial Prize, May 1999  
Established by the General Counsel, Regional attorneys, and the staff of attorneys of the New York State Department of Environmental Conservation with the support of the family of Gary Peck, ALS alumnus and professor, to the graduating senior who demonstrates a strong interest in environmental law, a commitment to solving problems, and personal integrity.
- Gary M. Peck '79 Scholarship, for excellence in environmental law, November 1998
- Environmental Law Society, September 1996 - May 1999

**State University of New York at Buffalo**  
BA in Political Science, Minor in Economics, May 1995

**MWRA  
POSITION DESCRIPTION**

**POSITION:** Associate General Counsel

**DIVISION:** Law

**DEPARTMENT:** Law

**BASIC PURPOSE:**

Handling all legal issues, provides advice and manages the staff in the areas of responsibilities described below.

**SUPERVISION RECEIVED:**

Works under the general supervision of the General Counsel.

**SUPERVISION EXERCISED:**

Exercises close supervision of the Senior Staff Counsel and administrative staff.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Supervises a staff of attorneys, and a secretary involved in the handling of all legal issues in the following areas:
- Handles and/or supervises all Authority real estate transactions, including grants of easements and licenses; reviews documentation involving DCR watershed acquisitions, and manages Law Division review of 8(m) permits.
- Handles a variety of transactions and legal agreements involving Authority projects and facilities typically involving a wide range of procurement and contracting issues.
- Assists with contractor and consultant disputes and claims against the Authority and serves as Law Division's representative on all cost recovery matters.
- Reviews legislation and regulatory pronouncements affecting the Authority and advises senior managers about the potential impacts upon the Authority's activities, practices and procedures.
- Analyzes and develops rules, regulations and policies, and provides advice on interpretations of the MWRA Enabling Act.

- Apprises the Board of Directors, Executive Director and General Counsel of issues and developments in areas of responsibility.
- Ensures that public records requests are handled in a timely, well-organized manner within the requirements of law.

**SECONDARY DUTIES:**

- Performs related duties as required.

**MINIMUM QUALIFICATIONS:**

Education and Experience:

- (A) Analytical and writing skills as normally attained through a four (4) year college program. A JD from accredited law school is required; and
- (B) Understanding of and experience in legal areas such as Massachusetts public entity competitive procurement law , real estate, contracts, as acquired by seven (7) to ten (10) years of related experience; and
- (C) Eligibility to practice under rules of reciprocity is required; or
- (D) Any combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Strong supervisory skills are preferred.
- (B) Strong analytical, organizational and writing skills are required.

**SPECIAL REQUIREMENTS:**

Admittance to the bar to practice law in Massachusetts

A valid Class D Motor Vehicle Operator's license

**TOOLS AND EQUIPMENT USED:**

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

**PHYSICAL DEMANDS:**



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

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

There are no requirements that weight be lifted or force be exerted in the performance of this job. Specific vision abilities required by this job include close vision, and the ability to adjust focus.

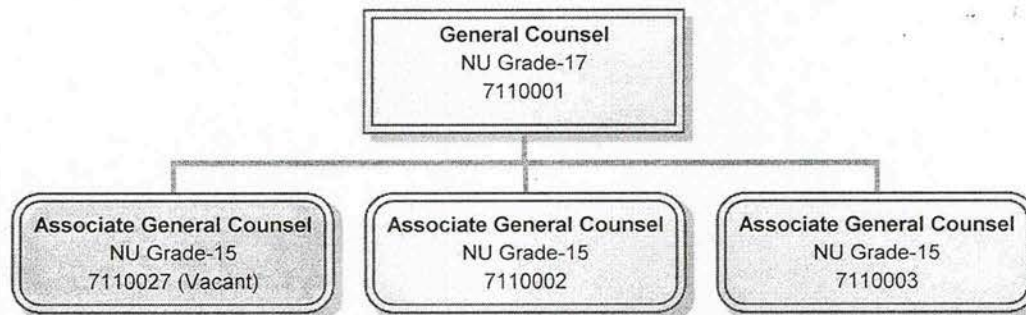
**WORK ENVIRONMENT:**

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 regularly works in an office environment. The noise level in the work environment is usually a moderately quiet office setting.

# Law Department

## June 2017



**STAFF SUMMARY**


**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** June 7, 2017  
**SUBJECT:** Appointment of Assistant Director  
Engineering & Construction Department



COMMITTEE: Personnel & Compensation

     INFORMATION  
  X   VOTE

Karen Gay-Valente, Director, Human Resources  
John P. Vetere, Deputy Chief Operating Officer  
A. Navanandan, P.E., Chief Engineer  
Preparer/Title

  
Michael J. Hornbrook  
Chief Operating Officer

**RECOMMENDATION:**

To approve the appointment of Mr. David K. Pottle to the position of Assistant Director (Non-union, Grade 14) in the Engineering & Construction Department, at the recommended salary of \$132,777.91, to be effective on a date to be determined by the Executive Director.

**DISCUSSION:**

The position of Assistant Director in the Engineering & Construction Department became vacant in March 2017 as a result of the retirement of the incumbent. The Assistant Director position reports directly to the Deputy Chief Engineer and manages an in-house staff of twenty-five, as well as numerous consultant contracts. This position directs the development and administration of capital improvement and current expense projects; assists in the preparation of and oversees the department's capital improvement budget; and assists in the evaluation of solutions to engineering problems. In addition, the person in this position provides supervision and technical oversight to engineering staff, and is responsible for managing projects within the Engineering section, including overseeing and coordinating staffing with project workload to assure consistency of project execution and quality, and adherence to MWRA policies and procedures.

**Selection Process**

This Assistant Director position was posted internally and externally and sixteen candidates applied. Six candidates were determined to be qualified (four internal and two external) and were interviewed by the Chief Engineer, Deputy Chief Engineer and the Director of Affirmative Action and Compliance Unit. Upon completion of the interviews, Mr. David Pottle was identified as the most qualified candidate based on his education, experience and knowledge of the requirements of the position.

Mr. Pottle has over thirty years of engineering experience including 27 years at MWRA serving in progressively responsible positions, and currently holds the position of Program Manager. He has extensive experience working on planning of design of capital projects including: East Boston Branch Sewer Relief; Upper Neponset Valley Relief Sewer; West Roxbury Tunnel; Cummingsville Branch Replacement Sewer; Nut Island Headworks Electrical and Conveyors Improvements; and the ongoing Alewife Brook Pump Station Rehabilitation and Nut Island Headworks Odor Control and HVAC Improvements projects. He has demonstrated his experience managing professional services contracts and has successfully supervised and provided technical support to staff. Prior to his employment at MWRA Mr. Pottle worked for 3 years in design and construction for a regional transportation company. During his 27 years at the MWRA Mr. Pottle has earned the respect of his colleagues and supervisors.

Mr. Pottle earned a Bachelor of Science degree in Civil Engineering from the University of Massachusetts Lowell and a Master of Science degree in Environmental Studies from the University of Massachusetts Lowell. He is a registered Professional Engineer in Massachusetts. In addition, he holds a Massachusetts Grade 6 Wastewater Treatment Plant Operator's License and a Massachusetts Grade 4 Wastewater Collections Systems Operator's License.

**BUDGET/FISCAL IMPACT:**

There are sufficient funds in the FY17 CEB for this position.

**ATTACHMENTS:**

Resume of David Pottle  
Position Description  
Organization Chart

## David K. Pottle, P.E.

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### QUALIFICATIONS SUMMARY

- Engineering professional with over 30 years of increasingly responsible experience managing design and construction phase services for major infrastructure projects
- Successful track record advancing projects from concept to completion
- Highly experienced in design and construction of Massachusetts c.30 and c.149 projects
- Demonstrated experience managing staff and resources to achieve project goals
- Detail oriented with proven ability to produce high quality work

### EXPERIENCE

Massachusetts Water Resources Authority, Chelsea, MA

*Program Manager (2013-present), Project Manager (1995-2013), Project Engineer (1990-1995)*

Manage major capital projects. Projects include:

- **Nut Island Headworks Odor Control and HVAC Improvements, Quincy, MA.** Prepared Design, Construction Administration and Resident Engineering (Design/CA/RE) services contract for improvements to odor control and HVAC systems at 400 mgd remote headworks facility serving 21 communities. Design phase start March 2017.
- **Nut Island Headworks Fire Inspection and Assessment.** Prepared scope of work and managed emergency inspection and assessment services immediately following January 2016 fire in odor control system.
- **Alewife Brook Pump Station Rehabilitation, Somerville, MA.** Prepared Design/CA/RE contract and managed design of mechanical, electrical, HVAC, instrumentation, structural, architectural and environmental upgrades to 90 mgd pumping station. Project in construction. Managing construction administration and resident engineering services.
- **Prison Point CSO Facility Improvements, Cambridge, MA.** Drafted Design/CA/RE contract for mechanical, electrical, HVAC, instrumentation and architectural upgrades to combined wastewater pumping, detention and treatment facility. Responsible for Design/CA/RE contract being managed by staff.
- **Cambridge Branch Sewer Study, Somerville, Cambridge, Boston and Everett, MA.** Responsible for structural rehabilitation study for three miles of large capacity brick sewer being managed by staff.
- **Nut Island Headworks Electrical and Conveyors Improvements.** Prepared Design/CA/RE contract and managed design, construction administration and resident engineering services for upgrades to electrical systems and grit and screenings conveyors.
- **East Boston Branch Sewer Relief, Boston, MA.** Prepared Design/CA/RE contract and managed court-ordered design of 3½ miles of large diameter combined sewers under two construction packages (2½ miles of relief sewer by microtunneling and 1 mile of rehabilitated sewer by pipebursting).
- **East Boston Branch Sewer Relief, Boston, MA.** Prepared scope of work and managed reevaluation of MWRA's plan for long-term CSO control in East Boston.

David K. Pottle, P.E.

- **Union Park CSO Detention/Treatment Facility, Boston, MA.** Managed fast-track completion of design, permitting and construction award for 2.2 million gallon combined wastewater storage and treatment facility.
- **West Roxbury Tunnel, Boston, MA.** Prepared Design/CA/RE contract and managed fast-track design to repair corroded portal of deep rock tunnel and 1,000 feet of corroded upstream sewer. Managed conceptual design of repair and replacement options for 2 miles of deep rock tunnel.
- **Upper Neponset Valley Relief Sewer, Boston and Newton, MA.** Prepared Design/CA/RE contract and managed planning and MEPA permitting for construction of 4 miles of interceptor sewers serving 4 communities.
- **Cummingsville Branch Replacement Sewer, Winchester, MA.** Prepared Design/CA/RE contract and managed planning, permitting and design of improvements to 2 miles of interceptor sewer serving 3 communities.
- **Braintree-Weymouth Marine Pipeline.** Prepared study contract and managed fast-track evaluation of 3 miles of wastewater and filtrate force mains between North Weymouth and Quincy, MA as alternative to deep rock tunnel.
- **Siphon Chamber and Connecting Structure Rehabilitation.** Prepared contract for conceptual design of improvements to 150 wastewater structures.

#### **ADDITIONAL EXPERIENCE**

Guilford Transportation Industries, Billerica, MA (1987 - 1990)

*Engineer of Special Projects*

Managed capital projects and provided engineering support.

- Managed wastewater collection system and pumping station construction, Billerica, MA.
- Reviewed designs, prepared agreements and supervised field personnel for construction activities on corporate property.

#### **LICENSES**

Registered Professional Civil Engineer (MA No. 38120)

Licensed Grade 6 Wastewater Treatment Plant Operator (MA No. 2942)

Licensed Grade 4 Wastewater Collection Systems Operator (MA No. C-2507)

#### **EDUCATION**

Bachelor of Science, Civil Engineering, University of Lowell

Master of Science, Environmental Studies, University of Massachusetts Lowell

**PROFESSIONAL AFFILIATIONS** Member, American Society of Civil Engineers

Member, Boston Society of Civil Engineers

**REFERENCES** Furnished upon request

**MWRA  
POSITION DESCRIPTION**

**POSITION:** Assistant Director, Engineering

**DIVISION:** Operations

**DEPARTMENT:** Engineering and Construction

**BASIC PURPOSE:**

Assists in the direction of all aspects of engineering capital projects and current expense projects, including conceptual development planning, design and pre-construction for assigned unit.

**SUPERVISION RECEIVED:**

Works under the general supervision of the Chief Engineer

**SUPERVISION EXERCISED:**

Exercises close supervision of the assigned unit.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Directs the development and administration of capital improvement and current expense projects within the assigned unit. Develops funding plans for projects; assists in the preparation of and oversees the department's capital improvement budget.
- Assists in the evaluation of solutions to engineering problems and develops environmentally sound solutions.
- Oversees the work of staff and consulting engineers to insure adherence to budgets, schedules, quality of outputs and compliance with scope of services and contract terms.
- Oversees coordination of projects and engineering functions with appropriate MWRA Divisions and sees that projects comply with MWRA policies and procedures.
- Recommends and develops agency, program, or department policy by analyzing all pertinent issues and information regarding the impact of proposed policy on the provision of services to clients, consumers, or the general public and by determining the resources necessary to implement such policy.
- Maintains communication with local, State, and Federal agencies, professional organizations and community groups to provide information on and gain support for programs.

- Participates in preparing for collective bargaining and hears Step One Grievances.
- Develops and oversees current expense budget for assigned unit.
- Oversees and coordinates staffing with project workload to assure consistency of project execution and quality, and adherence to Massachusetts Water Resources Authority's policy and procedures.

**SECONDARY DUTIES:**

- Performs related duties as required.

**MINIMUM QUALIFICATIONS:**

Education and Experience:

- (A) A four (4) year college program in engineering or a related field. Graduate degree preferred; and
- (B) An understanding of water and/or wastewater engineering and contract construction management as acquired by a minimum of twelve (12) years experience including at least four (4) years in a supervisory position.

Necessary Knowledge, Skills and Abilities:

- (A) Knowledge of engineering practices and principles.
- (B) A general understanding of engineering principles and practices.
- (C) Demonstrated verbal and written communication skills.

**SPECIAL REQUIREMENTS:**

A Massachusetts Registered Professional Engineer.  
A Massachusetts Class D driver's license

**TOOLS AND EQUIPMENT USED:**

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



**PHYSICAL DEMANDS:**

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

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

The employee must regularly lift and/or move up to 10 pounds. Specific vision abilities required by this job include close vision, and the ability to adjust focus.

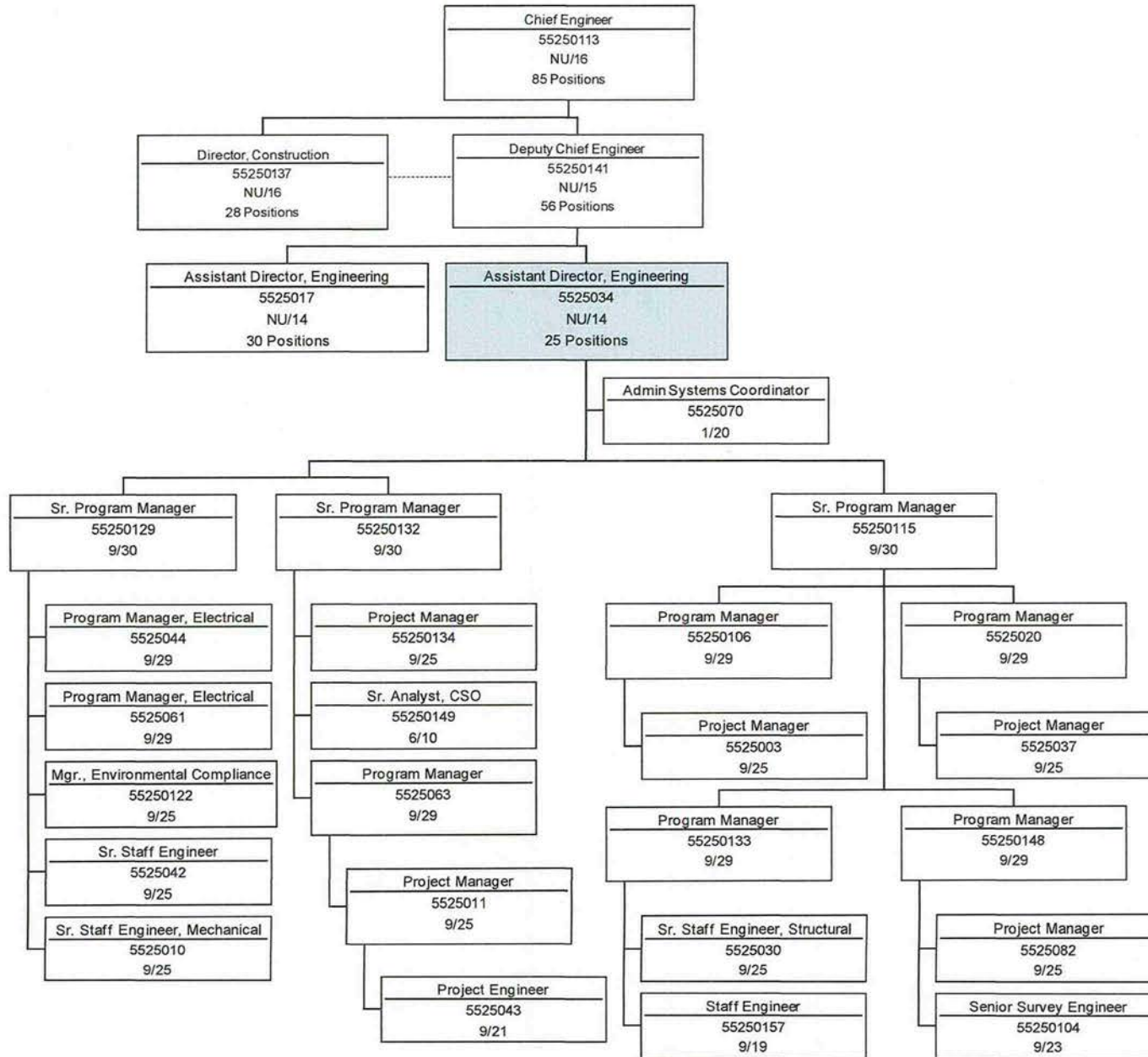
**WORK ENVIRONMENT:**

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 regularly works in an office environment.


The noise level in the work environment is usually a moderately quiet office setting.

# Engineering & Construction

Engineering  
June 2017



## STAFF SUMMARY


**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director   
**DATE:** June 7, 2017  
**SUBJECT:** Appointment of Project Manager  
Process Control & Project Support, Operations Division

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COMMITTEE: Personnel & Compensation

     INFORMATION  
  X   VOTE

Karen Gay-Valente, Director, Human Resources  
John P. Vetere, Deputy Chief Operating Officer  
Brian Kubaska, P.E., Manager of SCADA & Process Control  
Preparer/Title

  
Michael J. Hornbrook  
Chief Operating Officer

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### RECOMMENDATION:

To approve the appointment of Mr. George Bacon, to the position of Project Manager, Process Control & Project Support (Unit 9, Grade 25) in the Operations Division, at the recommended salary of \$89,433.09 commencing on a date to be determined by the Executive Director.

### DISCUSSION:

This Project Manager position in Process Control & Project Support became vacant upon the promotion of the previous incumbent. The Process Control & Project Support group is responsible for managing process control issues associated with maintenance and construction projects, and for day-to-day process control systems of wastewater facilities (headworks, pump stations and CSO facilities) and water distribution and transmission facilities (pump stations and water storage tanks). This position reports to the Senior Program Manager of Process Control & Project Support and is responsible for managing process control improvement projects and providing problem solving and technical support for operations.

### Selection Process

This Project Manager position was posted internally and eight candidates applied. There were five applicants referred who were interviewed by the Manager of SCADA & Process Control, the Senior Program Manager of Process Control & Project Support and a representative from MWRA's Affirmative Action and Compliance Unit. Upon completion of the interviews, Mr. Bacon was identified as the most qualified candidate based on his education, experience, and knowledge of the requirements of the position.

Mr. Bacon has over thirty years of professional engineering experience related to the design, construction and monitoring of various water and wastewater systems and facilities. Since 1994, Mr. Bacon has worked as a Project Engineer at the MWRA. He began his career at the MWRA in the Engineering & Construction Department performing technical reviews of reports and designs along with reviewing submittals during the construction phase of several projects. For the past 10 years, Mr. Bacon has worked in the Process Control & Project Support Unit where much of his work has involved investigating and troubleshooting process control systems within the water and wastewater facilities. Mr. Bacon is highly proficient in the use of MWRA's PI database and has developed graphical presentations that are used to monitor and analyze system performance. His skills reading and interpreting plans, working on facility control strategies and using PI data to troubleshoot issues are directly in-line with the position needs. Prior to the MWRA, Mr. Bacon worked as a Staff Engineer for an engineering consulting firm where he was involved with the planning, design and construction phases of various wastewater projects.

Mr. Bacon holds a Bachelor of Science degree in Plant and Soil Science, a Bachelor of Science degree in Civil Engineering and a Master of Science degree in Environmental Engineering from the University of Massachusetts, Amherst. He is a Registered Professional Engineer in Massachusetts, and has a Wastewater Treatment Plant Operator's Certificate, Grade 6C and a Wastewater Collection System Operator Certification, Grade IV.

**BUDGET/FISCAL IMPACT:**

There are sufficient funds for this position in the FY17 Current Expense Budget.

**ATTACHMENTS:**

Resume of Mr. George Bacon  
Position Description  
Organization Chart

GEORGE BACON, P.E.

EXPERIENCE

**PROJECT ENGINEER**

Massachusetts Water Resources Authority

1994 to present

Investigate and resolve process control issues at wastewater facilities. Manage capital improvement and maintenance engineering projects in the Wastewater Operations Department and previously in the Engineering and Construction Department from conception through construction contract award.

- Investigate and evaluate problems at MWRA facilities. Analyze specific aspects of process control systems at wastewater facilities for functionality and efficiency. Develop solutions and implementation strategies.
- Use PI/ProcessBook software
  - To develop graphical interface for monitoring process systems at water and wastewater facilities.
  - To create graphical simulator for training Operations staff.
  - As an analytical tool for process control investigations
- Prepare contract documents comprising:
  - Construction plans and specifications for construction by either by in-house personnel, or a contractor procured through procurement process, and
  - Service contract specifications.
- Engage and monitor planning and engineering services with MWRA Engineering and Construction Department (ECD), Technical Assistance Consultants, and vendor representatives.
  - Prepare and submit requests for MWRA ECD Technical Support engineering services for engineering studies and in-house construction projects. Coordinate Technical Support Department's work, and manage overall project for Operations Department.
  - Prepare and manage task orders for engineering services by Technical Assistance consultants. Develop scopes of services, cost estimates, and project schedules. Ensure compliance with schedule, budget, and terms.
- Manage projects in procurement phase, working with Procurement staff to resolve technical specification comments, respond to bidders' questions, prepare addenda, conduct bid review, and reference checks, and prepare bidder qualifications memoranda and staff summaries.
- Project manager for projects during construction phase. Review shop drawings, assist in preparing change orders, prepare contract closeout documentation.
- Resolve project issues with other MWRA departments. Provide or obtain technical information to ensure implementation of Operations Department needs in project planning and design.
- Coordinate with communities, private utilities, and government regulatory agencies. Participate in public meetings and hearings as required.
- Perform technical review of reports and detail design documents prepared by other MWRA departments or consultants.

## EDUCATION

University of Massachusetts, Amherst, MA

**MS Environmental Engineering, 1989**

**BS Civil Engineering, 1984**

**BS, Plant and Soil Sciences, 1977**

## REGISTRATIONS & CERTIFICATIONS

Registered Professional Engineer, Massachusetts  
Massachusetts Wastewater Treatment Plant Operator's Certificate, Grade 6C (W&I)  
Grade IV Wastewater Collection System Operator Certification

## COMMUNITY ACTIVITIES

### Current

Chair, Ayer Historical Commission  
Vice-chair, Ayer Conservation Commission (former Chairman)  
Ayer Greenway Committee

### Previous

Ayer Wastewater Inter-Municipal Agreement Exploratory Committee  
Ayer Capital Planning Committee  
Ayer Community Preservation Committee  
Comprehensive Plan Implementation Committee  
Devens Five Year Review Committee  
Joint Boards of Selectmen Transportation Advisory Committee  
Fire Station Reuse Committee

**MWRA  
POSITION DESCRIPTION**

**POSITION:** Project Manager, Process Control & Project Support

**DIVISION:** Operations

**DEPARTMENT:** Process Control & Project Support

**BASIC PURPOSE:**

Performs planning, design, construction administrative services and management on various operation and maintenance projects and programs.

**SUPERVISION RECEIVED:**

Works under the direct supervision of a Program Manager or Sr. Program Manager within the Process Control & Project Support Group.

**SUPERVISION EXERCISED:**

Exercises close supervision of the Staff Assigned.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Develops and provides technical reviews of all related permits including 8M permits, direct connection permits and applicable environmental permits and represents Department as needed.
- Responsible for assigned engineering projects, including design, replacement or rehabilitation of facilities or equipment within Metro water and wastewater facilities
- Performs site assessment and site acquisition activities with other responsible Authority Division and Departments.
- Provides technical assistance to senior staff in the development of program plans and standard designs for projects which may include design and construction of new and rehabilitation projects, development of maintenance and operations procedures, development of safety procedures, and on all related hydraulic evaluation efforts.
- Develops and/or assists with environmental permit applications and represents MWRA during permitting phases.
- Provides supports for the atmospheric hydrogen sulfide odor/corrosion program for Authority owned interceptors and facilities.

- Participates in and supports project coordination with communities, government agencies and other MWRA departments. Provides technical information and assistance. Addresses professional and community groups and initiates outreach projects as required.
- Provides technical review of consultants prepared reports and design projects, contractor shop drawings and O&M manuals.
- Provides oral and written reports to the Process Control & Project Support Managers detailing results of problem investigations and economic justification for proposed changes as required.
- Uses existing Authority software and databases (ex. Process Book, PI, Telog Enterprise Website, etc.) to analyze facility and system data for assigned post event investigations and process control and hydraulic evaluations. Provides presentations and reports to Process Control & Project Support Managers to detail findings and recommendations.
- Generates Massachusetts Department of Public Safety permits for general maintenance and upgrades at all Metro water and wastewater facilities. Maintains, thru the MAXIMO data base, all necessary records for review by inspectors.
- Assists in the development of and coordinates maintenance service contracts in the field such as, but not limited to, SCADA, I&C and Electrical at Metro water and wastewater facilities.
- Assists in the development and administration of condition monitoring programs such as vibration analysis, load bank testing, and Thermography.
- Periodically performs condition assessments on equipment at both water and wastewater facilities. Identifies equipment for future upgrades and replacement to be included in the CEB or CIP Budget process. Provides written justifications and priority ratings.
- Attends O & M Meetings, project progress meeting, and staff meetings.
- Attends Construction Meetings and Participates in the Construction and Start-up of new facilities. Participates in performance certification criteria and evaluation reports.

**SECONDARY DUTIES:**

- Provides backup and support to the Program Manager, Operations during wet weather events
- Conducts assigned field audits of Facilities, CSOs, SSOs, Tide gates and other structures in support of safe/efficient



- Performs related duties as required.

**MINIMUM QUALIFICATIONS:**

Education and Experience:

- (A) A four (4) year college degree in civil, mechanical, or environmental engineering is required; and
- (B) A thorough knowledge of the operation and maintenance of a large Municipal Sewerage System as normally attained through five (5) to seven (7) years of experience with 2 years of supervisory; or
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Demonstrated ability to work effectively as part of an engineering team and also to function independently with minimal supervision. Demonstrated ability to supervise technical staff.
- (B) Knowledge of local, state and federal regulations as applicable to the planning, design and construction of wastewater systems and facilities.
- (C) Demonstrated knowledge of process plant equipment, system operation, building construction; wastewater plant experience preferred.
- (D) Demonstrated abilities to work productively and maintain working relationships with external parties.
- (E) Proficiency with personal computers and knowledge of word processing, spreadsheets, database and engineering applications software required.
- (F) Excellent interpersonal, verbal and written communications skills are required.

**SPECIAL REQUIREMENTS:**

A valid Massachusetts Class D Motor Vehicle Operators License.

A valid Grade 4 wastewater operator's license, a collection system certification or Grade 2D Drinking Water Supply Facilities Operator's license preferred.

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

Hand tools, mobile radio, telephone, beeper, personal computer including word processing and other software, copy and fax machine.

### **PHYSICAL DEMANDS:**

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

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

The employee must frequently lift and/or move up to 10 pounds and occasionally lift and/or move up to 25 pounds. Specific vision abilities required by this job include close vision, distance, color vision, peripheral vision, depth perception, and the ability to adjust focus.

### **WORK ENVIRONMENT:**

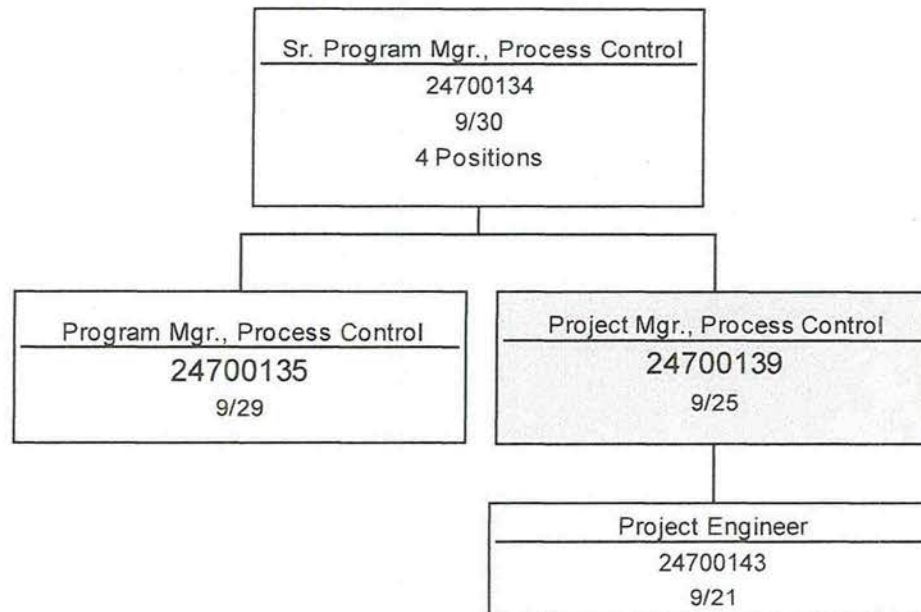
The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job.

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

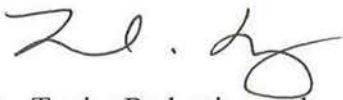
The noise level in the work environment is usually loud in field settings, and moderately quiet in office settings.

# Process Control & Project Support

June 2017



### STAFF SUMMARY

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director   
**DATE:** June 7, 2017  
**SUBJECT:** Appointment of Senior Sampling Associate, Toxics Reduction and Control

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COMMITTEE: Personnel and Compensation

     INFORMATION  
  X   VOTE

Carolyn M. Fiore, Deputy Chief Operating Officer  
John Riccio, Director, Toxics Reduction and Control  
Preparer/Title

  
Michael J. Hornbrook  
Chief Operating Officer

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#### RECOMMENDATION:

To approve the appointment of Ms. Dianne Rossi to the position of Senior Sampling Associate, Toxic Reduction and Control (Unit 9, Grade 25) at the recommended salary of \$89,433.09 commencing on a date to be determined by the Executive Director.

#### DISCUSSION:

The Toxics Reduction and Control section is broken down into three functional units: Monitoring, Inspections and Permitting, and Enforcement/Compliance. The Senior Sampling Associate position is part of the Monitoring Unit which conducts sampling at industries and for MWRA's own initiatives. This position is responsible for the day-to-day supervision of six TRAC Sampling Associates who carry out the sampling requirements of MWRA's EPA-approved pretreatment program and perform other sampling in support of various MWRA programs.

The Senior Sampling Associate's duties include: supervising Sampling Associates, scheduling field work, paperwork generation, goal tracking for staff under their supervision, support for the teams in the field, report review, Standard Operating Procedure (SOP) creation and editing, supply ordering, project monitoring, sample site inspections and Self Monitoring inspections and approvals. In addition, the Senior Sampling Associate participates in an after-hours On Call rotation that is shared with the other Senior Sampling Associate and the Sampling Associates.

Organizationally, the Senior Sampling Associate reports to the Regional Manager, Monitoring, in TRAC (see attached Organization Chart).

## **Selection Process**

This position was posted internally and seven candidates applied. The Sr. Program Manager, Field Operations and Permitting, the Regional Manager, Monitoring, and the Workforce Development Coordinator from the Affirmative Action group interviewed all seven candidates. Upon completion of those interviews Ms. Rossi was identified as the most qualified candidate to fill this position based upon her combination of experience, abilities, knowledge and education.

Ms. Rossi has 24 years of experience at MWRA, in progressively more responsible roles. Currently, Ms. Rossi holds the position of Laboratory Supervisor MWRA Water Quality at the Southborough Facility, responsible for exercising direct supervision of approximately 3 full time staff and 3-5 Interns during the summer months. She sets weekly schedules, drafts, reviews and makes changes to sampling protocols, and SOPs, and manages sampling equipment and supplies for her assigned staff. In addition, she is responsible for ensuring consistency and coordination among sampling staff and that sampling activities comply with federal and state regulations. Ms. Rossi formerly held two positions at the Deer Island Central Laboratory: Client Services Coordinator, where she gained extensive experience working with the Laboratory Information Management System software (LIMS) and worked with TRAC as one of the Lab's MWRA clients; and Quality Assurance Coordinator, where she developed SOPs, audited lab procedures and managed corrective actions. All of this experience will be an asset to TRAC and the Monitoring Unit as she transitions into the Senior Sampling Associate position.

Ms. Rossi has performed all of her previous responsibilities at the MWRA at a high level and has demonstrated excellent communication skills, initiative, and leadership. Ms. Rossi has been an integral part of the Water Sampling Program at the Southborough Laboratory.

Ms. Rossi earned her Bachelor of Science Degree in Biology from Boston University.

## **BUDGET/FISCAL IMPACT:**

There are sufficient funds in the Operations Division's FY17 Current Expense Budget to fund this position. The recommended salary is in accordance with guidelines established in Unit 9's current collective bargaining agreement.

## **ATTACHMENTS:**

Resume of Dianne Rossi  
Position Description  
Organization Chart

## **Career Summary**

**Extensive experience in sampling, testing, quality assurance auditing and logistical management of environmental testing projects.**

- Knowledge of Water Treatment Chemistry as obtained through acquiring T4 Drinking Water License and 12 years experience MWRA Environmental Water Quality Department
- Strong knowledge of SDWA and DEP 310.CMR regulations pertaining to MWRA s (Drinking) Water Quality programs
- Familiarity with TRAC, NPDES and DITP process control testing as acquired through client services functions at Central Lab
- Familiar with Clean Water Act regulations and Code of Massachusetts Regulations as pertaining to MWRA drinking and wastewater programs.
- Proficient in Microsoft EXCEL, Word, familiar with Access, PI Process Control Software, Oracle Discoverer, SQL

**10/2001 – Present      Laboratory Supervisor                      MWRA Water Quality**

- Supervises the sampling staff of the Water Quality ENQUAL group in Southborough.
- Ensures compliance and process control drinking water samples are collected correctly and on schedule.
- Manages staff and equipment for distribution system sampling, tank sampling, open water sampling, hatch entry sampling.
- Works closely with Central Lab Violet team to ensure all sampling materials are available.
- Responds to emergency sampling requests from MWRA Western Operations, and our drinking water communities.
- Interacts with Central Lab, contract labs, DCR, and operational staff to ensure all required sampling is performed on schedule.
- Participates as presenter and trainer in bi-annual Community Sampler Training

**08/97 – 10/2000      Client Services Coordinator                      MWRA Central Lab**

- Managed requests for laboratory services from MWRA (internal) clients and Watershed protection agencies.
- Worked with clients in TRAC, Residuals, Harbor Studies, DITP, and Water Quality to define projects' scope of work, schedules, data quality objectives, and reporting requirements.
- Organized projects in lab information system LIMS, and kept clients and lab management informed of project status.

**08/94 –08/97**

**Quality Assurance Coordinator      MWRA Central Lab**

- Developed SOPs, Quality Assurance Plan, and record keeping procedures for MWRA Central Laboratory at start up in order to obtain state certification.
- Audited lab procedures developed and managed corrective action processes.
- Conducted training in statistical process control tools and implemented their use in the laboratory to standards acceptable to regulatory programs
- Managed the laboratory's participation in the EPA Performance testing program.
- Communicated QA program interests and issues to laboratory management.

**04/90 -08/94**

**Quality Assurance Specialist      N.E.T Laboratories**

- Managed the Quality Assurance Department of large private lab.
- Managed state certification programs for private lab requiring interaction with multiple state and federal program certification agencies
- Conducted laboratory audits internally and for contracted lab services,
- Authored several Quality Assurance Project Plans and a general Laboratory Quality Assurance Plan

**07/86 -04/90**

**Organic Extraction/ GC Analyst      Cambridge Analytical**

- Performed extractions and GC analysis for pesticides, herbicides and PCBs in soil and water samples
- Data Validation of GC and GC/MS Data for EPA Superfund mitigation

**Education:** BA Biology Boston University

**MWRA  
POSITION DESCRIPTION**

**POSITION:** Senior Sampling Associate

**DIVISION:** Operations

**DEPARTMENT:** Toxic Reduction and Control (TRAC)

**BASIC PURPOSE:**

Ensures that the sampling done by TRAC meets programmatic requirements and is consistent among the TRAC sampling staff. Co-Manages TRAC's sampling operations area at the Chelsea facility.

**SUPERVISION RECEIVED:**

Works under the general supervision of the Regional Manager.

**SUPERVISION EXERCISED:**

Exercises direct supervision of and provides overall direction to approximately five to ten TRAC Sampling Associates. Ensures activities conducted by TRAC sampling staff adhere to established federal, state and MWRA pretreatment program regulations, policies and guidelines.

**ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Supervises TRAC sampling staff and provides overall direction to the TRAC sampling staff concerning technical requirements for sampling to ensure that there is consistency and coordination among and within the staff on sampling practice, procedure, and implementation.
- Schedules field activities for assigned staff using pretreatment and other software. Reviews sampling done by TRAC staff to help ensure that it meets programmatic and legal requirements. Reviews monitoring reports and recommends corrections as necessary.
- Manages TRAC's sampling operations area at the Chelsea facility to ensure a clean and safe working environment; ensures that sampling equipment and supplies are available and maintained, and develops the TRAC sampling field equipment budget.
- Reviews and recommends sampling procedures (Monitoring Manual), drafting new and updating existing standard operating procedures (SOPs), and ensures that SOPs are followed by the team.



- Provides orientation and training on sampling and safety issues and procedures to other TRAC staff.
- Assists Regional Manager in field to office communications, acting as field liaison to Regional Manager.
- Serves as lead coordinator on special projects and emergency sampling. Performs sampling, flow measurements and dye testing for multimedia sample types including but not limited to CSO activations.
- Initiates Data Anomaly Investigation Reports as necessary and follows through until data/reports and computer systems accurately reflect information.
- Tracks sampling goals and accomplishments to help ensure that TRAC meets its sampling goals and requirements and provides reports on sampling achievements.
- Assures the training of employees in sampling, quality control, administrative, and safety procedures, and provides instruction as appropriate.
- Conducts employee performance reviews in accordance with MWRA procedures, and recommends hires and promotions.
- Assists in maintaining harmonious labor management relations through application of collective bargaining agreement provisions and established personnel policies.
- Works on TRAC's sampling initiatives.
- Responsible for assigned vehicles and monitoring equipment.
- Assists in reviewing and responding to requests from sewer users to be approved to take their own wastewater samples.
- Participates in liaison, coordination, and educational activities within the MWRA and with other governmental agencies and the public.
- Drafts reports, memoranda, and other documents.

**SECONDARY DUTIES:**

- Performs related duties as required.

## **MINIMUM QUALIFICATIONS:**

### Education and Experience:

- (A) A four (4) year undergraduate degree in chemistry, biology, environmental sciences, a related engineering or science discipline, or other related field; and
- (B) Five (5) to seven (7) years of experience in industrial wastewater treatment and discharge including a detailed understanding of industrial wastewater sampling techniques and requirements, including at least two (2) in a supervisory capacity; or
- (C) Any equivalent combination of education and/or experience.

### Necessary Knowledge, Skills and Abilities:

- (A) Knowledge and understanding of environmental engineering, science, law, policy and practice related to industrial wastewater treatment and discharge.
- (B) Ability to plan and implement programs.
- (C) Familiarity with computers, including word-processing, spreadsheet, database, and other information systems and an ability to perform data analyses.
- (D) Strong written and oral communication skills.

## **SPECIAL REQUIREMENTS:**

Valid Massachusetts Class D Motor Vehicle Operators License.

OSHA 40-hour training and confined space entry.

## **TOOLS AND EQUIPMENT USED:**

Mobile radio, 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 walk, sit, talk or hear. The employee frequently is required to stand, use hands to finger, handle or feel and reach with hands and arms. The employee is occasionally required to climb or balance; stoop, kneel, crouch, or crawl; and smell.

The employee must frequently lift and/or move up to 25 pounds and occasionally lift and/or move up to 100 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, depth perception, and the ability to adjust.

**WORK ENVIRONMENT:**

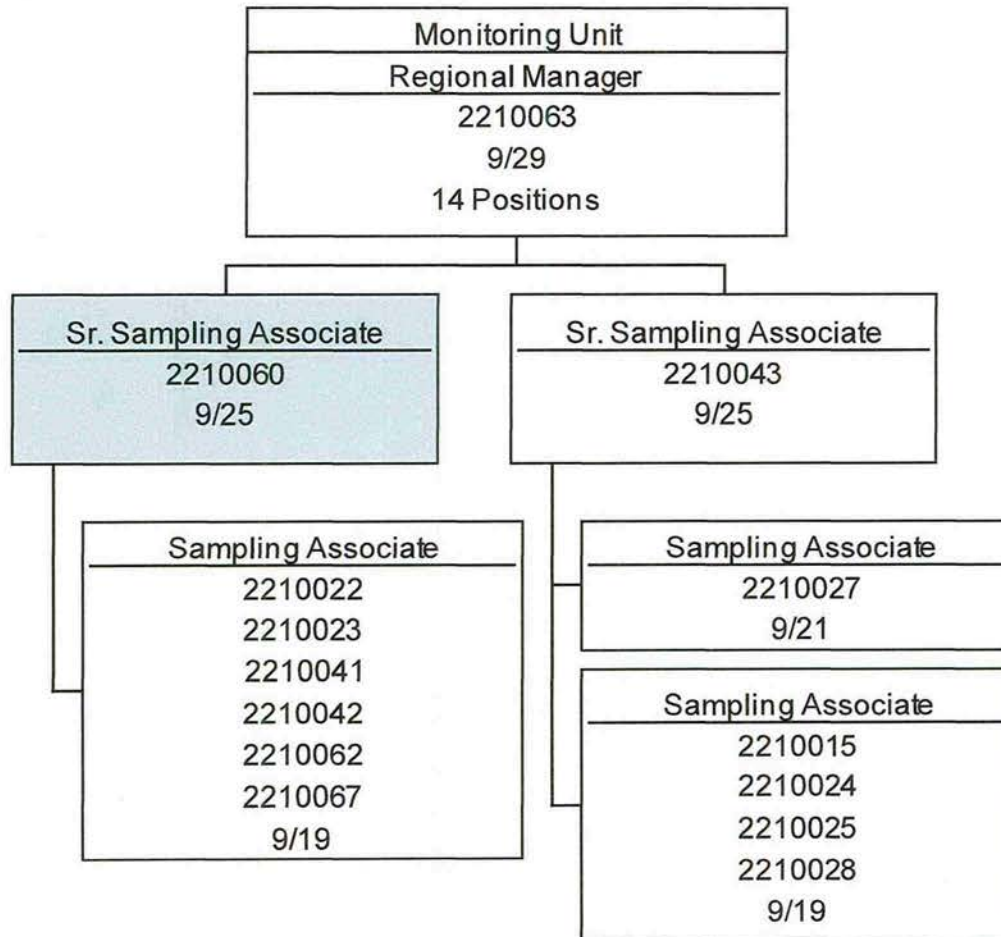
The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job.

While performing the duties of this job, the employee occasionally works in outside weather conditions. The employee occasionally works near moving mechanical parts and is occasionally exposed to wet and/or humid conditions. The employee occasionally works in high, precarious places and is occasionally exposed to fumes or airborne particles, toxic or caustic chemicals, and risk of electrical shock. Employee must be able to successfully complete Confined Space Entry training program.

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

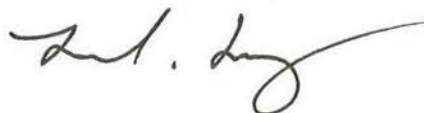
# TRAC Monitoring Unit

June 2017



## STAFF SUMMARY

**TO:** Board of Directors  
**FROM:** Frederick A. Laskey, Executive Director  
**DATE:** June 7, 2017  
**SUBJECT:** FY18 Non-Union Compensation



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COMMITTEE: Personnel and Compensation

VOTE  
 INFORMATION

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### RECOMMENDATION:

That the Board of Directors take the following actions for MWRA's FY18 non-union compensation review:

1. Authorize the Executive Director to implement a 1.5% across-the-board compensation adjustment for non-union managers effective with the first FY18 payroll.
2. Approve a revision to the non-union salary ranges for FY18 presented in Attachment A and filed with the records of the meeting.

### DISCUSSION:

Under this proposal, there are 62 non-union managers who will be eligible for a compensation adjustment. These adjustments mirror the negotiated salary increases bargaining unit employees will receive for FY18.

The salary adjustments will be provided to all non-union managers on the payroll as of July 1, 2017. These adjustments do not include the Executive Director and Chief Operating Officer with whom the Authority maintains individual employment contracts.

### BUDGET/FISCAL IMPACT:

These adjustments for non-union managers result in a total annual cost of approximately \$123,530 for FY18.

### ATTACHMENTS:

Attachment A: FY18 Proposed Non-Union Salary Ranges

**FY 18 Proposed Non-Union Salary Ranges effective July 1, 2017**

<b>Grade</b>	<b>Minimum</b>	<b>Maximum</b>
13	\$80,455	\$125,129
14	\$90,538	\$137,595
15	\$101,922	\$152,310
16	\$114,653	\$168,114
17	\$129,038	\$180,970



# 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, June 7, 2017

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

Time: 1:00 p.m.

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

## AGENDA

### I. APPROVAL OF MINUTES

### II. REPORT OF THE CHAIR

### III. REPORT OF THE EXECUTIVE DIRECTOR

### IV. OTHER BUSINESS

- A. Performance Review and Extension of Contract for Executive Director
- B. Extension of Contract for Chief Operating Officer

### V. BOARD ACTIONS

#### A. Approvals

1. Wastewater Advisory Committee Contract (ref. WW A.1)
2. Water Supply Citizen's Advisory Committee Contract (ref. W B.1)
3. PCR Amendments – June 2017 (ref. P&C A.1)
4. Appointment of Associate General Counsel, Law (ref. P&C A.2)
5. ~~Appointment of Assistant Director, Engineering & Construction (ref. P&C A.3) [withdrawn]~~

**A. Approvals (cont'd.)**

6. Appointment of Project Manager, Process Control and Project Support (ref. P&C A.4)
7. Appointment of Senior Sampling Associate, TRAC (ref. P&C A.5)
8. FY2018 Non-Union Compensation (ref. P&C A.6)

**B. Contract Awards**

1. Revenue Bond Consulting Engineer Services: CDM Smith Inc. (ref. AF&A B.1)
2. MWRA FY2018 Insurance Program Renewal (ref. AF&A B.2)
3. Supply and Delivery of Sodium Hypochlorite for the John J. Carroll Water Treatment Plant and the William A. Brutsch Treatment Facility: Univar USA, Inc., and H. Krevit & Co., Inc., Bid WRA-4380 (ref. W C.1)
4. Water Section 57 & 50 and Sewer Section 19, 20 & 21 Rehabilitation – Medford, Design, Construction Administration and Resident Engineering/Inspection Services: Weston & Sampson Engineers, Inc., Contract 7540 (ref. W C.2)
5. Section 14 Water Pipeline Relocation – Malden: Albanese Brothers Inc., Contract 6957 (ref. W C.3)

**C. Contract Amendments/Change Orders**

1. Wachusett Aqueduct Pumping Station, BHD/BEC JV 2015, A Joint Venture: Contract 7157, Change Order 15 (ref. W D.1)

**VI. CORRESPONDENCE TO THE BOARD**

**VII. EXECUTIVE SESSION**

**A. Real Estate:**

1. Watershed Land Acquisition

**B. Collective Bargaining**

1. Collective Bargaining Update

**VIII. ADJOURNMENT**



MASSACHUSETTS WATER RESOURCES AUTHORITY

**Meeting of the Board of Directors**

**May 8, 2017**

A meeting of the Board of Directors of the Massachusetts Water Resources Authority was held on May 8, 2017 at the Authority headquarters in Charlestown. Vice-Chair Carroll presided at the outset; Chairman Beaton joined the meeting in progress. Present from the Board were Messrs. Blackmon, Cotter, Flanagan, Foti, Pappastergion, Peña, Vitale and Walsh. Ms. Wolowicz was absent. Among those present from the Authority staff were Frederick Laskey, Executive Director, Steven Remsberg, General Counsel, Michael Hornbrook, Chief Operating Officer, David Coppes, Director of Waterworks, 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 April 12, 2017, as presented and filed with the records of the meeting.

**REPORT OF THE EXECUTIVE DIRECTOR**

Mr. Laskey recognized and praised Mr. Foti's many years of service on the MWRA Retirement Board's Board of Directors and presented him with a commemorative plaque. He also reported on various items, including: the favorable results of the prior week's bond deal; an agreement reached with Boston College regarding its field house; and a reminder of the two upcoming Board meetings in June – with budget hearings to be held in the morning on June 7 and approval of the FY19 budget and assessments on June 28.

**APPROVALS**

Bond Defeasance of Future Debt Service

Upon a motion duly made and seconded, it was

Voted to authorize the Executive Director or his designee, on behalf of the Authority, to enter into, execute and deliver all necessary agreements and other instruments and to take such other actions necessary to effectuate the redemption and defeasance of an aggregate principal amount of approximately \$36,250,000 of outstanding MWRA senior bonds including to cause the escrow of cash and/or securities in an amount necessary to fund such redemption and defeasance, in order to reduce the debt service requirement by approximately \$44.8 million in the FY18 through FY22 timeframe.

Financial Assistance Agreement with BWSC for Dorchester Interceptor Inflow Removal

Upon a motion duly made and seconded, it was

Voted to authorize the Executive Director, on behalf of the Authority, to execute the Financial Assistance Agreement between Massachusetts Water Resources Authority and Boston Water and Sewer Commission for Dorchester Interceptor Inflow Removal, by which BWSC agrees to remove additional stormwater inflow from its Dorchester Interceptor system following the completion of the South Dorchester Bay Sewer Separation project and closing of related CSO outfalls in MWRA's Long-Term CSO Control Plan, and MWRA agrees to provide funding for eligible inflow removal costs at a total amount not to exceed \$3,763,054 and a term of 48 months from July 1, 2017 through June 30, 2021, substantially in the form presented and filed with the records of the meeting.

Appointment of Associate General Counsel, Litigation, Law Division

Upon a motion duly made and seconded, it was

Voted to approve the Executive Director's recommendation to appoint Ms. Meghan L. McNamara to the position of Associate General Counsel, Litigation, Law Division (Non-union, Grade 5) at an annual salary of \$130,000 to be effective on the date designated by the Executive Director.

Appointment of Deputy Contracts Manager, Procurement Department, Administration Division

Upon a motion duly made and seconded, it was

Voted to approve the Executive Director's recommendation to appoint Mr. Tsuyoshi Fukuda to the position of Deputy Contracts Manager, Administration Division (Unit 6, Grade 13) at an annual salary of \$116,034.69 to be effective on the date designated by the Executive Director.

Appointment of Program Manager Engineering & Construction, Operations Division

Upon a motion duly made and seconded, it was

Voted to approve the Executive Director's recommendation to appoint Ms. Kathleen M. Cullen, P.E. to the position of Program Manager, Engineering & Construction Department (Unit 9/Grade 29), at an annual salary of \$108,599.56, to be effective on the date designated by the Executive Director.

CONTRACT AWARDS

Electrical Testing and Technical Services – Metropolitan Boston: Infra-Red Building and Power Service Co., Inc., Contract OP-345

Upon a motion duly made and seconded, it was

Voted to approve the award of Contract OP-345, Electrical Testing and Technical Services - Metropolitan Boston, to the lowest eligible and responsive bidder, Infra-Red Building and Power Service Co., Inc., and authorize the Executive Director,

on behalf of the Authority, to execute and deliver said contract in the bid amount of \$630,512, for a term of 1,095 calendar days from the Notice to Proceed.

Peabody Water Pipeline Project, Section 109 Extension: CDM Smith Inc., Contract 6895

Upon a motion duly made and seconded, it was

Voted to approve the recommendation of the Consultant Selection Committee to select CDM Smith Inc. to provide Design, Engineering Services During Construction, and Resident Engineering/Inspection Services for the Peabody Water Pipeline Project, Section 109 Extension and to authorize the Executive Director, on behalf of the Authority, to execute and deliver Contract 6895 with CDM Smith Inc. in an amount not to exceed \$3,498,857 for a term of fifty-one months from the Notice to Proceed.

CONTRACT AMENDMENTS/CHANGE ORDERS

Valve and Piping Replacements, Various Facilities – Deer Island Treatment Plant: Carlin Contracting Co., Inc., Contract 7275, Change Order 6

Upon a motion duly made and seconded, it was

Voted to authorize the Executive Director, on behalf of the Authority, to approve Change Order 6 to increase the amount of Contract 7275 with Carlin Contracting Co., Inc., Valve and Piping Replacements Various Facilities, Deer Island Treatment Plant, for a lump sum amount of \$108,855.21, and to extend the term by 90 calendar days to September 20, 2017; further, to authorize the Executive Director to approve additional change orders as may be needed to Contract 7275 in amounts not to exceed the aggregate of \$250,000 and 180 days in accordance with the Management Policies and Procedures of the Board of Directors.

(Chairman Beaton joined the meeting.)

Caruso Pump Station Improvement: Waterline Industries Corp., Contract 7362, Change Order 6

Upon a motion duly made and seconded, it was

Voted to authorize the Executive Director, on behalf of the Authority, to approve Change Order 6 to decrease the amount of Contract 7362 with Waterline Industries Corp., Inc., Caruso Pump Station Improvements, for a lump sum credit amount of (\$64,650), with no increase in contract term; further, to authorize the Executive Director to approve additional change orders as may be needed to Contract 7362 in amounts not to exceed the aggregate of \$250,000, in accordance with the Management Policies and Procedures of the Board of Directors.

EXECUTIVE SESSION

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

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

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Blackmon		
Carroll		
Cotter		
Flanagan		
Foti		
Pappastergion		
Peña		
Vitale		
Walsh		
Beaton		

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

\* \* \* \*

EXECUTIVE SESSION

\* \* \* \*

OTHER BUSINESS

The following vote was unanimously approved in Executive Session and authorized for release by inclusion with the records of the open session meeting:

Approval to File a Stipulation and Order in Federal Court and Approval of Agreement with NStar and HEEC Regarding Replacement of the Existing Deer Island Cross Harbor Cable

Upon a motion duly made and seconded, it was,

Voted to authorize the Executive Director, on behalf of the Authority, to enter into, through execution by its counsel of record, Foley Hoag LLP, a Stipulation and Order to be filed in the federal court cable matter pending before Judge Stearns, substantially in the form presented and filed with the records of the meeting, which filing will result in a general stay of those court proceedings until a new cross harbor cable has been installed by NStar and/or HEEC for MWRA's use by December 31, 2019; and that the Board approve the principal business terms of a negotiated agreement among NStar, HEEC and MWRA for the purchase and placement of that new 115 kV power cable by NStar and/or HEEC, and to authorize the Executive Director, on behalf of the Authority, to indicate the Authority's assent in writing to those terms in a form to be mutually agreed upon by MWRA, NStar and HEEC, substantially in the form presented and filed with the records of the meeting; and, further to authorize the release of this vote by inclusion in the open session minutes of the Board of Directors' meeting of May 8, 2017.

The meeting returned to open session at 1:55 p.m. and adjourned.