



MASSACHUSETTS WATER RESOURCES AUTHORITY

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

Frederick A. Laskey
Executive Director

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REVISED

ADMINISTRATION, FINANCE & AUDIT COMMITTEE MEETING

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

to be held on

Wednesday, April 13, 2016

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

Time: 10:00 a.m.

AGENDA

A. Information

1. 2015 Annual Update on New Connections to the MWRA System
2. Delegated Authority Report – March 2016
3. Analysis of Proposal to Reclassify Employees to Group 2 for Retirement
4. FY16 Financial Update and Summary as of March 2016

B. Approvals

1. Amendment to the Seventy-Second Supplemental Resolution

C. Contract Awards

1. Accounts Payable and Payroll Depository Services: Century Bank, Contract F239
2. Groundskeeping Services – Metropolitan Boston: C&W Facility Services, Inc., Contract OP-315

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the
Administration, Finance and Audit Committee

March 16, 2016

A meeting of the Administration, Finance and Audit Committee was held on March 16, 2016 at the Authority headquarters in Charlestown. Chairman Vitale presided. Present from the Board were Ms. Wolowicz and Messrs. Blackmon, Carroll, Cotter, Foti, 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, Tom Durkin, Kathy Soni, Emily Dallman, Matt Horan, Russ Murray, Paula Weadick, Joe Barrett, John Vetere, Brian Kubaska, John Corbin, and Bonnie Hale. The meeting was called to order at 10:20 a.m.

Information

Delegated Authority Report – February 2016

There was brief question and answer on one or two of the items on the report.

FY16 Financial Update and Summary as of February 2016

Staff summarized the financial update, and there was general discussion and question and answer. (Mr. Pappastergion joined the meeting during the discussion.)

Approvals

*Amendments to Capital Finance Management Policy

The Committee recommended approval of amendments to the Policy (ref. agenda item B.1).

*Appointment of Proxy for Fore River Railroad Corporation

The Committee recommended approval of the appointment of proxy (ref. agenda item B.2).

* Approved as recommended at March 16, 2016 Board of Directors meeting.

Contract Awards***Managed Security Services: NWN Corporation, Contract 7499**

Staff summarized the type of services to be performed under this contract, and there was general discussion and question and answer. (Mr. Foti left the meeting.) The Committee recommended approval of the contract award (ref. agenda item C.1).

***Integrated Financial, Procurement and Human Resources/Payroll Management System Maintenance and Support: Infor Global Solutions**

Staff provided an overview of the systems, and there was general discussion and question and answer. The Committee recommended approval of the contract award (ref. agenda item C.2).

***Employee Assistance Program Services: AllOne Health, Contract A605**

There was general discussion and question and answer. (Mr. Foti returned to the meeting.) The Committee recommended approval of the contract award (ref. agenda item C.3).

****Groundskeeping Services – Metropolitan Boston: C&W Facility Services, Contract OP-315**


Committee members had questions and concerns about the lack of M/WBE participation on this proposed contract and recommended that consideration of this item be postponed (ref. agenda item C.4).

The meeting adjourned at 11:20

* Approved as recommended at March 16, 2016 Board of Directors meeting.

** Postponed at March 16, 2016 Board of Directors meeting.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: April 13, 2016
SUBJECT: 2015 Annual Update on New Connections to the MWRA System

COMMITTEE: Administration, Finance & Audit

INFORMATION
 VOTE

Carolyn M. Fiore, Deputy Chief Operating Officer
Pamela Heidell, Policy & Planning Manager
Preparer/Title


Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

For information only. This *2015 Annual Update on New Connections to the MWRA System* has been prepared pursuant to the "Annual Update" requirements of MWRA's system expansion policies.

DISCUSSION:

MWRA's system expansion policies require an Annual Update to the Board on the status of any new connections to the MWRA pursuant to our system expansion policies. MWRA policies first prescribed an Annual Report to the Board on new connections in 2002; since then, annual reporting requirements or other mechanism have been incorporated into water supply or sewer use agreements. This *2015 Annual Update* addresses post-2002 connections to the MWRA water and sewer systems from outside the service areas and focuses on each connection's compliance with requirements stipulated in its water supply or sewer use agreements. For water connections, requirements include, but are not limited to, compliance with water withdrawal limits and entrance payments due MWRA. For wastewater connections, requirements address inflow removal and any ongoing stipulations regarding management of wet weather flows, compliance with discharge limits, and entrance payments due to MWRA. This Annual Update also includes an update on inquiries from potential applicants for admission and other system expansion considerations.

The requirements of water and sewer agreements derive from the following MWRA policies, a summary of which is provided in Attachment A:

- # OP.04, Sewer Connections Serving Property Partially Located in a Non-MWRA Community (the "Sewer Straddle" policy);
- # OP.05, Emergency Water Supply Withdrawals;
- # OP.09, Water Connections Serving Property Partially Located in a Non-MWRA community (the "Water Straddle" policy);

- # OP.10, Admission of New Community to MWRA Water System; and
- # OP.11, Admission of New Community to MWRA Sewer System and Other Requests for Sewer Service to Locations Outside MWRA Sewer Service Area.

Summary of Approved Connections to the MWRA System

Water System

In 2015, there were no applications to MWRA water pursuant to either OP.5, the “Water Straddle” policy, or OP.10, Admission of New Community to MWRA Water System. The sole application related to water was a request by the Town of Ashland for a six-month emergency water supply withdrawal under OP. 5, Emergency Water Supply Withdrawals.

Since 2002, Stoughton, Reading, the Dedham-Westwood Water District (DWWD), and Wilmington have become MWRA water-supplied communities. (Bedford was admitted into the MWRA system prior to 2002 before firm water withdrawal limits were established for new communities.) There have also been two “straddle connections” since 2002 – Avalon in Peabody/Danvers (now called 14 North), and the YMCA in Marblehead/Salem. The connections are shown in Figure 1 and information pertaining to these connections is provided in Table 1.

Figure 1: New Water Connections Since 2002 and Potential New Communities

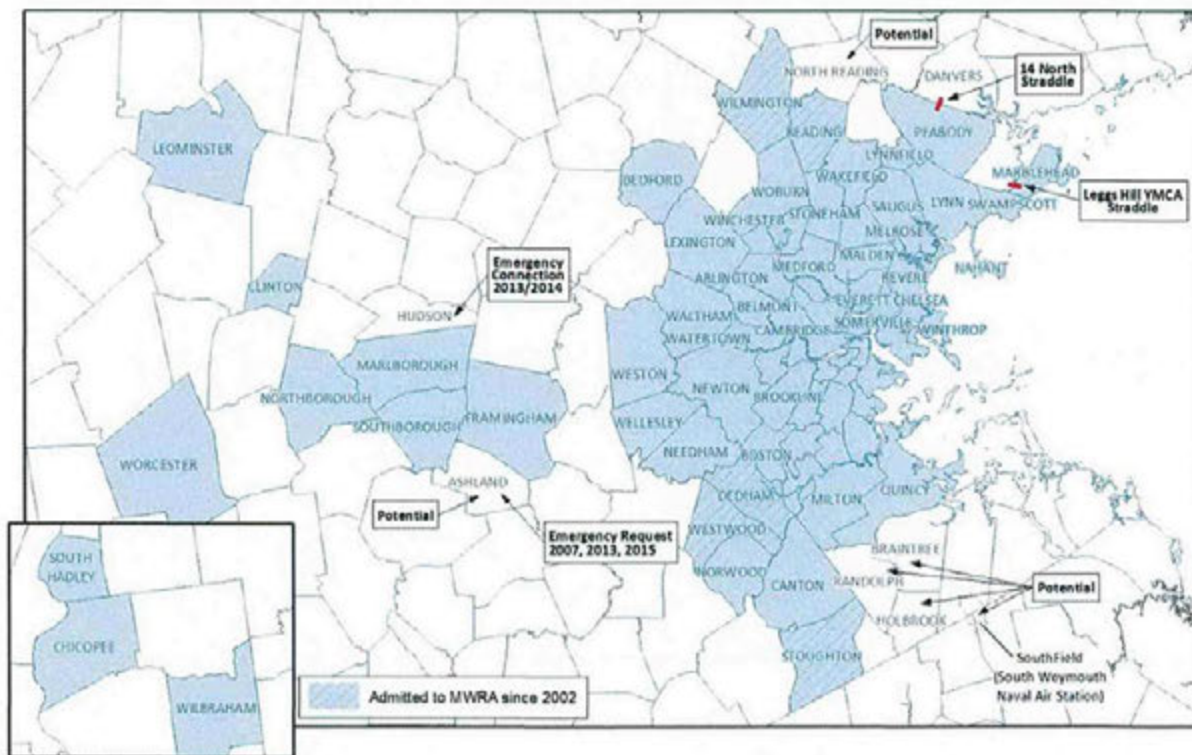


Table 1 - Approved Connections to MWRA Water System Since 2002					
Applicant (location)/	Applicable MWRA Policy	Approval Date	Entrance Fee or Payment of Charges Under the Emergency Policy	MWRA Approved withdrawal	2015 MWRA Withdrawal
Hudson	OP.05 Emergency	6/13 12/13 6/14	For 3 six-month emergency withdrawal periods, MWRA received a total of \$1,033,787.	NA in 2015	0
Ashland	OP.05 Emergency	12/2015	None- water not withdrawn for 6 month period beginning in December, 2015	.75 mgd	0
Dedham/ Westwood W.D (partially supplied)	OP.10, New Community	12/05 12/14	Entrance fee (\$548,748) for first .1 mgd paid. Fee of \$566,727 for additional 0.1 mgd to be paid in 5 annual installments, first 2 received.	0.2 mgd	.155 mgd
Wilmington (partially supplied)	OP.10, New Community	5/09	Net Entrance Fee of \$2,809,320 w/20 year payment schedule.	0.6 mgd	.355mgd
Reading	OP.10, New Community	11/05 10/07	\$3,285,242 (first 0.6 mgd) \$7,799,606 (for additional 1.5 mgd). Paid in full	2.1 mgd	1.66 mgd
YMCA Salem/Marblehead	OP.09, Straddle	11/06	\$70,823 paid in full	0.0127 mgd	.0099 mgd
14 North Danvers/Peabody	OP.09 Straddle	05/03	\$64,063 paid in full	0.012 mgd	.009 mgd
Stoughton (partially supplied)	OP.10, New Community	6/02	Net Entrance Fee of 5,657,117 w/ 20 year payment schedule.	1.15 mgd	.903 mgd

The highlights of Table 1 include:

- All water supply withdrawals are below their contract limits; and
- All entrance fees have been paid pursuant to agreed-upon schedules of payments included in the communities' Water Supply Agreements.
- An emergency water supply withdrawal for Ashland was approved in December 2015, but through March (four months into the six month approved withdrawal period), Ashland has not withdrawn water.

Sewer System

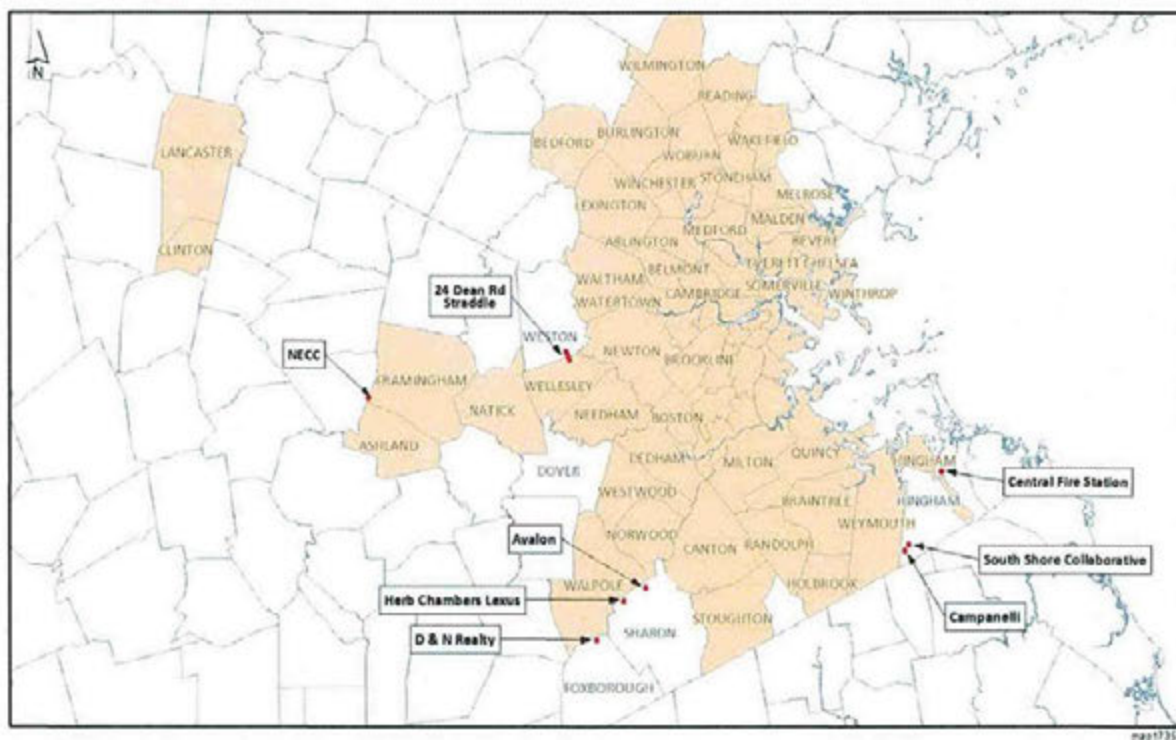
In 2015, the New England Center for Children (NECC) was the only application to MWRA for sewer connections under either OP.11, *Admission of New Community to MWRA Sewer System and Other Requests for Sewer Service to Locations Outside MWRA Sewer Service Area*, or OP.4, the "Sewer Straddle" policy.

NECC applied to MWRA under OP. 11 to increase the volume of wastewater discharge to MWRA. NECC is a non-profit autism research and education center headquartered in Southborough. In 2000, MWRA approved NECC's connection to the MWRA sewer system via the Framingham sewer system, and authorized a discharge up to 6,000 gallons per day (gpd). NECC's services have expanded, prompting the school to undertake a capital program to

construct a 33,000-square-foot expansion of its central facility and to convert an existing building to a student center and an enhanced school nurse office. The school's expanded facilities will generate an additional 6,500 gpd of wastewater; consequently, NECC sought and received approval to increase its wastewater discharge to 12,500 gpd. The MWRA and the MWRA Advisory Board approvals were subject to an additional entrance fee payment (\$24,483) and inflow removal requirement of 26,000 gallons in peak inflow. The inflow removal program first proposed was a sump pump disconnection program, but in October of 2015, the Town of Framingham identified an alternative inflow removal option consisting of removal of a series of roof leaders directly connected to the Town's sanitary sewer system that are estimated (per DEP methodology) to contribute 43,000 gpd of inflow (equates to more than 6:1 inflow removal). Consequently, this inflow removal plan is now being pursued. In the meantime, construction of NECC's capital program is ongoing, with building occupancy slated for September. NECC's revised entrance fee has also been paid in full.

In addition to NECC, Figure 2 shows and Table 2 summarizes connections to the MWRA sewer system since 2002 when annual reporting requirements were established.

Figure 2: New or Increased Volume Sewer Connections Since 2002



**Table 2
Approved Connections to MWRA Sewer System Since 2002**

Applicant (location)/	MWRA Policy	Approval Date	Entrance Fee Payment	Status of Inflow Removal/Other Contract Requirements	MWRA Approved discharge	Estimated Discharge to MWRA in 2015*
New England Center for Children	OP.11		\$24,283 paid in full	Steps to implement inflow removal underway.	12,500 gpd	New building occupancy slated for September 2016.
FoxRock Realty South Shore Collaborative, Hingham	OP.11	4/12	\$9,133 + \$ 12,750 paid in full	Inflow removal completed	5,536 gpd	2,445 gpd
24 Dean Road, Weston/Wellesley	OP.04	3/11	\$18,033 paid in full	Inflow removal completed	575 gpd	300 gpd
D&N Realty, Foxborough	OP.11	6/07	\$168,391 paid in full	Inflow removal completed; inflow dishes are periodically inspected to ensure proper operation. Owner maintains a tight tank and has emergency contracts for holding tank pump-out and can cease discharges if directed by MWRA during wet weather events.	13,000 gpd (average) 22,750 gpd (max day)	3,310 gpd
Avalon Bay, (Sharon)	OP.11	6/07	\$105,586 paid in full	Storage tank per agreement with Norwood. Inflow removal completed	16,120 gpd	14,855 gpd**
Herb Chambers Lexus, Sharon)	OP.11	5/07	\$40,750 paid in full.	Inflow removal completed and inflow dishes are periodically inspected to ensure proper operation	6,400 gpd (average) 10,500 gpd (max)	7,012gpd **
Hingham Fire Station, (Hingham)	OP.11	4/07	\$8,429 paid in full	Inflow removal completed	782 gpd	234 gpd

* Wastewater discharges are estimated based on water meter readings.

**Water consumption figures are adjusted downward by 5% to account for a certain percentage of water that is used by the facility and not returned as wastewater (such as landscaping, water consumed).

The key findings of Table 2 include:

- All connections, except Herb Chambers of Chicopee's (HCC) connection for its Lexus dealership in Sharon, reported that wastewater discharges in 2015 were below their approved agreement limits. (See below for a further discussion of HCC).

- Entities reported compliance with ongoing obligations that relate to sewer system operations. These range from inflow removal reports to ongoing inspection of the inflow dishes installed in sewer manholes to reduce inflow in Walpole to maintaining the ability to cease discharges to MWRA during severe wet weather (Avalon and D&N Realty).

HCC's estimated wastewater discharge to MWRA in 2015 is 6,789 gallons on an annual average day basis. For 21 days in June 2015, the average day discharge was reported to be 10,029 gallons per day. The discharges exceeded HCC's allowed average day discharge by 6%, per the MWRA/HCC Sewer Connection Agreement which says the following: "As approved by the MWRA Board of Directors and Advisory Board, the HCC is approved to discharge a maximum daily flow of up to 10,500 gallons per day, and average daily flow of 6,400 gallons (calculated as an annual average day per calendar year) Any increase beyond the approved discharge will require a contract revisions and a revision to the entrance fee." HCC's entrance fee and inflow removal requirement were based on the projected maximum daily flow, and it is not clear whether or not HCC's discharges in June may have exceeded the maximum day discharge. Staff contacted HCC's representative, expressing concern that the contract's average annual daily flow limit was exceeded and perhaps the daily maximum. In response, MWRA was informed that the car wash water-recycling unit had been malfunctioning for quite some time, and was repaired in February 2016. HCC requested additional time to investigate the cause of increased water usage/estimated wastewater discharge.

Potential Future Connections

Water

North Reading, Ashland, and Southfield are continuing to pursue admission to MWRA, as addressed below. In 2015, MWRA had further discussions with Tri-Town (Braintree, Randolph, and Holbrook), although Tri-Town has publicly indicated its intent to construct a water treatment plant and to continue reliance on local sources.

North Reading: On average, North Reading purchases approximately 1 mgd of water from Andover, and derives another 0.5 mgd from its wells in the Ipswich River Basin. In order to provide a long-term, reliable and sustainable water source and to reduce stress on the Ipswich River, North Reading plans to become a fully served MWRA water community. MWRA water would be wheeled to North Reading through Reading, after the town complete necessary improvements in Reading's water system to increase hydraulic capacity: these include cleaning and lining portions of existing mains and replacing portions of water mains within North Reading's distribution system with larger pipes. Supply of MWRA of water to North Reading via wheeling through Reading also entails North Reading's construction of a new connection/pipeline at the Reading/North Reading border.

In 2015, North Reading Town Meeting approved warrant articles for the funding of engineering, design, and permitting of water connection to MWRA. In 2015, North Reading also held meetings for stakeholders in advance of submitting its Draft Environmental Impact Report (which was submitted in March 2016). The timeline for North Reading to receive MWRA water is 2019. Between now and then, North Reading needs to complete the MEPA and Interbasin Transfer Act processes, formally apply to MWRA and the MWRA Advisory Board,

and design and construct the Reading water system distribution improvements and Reading/North Reading connection. 2019 is also the date of MWRA's completion of its Northern Intermediate High Redundancy improvements.

Southfield: Southfield is a mixed-use community being developed at the site of the former Weymouth Naval Air Station. Southfield includes portions of Weymouth, Abington, and Rockland with Weymouth hosting a large part of the development. In 2015, LStar Management assumed the role of master developer of Southfield (the third in a series of master developers that MWRA staff have collaborated with over the last decade), and identified water supply as a top priority. Southfield's ultimate water demand from MWRA is still undetermined, as prior discussions suggested a 2-3 mgd demand, while current planning assumes a phased development with more modest demands.

At its September 2015 meeting, the MWRA Board of Directors voted to endorse Southfield's admission to the MWRA Water System, contingent upon Southfield's fulfilling the requirement of OP 10, and contingent upon the support of MWRA's member communities as signified by a vote of MWRA Advisory Board. Based on MWRA's understanding, LStar is still evaluating different options for supply of water from MWRA, including via wheeling water through Quincy to Weymouth or construction of a pipeline to MWRA (the option identified in MEPA documents some years ago).

Ashland: Ashland relies on three wells in a well field adjacent to the Hopkinton State Reservoir. The reservoir elevation impacts the elevation of the groundwater in the well field. In the past, lower-than-normal precipitation raised concerns about water levels, for when reservoir levels drop, Ashland's wells may be affected to the point that two of the three wells may "lock-out" as the groundwater drops below the pumps. In addition, the Town's groundwater sources can impact nearby water resources and may result in withdrawal constraints that limit groundwater pumping. Therefore, Ashland is developing a plan to diversify its water sources.

In Spring 2015, Ashland Town Meeting voted to approve pursuit of a connection to MWRA, including permitting. In September 2015, the Town submitted a Draft Environmental Impact Report. The Secretary's Certificate on the DEIR noted that the project required a mandatory FEIR and directed Ashland to respond to a number of questions raised by the Water Resources Commission and the Department of Environmental Protection. Ashland is in the process of doing so, and an FEIR will be submitted shortly. A warrant article for Ashland's Spring 2016 Town Meeting will seek approval for funding Ashland's connection to MWRA.

Sewer

In 2015, staff did receive occasional sewer system expansion inquiries, but after discussion with interested parties on requirements of admission, including the need to obtain approvals by both the host community and transporting communities, inflow removal requirements, and the need to consider feasible alternatives to MWRA, sewer connections to MWRA in most cases were not pursued. An exception is in Hingham, where an application to MWRA to connect a Town-owned parcel that is currently outside the Hingham North District is anticipated shortly.

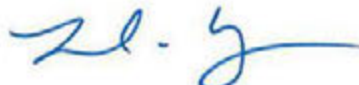
ATTACHMENT A

Policies for Admission to the MWRA

- **OP. #04, Sewer Connections Serving Property Partially Located in a Non-MWRA Community.** This policy applies to persons seeking sewer services for buildings/structures that are located partially within an MWRA sewer community and partially outside an MWRA sewer community (the actual structures, not just the parcel of land on which the structure is located, must straddle the municipal boundary). It is also known as the "Sewer Straddle" policy.
- **OP#05. Emergency Water Supply Withdrawals.** This policy applies to communities outside MWRA's Water Service Area that are seeking MWRA water on an emergency basis. The MWRA may approve emergency withdrawals for no more than six months at a time, and typically, the emergency withdrawal period coincides with a DEP Declaration of Emergency for the Community.
- **OP#09, Water Connections Serving Property Partially Located in a Non-MWRA community.** This policy applies to persons seeking to obtain water for a location, building, or structure located on a parcel of land, under single ownership, and which is subject to an integrated plan for use of development, that is located partially within an MWRA water community and partially outside an MWRA water community. It is also known as the "Water Straddle" policy.
- **OP#10, Admission of New Community to MWRA Water System.** This policy applies to communities seeking admission to the MWRA water system. OP#10 also applies to any local body, institution, agency or facility of the Commonwealth or federal government seeking MWRA water for a location outside MWRA's Water Service area. Connections and withdrawals by private entities outside the water service area are prohibited, except for those that are eligible under either the water straddle policy (OP#9), or that are located contiguous to or in the vicinity of local community-owned water supply pipelines that extend from the MWRA's Chicopee Valley Aqueduct (CVA) and that receive the appropriate approvals from the CVA, host communities, and applicable regulatory bodies.
- **OP#11, Admission of New Community to MWRA Sewer System and Other Requests for Sewer Service to Locations Outside MWRA Sewer Service Area.** This policy applies to communities seeking admission to the MWRA sewer system and to all parties seeking sewer service for locations outside the MWRA service area that are not eligible under the Sewer Straddle Policy.

MWRA must approve all extension of service to entities outside the service area pursuant to the applicable policy noted above, with the exception of connections to local community owned water supply pipelines that extend from the Chicopee Valley Aqueduct. This is the case even when an entity outside the service area is not directly connected to the MWRA, but instead to a community local system that is part of the MWRA service area.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: April 13, 2016
SUBJECT: Delegated Authority Report – March 2016

COMMITTEE: Administration, Finance & Audit

INFORMATION
 VOTE

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


Michele S. Gillen
Director, Administration

Carolyn Francisco Murphy
Director of Procurement

RECOMMENDATION:

For information only. Attached is a listing of actions taken by the Executive Director under delegated authority for the period March 1 – 31, 2016.

This report is broken down into three sections:

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

BACKGROUND:

The Board of Directors' Management Policies and Procedures, as amended by the Board's vote on October 14, 2009, delegate authority to the Executive Director to approve the following:

Construction Contract Awards:

Up to \$1 million if the award is to the lowest bidder; or up to \$500,000 if the award is to other than the lowest bidder.

Change Orders:

Up to 25% of the original contract amount or \$250,000, whichever is less, where the change increases the contract amount, and for a term not exceeding an aggregate of six months; and for any amount and for any term, where the change decreases the contract amount. The delegations for cost increases and time can be restored by Board vote.

Professional Service Contract Awards:

Up to \$100,000 and one year with a firm; or up to \$50,000 and one year with an individual.

Non-Professional Service Contract Awards:

Up to \$250,000 if a competitive procurement process has been conducted, or up to \$100,000 if a procurement process other than a competitive process has been conducted.

Purchase or Lease of Equipment, Materials or Supplies:

Up to \$1 million if the award is to the lowest bidder; or up to \$500,000 if the award is to other than the lowest bidder.

Amendments:

Up to 25% of the original contract amount or \$250,000, whichever is less, and for a term not exceeding an aggregate of six months.

Amendments to the Position Control Register:

Amendments which result only in a change in cost center.

BUDGET/FISCAL IMPACT:

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

CONSTRUCTION/PROFESSIONAL SERVICES DELEGATED AUTHORITY ITEMS MARCH 1 - 31, 2016

NO.	DATE OF AWARD	TITLE AND EXPLANATION	CONTRACT	AMEND/CO	COMPANY	FINANCIAL IMPACT
C-1.	03/03/16	INSTALLATION OF ENERGY EFFICIENT LED INTERIOR LIGHTING AT THE NUT ISLAND HEADWORKS - PHASE 2 AWARD OF AN ENERGY EFFICIENT CONTRACT TO A NGRID PREQUALIFIED VENDOR FOR THE REPLACEMENT OF 49 EXPLOSION PROOF AND NON-EXPLOSION PROOF INTERIOR LIGHTS WITH ENERGY EFFICIENT LED LIGHTS AT THE NUT ISLAND HEADWORKS FOR A TERM OF 120 CALENDAR DAYS. A REBATE TOTALING \$33,119.37 WILL BE RECEIVED FROM NGRID UPON PROJECT COMPLETION FOR A PAYBACK PERIOD OF 4.9 YEARS.	OP-323	AWARD	HORIZON SOLUTIONS LLC	\$99,063.56
C-2.	03/08/16	CONSTRUCTION OF WATER MAINS - SECTIONS 36, W11C & 59-A FURNISH A NEW 48-INCH BUTTERFLY CONTROL VALVE WITH MOTORIZED ACTUATOR	7448	4	RJV CONSTRUCTION CORP.	\$125,000.00
C-3.	03/11/16	THERMAL AND HYDRO POWER PLANT MAINTENANCE DEER ISLAND TREATMENT PLANT FURNISH AND INSTALL PRESSURE SENSING DEVICES BETWEEN THE FUEL GAS HEADER PIPING, OIL HEADER PIPING, IGNITION GAS PRESSURE PIPING AND THE BURNER MANAGEMENT PANELS AT EACH OF THE TWO BOILERS.	7401	1	O'CONNOR CORPORATION	\$36,679.43
C-4.	03/11/16	NORTH MAIN PUMP STATION VARIABLE FREQUENCY DRIVE AND SYNCHRONOUS MOTOR REPLACEMENT DEER ISLAND TREATMENT PLANT MACHINE WELD AND BORE EXISTING SHAFT COUPLING FOR NMPS MOTORS NO. 2, NO. 5 AND NO. 9 AND FURNISH A NEW COMPLETE SPARE MOTOR SHAFT COUPLING.	6903	13	J.F. WHITE CONTRACTING CO.	\$39,034.55
C-5.	03/11/16	INSTALLATION OF ENERGY-EFFICIENT HEATERS FOR THE DIESEL GENERATORS AT THE JOHN J. CARROLL WATER TREATMENT PLANT AWARD OF AN ENERGY EFFICIENT CONTRACT TO A NGRID PREQUALIFIED VENDOR FOR THE INSTALLATION OF HEAT PUMP BLOCK HEATERS ON FOUR DIESEL GENERATORS AT THE JOHN J. CARROLL WATER TREATMENT PLANT FOR A TERM OF 150 CALENDAR DAYS. A REBATE TOTALING \$42,928 WILL BE RECEIVED FROM NGRID UPON PROJECT COMPLETION FOR A PAYBACK PERIOD OF 2.8 YEARS.	OP-318	AWARD	HORIZON SOLUTIONS LLC	\$99,712.00
C-6.	03/15/16	GATE, SIPHON AND FLOATABLES CONTROL AT MWR003 CSO OUTFALL - CAMBRIDGE DECREASE ESTIMATED QUANTITIES FOR WORK BY UTILITIES; CAMBRIDGE FIRE DEPARTMENT FIRE WATCH SERVICES; WET WEATHER DEMOBILIZATION/REMOBILIZATION; ADDITIONAL TRAFFIC CONTROL; PRICE ADJUSTMENTS FOR DIESEL FUEL AND GASOLINE.	7409	1	P. GIOIOSO & SONS, INC.	(\$107,518.44)
C-7.	03/15/16	PUMP, GEAR BOX AND DIESEL ENGINE UPGRADE PRISON POINT AND COTTAGE FARM CSO FACILITIES DECREASE ESTIMATED QUANTITIES FOR CAMBRIDGE FIRE DEPARTMENT FIRE WATCH SERVICES; STORM DEMOBILIZATION/REMOBILIZATION; TIME AND MATERIALS TO COMPLETE INSTALLATION OF DIESEL OXIDATION CATALYSTS, COMPLETION OF TRAIN 4; WITNESS TESTING OF THE INSTRUMENTATION; FACTORY REHAB, RETURN AND INSTALLATION OF RIGHT ANGLE GEARS.	7452	12	IPC LYDON, LLC	(\$155,692.53)
C-8.	03/15/16	SECTION 4 WEBSTER AVENUE PIPE AND UTILITY BRIDGE REPLACEMENT PERFORM PRESSURE TEST, REPAIR TWO BURIED JOINTS, FURNISH AND INSTALL DUCTILE IRON CAPS, RETAINER GLANDS AND COUPLINGS, BACKFILL THE NORTH AND SOUTH ACCESS PITS, PLACE TEMPORARY PAVEMENT, FURNISH AND INSTALL TEMPORARY FENCING ALONG THE MBTA ACCESS AND DEMOBILIZE AND SECURE THE SITE.	7335	4	NEL CORPORATION	\$128,813.12
C-9.	03/25/16	HYDRAULIC EQUIPMENT SERVICE INCREASE ESTIMATED QUANTITIES FOR EMERGENCY ON-CALL MAINTENANCE SERVICE HOURS.	OP-240	1	R. ZOPPO CORP.	\$51,230.00
C-10.	03/25/16	HULTMAN AQUEDUCT LEAK REPAIR AWARD OF CONTRACT TO THE LOWEST RESPONSIVE BIDDER FOR THE HULTMAN AQUEDUCT LEAK REPAIR IN WESTON FOR A TERM OF 45 CALENDAR DAYS.	7507	AWARD	R. ZOPPO CORP.	\$156,900.00
C-11.	03/30/16	SOUTHBOROUGH WATER QUALITY LABORATORY UPGRADES REVISE THE PLUMBING DESIGN TO COMPLY WITH STATE BUILDING CODE; CUT AND RELOCATE EXISTING HOT AND COLD WATER PIPES AROUND ALUMINUM DUCTWORK IN FIVE LOCATIONS; BUNDLE ELECTRICAL WIRES IN THE ATTIC AREA WITH TIE WIRE AND CONNECT TO J HOOK SUPPORTS, FURNISH AND INSTALL 20 JUNCTION BOX COVERS.	6650A	2	PAUL J. ROGAN CO., INC.	\$57,243.01

PURCHASING DELEGATED AUTHORITY ITEMS - March 1 - 31, 2016

NO.	TITLE AND EXPLANATION	CONTRACT #	AMENDMENT	COMPANY	FINANCIAL IMPACT
P-1. 3/1/16	ONE MUFFIN MONSTER IN-LINE SEWAGE GRINDER AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE PURCHASE OF ONE MUFFIN MONSTER IN-LINE SEWAGE GRINDER FOR THE RESIDUALS COMPLEX AT THE DEER ISLAND TREATMENT PLANT. MUFFIN MONSTER SEWAGE GRINDERS ARE MANUFACTURED BY JWC ENVIRONMENTAL IN SANTA ANA, CALIFORNIA. JWC ENVIRONMENTAL HOLDS EXCLUSIVE PATENTS FOR THE MANUFACTURE AND DISTRIBUTION OF ITS GRINDERS. MWRA HAS BEEN PURCHASING MUFFIN MONSTER SEWAGE GRINDERS FOR MORE THAN 16 YEARS FOR USE IN ITS WASTEWATER TREATMENT PLANTS AND PUMPING STATIONS. THE RESIDUALS COMPLEX AT DEER ISLAND USES THE MUFFIN MONSTER TYPE, THE IN-LINE GRINDER. THE SUBJECT GRINDER IS CURRENTLY LEAKING DIGESTED SLUDGE AT THE GEARBOX INPUT SEAL. FAILURE OF THE BEARINGS AND GEARS WITHIN THE UNIT IS IMMINENT AND WILL REQUIRE USE OF LESS EFFICIENT STANDBY EQUIPMENT UNTIL REPAIRS ARE MADE. PROCURING A REPLACEMENT AS SOON AS POSSIBLE WILL ENSURE THAT REPAIRS CAN BE SCHEDULED AT THE MOST APPROPRIATE TIME.	WRA-4177Q		JWC ENVIRONMENTAL	\$33,985.54
P-2. 3/1/16	REBUILDING ONE MUFFIN MONSTER GRINDER AWARD OF A SOLE SOURCE PURCHASE ORDER FOR THE REPAIR OF ONE MUFFIN MONSTER GRINDER FOR THE BRAINTREE WEYMOUTH PUMP STATION. THE BRAINTREE WEYMOUTH PUMP STATION, WHICH WAS REPLACED IN 2005, USES LARGE GRINDERS, CALLED "CHANNEL MONSTER" GRINDERS, WHICH ARE INSTALLED IN THE FACILITY INLET CHANNELS TO PROVIDE CONTINUOUS GRINDING OF SLUDGE INTO UNIFORM, HOMOGENIZED SLURRY. MOST TYPICALLY, BECAUSE THE CUTTER CARTRIDGE PERFORMS THE BULK OF THE WORK IN THE GRINDING PROCESS, IT IS THE COMPONENT THAT WEARS THE EARLIEST AND REQUIRES THE MOST ATTENTION, EVEN THOUGH THE GRINDER ITSELF REMAINS IN A ROBUST CONDITION. REBUILDING THE CUTTER CARTRIDGE GENERALLY INVOLVES REPLACING OR RECONDITIONING ALL OF THE CUTTERS, SPACERS, AND SEALS. EACH UNIT IS THEN SANDBLASTED AND RETURNED TO ORIGINAL MANUFACTURER'S SPECIFICATIONS, IN EFFECT, RETURNING EACH GRINDER TO A "LIKE NEW" CONDITION. STAFF LAST REBUILT THE CUTTER HEAD AT BRAINTREE WEYMOUTH IN SEPTEMBER 2013.			JWC ENVIRONMENTAL	\$38,221.20
P-3. 3/1/16	ANALYSIS OF OIL AND GREASE LUBRICANTS AND FUEL OIL AND RELATED TRAINING SERVICES APPROVAL OF A TWO-YEAR PURCHASE ORDER CONTRACT TO PROVIDE ANALYSIS OF OIL, GREASE LUBRICANTS AND FUEL OIL, AND RELATED TRAINING SERVICES FOR THE DEER ISLAND TREATMENT PLANT. THE CONDITION MONITORING PROGRAM AT DEER ISLAND EMPLOYS PREDICTIVE MAINTENANCE TECHNOLOGIES, SUCH AS VIBRATION TESTING AND AIRBORNE ULTRASOUND (ACOUSTICS) TO IDENTIFY PROBLEMS WITH EQUIPMENT. OIL TESTING AND ANALYSIS, IN CONJUNCTION WITH THESE AND OTHER TECHNOLOGIES, IS USED TO DETERMINE THE OVERALL HEALTH OF EQUIPMENT AND PREDICT EQUIPMENT FAILURE IN ADVANCE. THIS CONTRACT PROVIDES FOR ADVANCED TESTING & ANALYSIS OF OIL SAMPLES TAKEN FROM EQUIPMENT AND ALSO TESTS FUEL OIL SAMPLES FROM TRUCKS AND TANKS FOR AIR COMPLIANCE PERMITS AND ANY OTHER REGULATORY STANDARDS. IN ADDITION TO THE TESTING SERVICES, THIS CONTRACT WILL PROVIDE DEER ISLAND STAFF WITH PERIODIC TRAINING IN BEST PRACTICES FOR MACHINE LUBRICATION, AND OIL SAMPLING AND ANALYSIS.	WRA-4159		TRIBOLOGIK CORPORATION	\$58,420.00
P-4. 3/1/16	SIXTY WORKSTATIONS & MONITORS AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE PURCHASE OF SIXTY WORKSTATIONS & MONITORS FOR SCADA. THE SUPERVISORY CONTROL AND DATA ACQUISITION (SCADA) DEPARTMENT HAS SIXTY 9 YEAR OLD WORKSTATIONS THAT ARE FAILING, RESULTING IN DOWNTIME AND FREQUENT REPAIRS. THE WORKSTATIONS ALSO CONTAIN OLDER PROCESSOR TECHNOLOGY WHICH MAKES THEM MUCH SLOWER TO OPERATE. THE CURRENT WORKSTATIONS ARE HP S700 MODELS. STAFF RECOMMENDED REPLACING THEM WITH ELITE DESK 800 WORKSTATIONS. THE ELITE DESK WORKSTATIONS ARE MORE RELIABLE AND PROVIDE FASTER PROCESSING. SINCE SCADA PROVIDES MISSION CRITICAL MONITORING & CONTROL OF WATER AND WASTEWATER PROCESSES, HAVING RELIABLE WORKSTATIONS IS CRITICAL.	WRA-4163Q ITC47		PJ SYSTEMS INC.	\$63,685.80
P-5. 3/1/16	AS-NEEDED PARTS AND REPAIR SERVICES AWARD OF A SOLE SOURCE 2 YEAR PURCHASE ORDER FOR AS-NEEDED PARTS AND REPAIR SERVICES FOR MWRA'S CUES CCTV AND SONAR PIPE INSPECTION EQUIPMENT. FOR THE PAST 24 YEARS, MWRA HAS OWNED AND OPERATED CCTV INSPECTION EQUIPMENT MANUFACTURED AND PROVIDED BY CUES, INC. CRITICAL COMPONENTS OF THE INSPECTION SYSTEM ARE PROPRIETARY CAMERAS, COMPONENTS AND PARTS THAT ENABLE THE EQUIPMENT TO FUNCTION RELIABLY AND ALLOW STAFF TO RECORD, DOCUMENT, AND TRANSMIT THE IMAGES TAKEN BY THE CAMERA SYSTEM. MWRA UTILIZES THIS EQUIPMENT TO ENSURE THAT IT MEETS ALL REGULATORY REQUIREMENTS OF ITS NPDES PERMIT. THE IMPORTANCE OF BEING ABLE TO QUICKLY AND ACCURATELY IDENTIFY LEAKS AND OBSTRUCTIONS IN MWRA'S SEWER LINES CANNOT BE OVERSTATED. MWRA HAS SPENT A TOTAL OF APPROXIMATELY \$1.3 MILLION DOLLARS WITH CUES SINCE THE INCEPTION OF THE VIDEO INSPECTION PROGRAM. THIS INVESTMENT WITH CUES INCLUDES PROPRIETARY INSPECTION EQUIPMENT, ELECTRONIC COMPONENTS, PARTS AND HARDWARE, AND SOFTWARE THAT ARE NOT INTERCHANGEABLE WITH ANY OTHER VENDOR'S EQUIPMENT. CUES, INC. IS THE MANUFACTURER AND SOLE PROVIDER OF CUES REPLACEMENT PARTS AND REPAIRS ON CUES EQUIPMENT.			CUES, INC.	\$180,000.00
P-6. 3/1/16	SUPPLY AND DELIVERY OF SODA ASH AWARD OF A THREE-YEAR PURCHASE ORDER CONTRACT FOR THE SUPPLY AND DELIVERY OF SODA ASH TO THE CLINTON ADVANCED WASTEWATER TREATMENT PLANT.	WRA-415B		ASTRO CHEMICALS, INC.	\$655,980.00
P-7. 3/3/16	PROVISION OF THE "MWRA CONSUMER CONFIDENCE REPORT" AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE PROVISION OF THE ANNUAL "MWRA CONSUMER CONFIDENCE REPORT". THE SAFE DRINKING WATER ACT AMENDMENTS OF 1996 CONTAIN A REQUIREMENT FOR OWNERS OF COMMUNITY WATER SYSTEMS TO PROVIDE ANNUAL REPORTING ON THE STATE OF DRINKING WATER QUALITY TO ITS CUSTOMERS. EPA'S REGULATIONS REFER TO THIS ANNUAL REPORT AS THE CONSUMER CONFIDENCE REPORT. AS IT HAS SINCE 1998, THE MWRA WILL PRODUCE AND PROVIDE BROCHURES TO EVERY HOUSEHOLD IN ITS 44 WATER SERVICE AREA COMMUNITIES. AWARD IS FOR AN INITIAL PERIOD OF TWO YEARS, PLUS AN OPTION FOR A THIRD YEAR.	WRA-414B		SHAWMUT PRINTING	\$574,456.44

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NO.	TITLE AND EXPLANATION	CONTRACT #	AMENDMENT	COMPANY	FINANCIAL IMPACT
P-8. 3/8/16	ONE NEW DETACHABLE SNOW THROWER AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR ONE NEW DETACHABLE SNOW THROWER. MWRA STAFF AT THE CHELSEA MAINTENANCE FACILITY ARE RESPONSIBLE FOR SNOW REMOVAL AT APPROXIMATELY 22 METROPOLITAN FACILITIES. FOLLOWING IN THE FOOTSTEPS OF THE CITY OF BOSTON, MWRA IS AUGMENTING ITS SNOW REMOVAL EQUIPMENT WITH THE PURCHASE OF A SNOW BLOWER ATTACHMENT FOR AN EXISTING FRONT END LOADER.	WRA-4161		CN WOOD CO., INC.	\$120,500.00
P-9. 3/10/16	240 LITHIUM BATTERY PACKS AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR 240 LITHIUM BATTERY PACKS FOR MWRA'S WASTEWATER FLOW METERS.	WRA-4162		EPEC ENGINEERED TECHNOLOGIES	\$46,944.00
P-10. 3/10/16	TWO 90-TON AIR-COOLED CHILLERS AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR TWO 90-TON AIR-COOLED CHILLERS FOR THE DEER ISLAND TREATMENT PLANT. THE SOUTH SYSTEM PUMP STATION (SSPS) ON DEER ISLAND RECEIVES RAW WASTEWATER FROM NUT ISLAND VIA THE INTER-ISLAND TUNNEL. THE SSPS IS EQUIPPED WITH EIGHT VERY LARGE VERTICAL NON-CLOG CENTRIFUGAL PUMPS, EACH CAPABLE OF PUMPING UP TO 85 MILLION GALLONS PER DAY. TWO AIR-COOLED SCROLL CHILLERS CONTROL THE AIR TEMPERATURE IN THE SSPS. THE TWO CHILLERS BEING PURCHASED UNDER THIS BID AWARD WILL REPLACE THE LAST OF THE CHILLERS ON DEER ISLAND STILL CHARGED WITH R-22 REFRIGERANT, A SUBSTANCE NOW BANNED. TODAY, ALL NEWLY MANUFACTURED WINDOW UNIT AIR CONDITIONERS, MINI SPLIT AIR CONDITIONERS, AND CENTRAL AIR CONDITIONING SYSTEMS IN THE UNITED STATES COME WITH R-410A REFRIGERANT ONLY. THE TWO NEW CHILLERS BEING ORDERED WILL BE CHARGED WITH THE MORE ENVIRONMENTALLY PREFERABLE REFRIGERANT.	WRA-4168		INDTECH GROUP, LLC	\$79,000.00
P-11. 3/11/16	OPACITY MONITORING SYSTEM AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR AN OPACITY MONITORING SYSTEM FOR THE DEER ISLAND TREATMENT PLANT. THE THERMAL POWER PLANT LOCATED AT THE DEER ISLAND TREATMENT PLANT HOUSES TWO ZURN BOILERS. THESE BOILERS SUPPLY STEAM THAT HEATS THE FACILITY AND OPERATES STEAM TURBIN GENERATORS FOR ELECTRICAL POWER GENERATION. THE BOILERS' OPACITY MONITORING SYSTEMS ARE USED TO CONTINUOUSLY MONITOR OPACITY OR DUST CONTENT OF THE FLUE GAS IN THE BOILER EXHAUST IN ACCORDANCE WITH ALL FEDERAL AND STATE REGULATIONS AND AIR QUALITY PERMITS. THE EXISTING UNITED SCIENCES MODEL 500C MONITORS ARE THE ORIGINAL MONITORS FOR THESE BOILERS AND HAVE BEEN IN SERVICE FOR OVER TWENTY YEARS. STAFF HAVE DETERMINED THAT BOTH OPACITY MONITORING SYSTEMS NEED TO BE REPLACED.	WRA-4152		MONITORING SOLUTIONS, INC.	\$50,445.00
P-12. 3/11/16	SOLID PHASE EXTRACTION SYSTEM AWARD OF A SOLE SOURCE PURCHASE ORDER FOR THE PURCHASE OF A SOLID PHASE EXTRACTION SYSTEM FOR THE DEPARTMENT OF LABORATORY SERVICES. SEMI VOLATILE ORGANICS ANALYSIS, ALSO KNOWN AS ACID-BASE-NEUTRALS, CONSISTS OF TESTING SAMPLES FOR A WIDE RANGE OF TRACE LEVEL TOXIC AND CARCINOGENIC ORGANIC CHEMICALS. CONVENTIONALLY THESE SAMPLES ARE PREPARED BY A LABOR-INTENSIVE, MANUAL LIQUID-LIQUID EXTRACTION PROCESS USING LARGE VOLUMES OF THE CHLORINATED SOLVENT METHYLENE CHLORIDE (DICHLOROMETHANE, DCM) TO EXTRACT THE TARGET CHEMICALS FROM WATER SAMPLES. THE SOLID PHASE EXTRACTION PROCESS COMPLETELY AUTOMATES THE SAMPLE PREPARATIONS PROCESS. IT ALSO MINIMIZES THE REQUIRED VOLUME OF SOLVENT WHICH DECREASES THE COST TO PURCHASE DCM AND THE DISPOSAL COST OF THE DCM THAT IS SUBSEQUENTLY RECLAIMED DURING THE EXTRACT CONCENTRATION PROCESS. THE SYSTEM WILL BE USED TO PERFORM AUTOMATED SOLID PHASE EXTRACTIONS OF WASTEWATER TREATMENT AND TRAC SAMPLES FOR SEMI VOLATILE ORGANICS ANALYSES AT THE DEER ISLAND LABORATORY.			FLUID MANAGEMENT SYSTEMS, INC.	\$161,540.00
P-13. 3/14/16	TWO GATE VALVE TRUCKS AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR TWO GATE VALVE TRUCKS. MWRA STAFF EXERCISES, OPERATES AND MAINTAINS MORE THAN 5,000 VALVES IN A SERVICE AREA ROUGHLY ENCLOSED BY ROUTE 128. MANY OF THE VALVES IN MWRA'S SYSTEM HAVE TURN COUNTS IN THE HUNDREDS, AND SOME ARE IN THE THOUSANDS. THERE ARE CURRENTLY FIVE VALVE TRUCKS, THE FIFTH TRUCK IS A SPARE THAT CAN BE USED WHEN A FRONT-LINE VEHICLE IS OUT FOR MAINTENANCE. FOR THE LAST TWO YEARS, VARIOUS AND INCREASINGLY FREQUENT MAINTENANCE ISSUES RESULTED IN EXTENDED PERIODS OF TIME WHEN VALVE MAINTENANCE WAS DOWN TO TWO FUNCTIONING VALVE TRUCKS. WRA-774 (PURCHASED IN 2004) HAS BEEN PLAGUED BY CONTINUED ELECTRICAL PROBLEMS. THE UTILITY BODY IS RUSTING AND THERE ARE SEVERAL SMALL ROT HOLES. WRA-932 (PURCHASED IN 2007) HAS AN ERRATICALLY SHIFTING TRANSMISSION. FLEET SERVICES MET WITH OPERATIONS STAFF TO DEVELOP A SPECIFICATION FOR THE TWO PREVIOUS REPLACEMENTS THAT WOULD MEET THE REQUIRED WORKED NEEDS OF MWRA'S VALVE CREWS. THE FREIGHTLINER M2-106 CAB AND CHASSIS WAS DETERMINED TO BE THE BEST OPTION, OUTFITTED AS A CREW CAB WITH AN ALUMINUM OPEN SERVICE BODY, DUAL REAR WHEELS AND SPECIALLY SIZED COMPARTMENTS TO ACCOMMODATE A GATE VALVE OPERATOR SYSTEM. IN JANUARY 2014, TWO VEHICLES WERE ADVERTISED UNDER BID WRA-3748. CREWS WERE WELL SATISFIED WITH THESE VEHICLES AND THE SAME TRUCK SPECIFICATIONS WERE USED FOR THE CURRENT PROCUREMENT.	WRA-4170		RBG, INC.	\$255,394.00
P-14. 3/17/16	ALLEN BRADLEY PLC MODULES AWARD OF A SOLE SOURCE PURCHASE ORDER FOR ALLEN BRADLEY PLC COMPONENTS AND MODULES FOR THE WESTERN WATER SYSTEM. THE MWRA SCADA SYSTEM USES PROGRAMMABLE LOGIC CONTROLLERS (PLC) TO MONITOR AND CONTROL THE WATER AND WASTEWATER PROCESSES. A PLC IS A MODULAR SYSTEM WHICH USES INPUTS AND OUTPUTS, CALLED "I/O", TO INTERFACE WITH THE PROCESS EQUIPMENT AND INSTRUMENTATION. SOME OF THE I/O MODULES IN THE WESTERN WATER SYSTEM ARE AGING AND NEED TO BE REPLACED. THIS PURCHASE WILL INCLUDE 40 "SPECTRUM" ANALOG OUTPUT MODULES AND 10 "ROCKWELL" ANALOG OUTPUT MODULES.			NORTHEAST ELECTRICAL DISTRIBUTORS, INC.	\$114,539.90
P-15. 3/21/16	RENEWAL OF ARC INFO SOFTWARE MAINTENANCE - GIS AWARD OF A PURCHASE ORDER CONTRACT FOR MAINTENANCE, TECHNICAL ASSISTANCE AND SUPPORT OF THE ARC GEOGRAPHIC INFORMATION SYSTEM. THE MWRA USES ENVIRONMENTAL SYSTEMS RESEARCH INSTITUTE (ESRI) GEOGRAPHIC INFORMATION SYSTEM (GIS) SOFTWARE (COMMONWEALTH'S STANDARD) FOR THE GEOSPATIAL NEEDS OF THE OPERATIONS DIVISION. THE ANNUAL MAINTENANCE COVERS PATCHES AND HELPLINE SUPPORT FOR DESKTOP AND WEB SERVER CORE PACKAGES AS WELL AS ADDITIONAL PRODUCTIVITY EXTENSIONS SUCH AS SPATIAL ANALYST, NETWORK ANALYST, 3D ANALYST. THE TOOLS PROVIDE STAFF THE ABILITY TO ANALYZE DIFFERENT TYPES OF GIS DATA AND LOOK AT IT IN 3 DIMENSIONS. SERVICE PERIOD IS JULY 1, 2016 THROUGH JUNE 30, 2017.	ITS48		ENVIRONMENTAL SYSTEMS RESEARCH INSTITUTE, INC. (ESRI)	\$51,220.00


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NO.	TITLE AND EXPLANATION	CONTRACT #	AMENDMENT	COMPANY	FINANCIAL IMPACT
P-16. 3/24/16	SUPPLY AND DELIVERY OF SODIUM HYDROXIDE AWARD OF A ONE-YEAR PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE SUPPLY AND DELIVERY OF SODIUM HYDROXIDE TO VARIOUS WASTEWATER LOCATIONS.	WRA-4184		BORDEN & REMINGTON CORP.	\$55,396.00
P-17. 3/24/16	AQUATIC INVASIVE MACROPHYTE SURVEY UPDATE APPROVAL OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE AQUATIC INVASIVE MACROPHYTE SURVEY UPDATE AT MWRA/DCR SOURCE AND EMERGENCY RESERVOIRS. THE MWRA/DCR WATER SUPPLY SYSTEM INCLUDES TWO LARGE SOURCE RESERVOIRS (QUABBIN AND WACHUSETT), THE WARE RIVER, AND SEVEN EMERGENCY DISTRIBUTION RESERVOIRS THAT COVER A WIDE GEOGRAPHIC AREA SERVING THE METROPOLITAN BOSTON/METRO WEST AND CHICOPEE VALLEY AQUEDUCT SERVED COMMUNITIES. SINCE 2010, MWRA CONSULTANTS HAVE SURVEYED THE ENTIRE RESERVOIR SYSTEM TO ASSESS AQUATIC PLANT COMMUNITIES AND THE PRESENCE OF INVASIVE AQUATIC PLANTS. RECENT COMPREHENSIVE BASELINE SURVEYS WERE COMPLETED IN 2015. THE PURPOSE OF THIS CONTRACT IS TO UPDATE THESE PAST SURVEYS AND SERVE AS AN EARLY WARNING ON THE INTRODUCTION OF NEW (OR EXPANSION OF EXISTING) AQUATIC INVASIVE PLANTS.	WRA-4172		ESS GROUP, INC.	\$65,550.00
P-18. 3/24/16	SUPPLY AND DELIVERY OF SODIUM BISULFITE AWARD OF A ONE-YEAR PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE SUPPLY AND DELIVERY OF SODIUM BISULFITE TO THE DEER ISLAND TREATMENT PLANT.	WRA-4178		SOUTHERN IONICS, INC.	\$143,550.00
P-19. 3/24/16	TWENTY-FOUR MULTI-FUNCTION DEVICES APPROVAL OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE PURCHASE OF TWENTY-THREE MULTI-FUNCTION DEVICES FOR THE CHELSEA, CNY, DITP, SOUTHBORO AND MARLBORO FACILITIES. CURRENTLY, THE MWRA LEASES FIFTY SIX MULTI-FUNCTION DEVICES (MFDs). TWENTY TWO OF THOSE LEASES ARE DUE TO EXPIRE BETWEEN FEBRUARY AND SEPTEMBER 2016. HISTORICALLY, THE AUTHORITY HAS ENTERED INTO THREE-YEAR LEASE AGREEMENTS FOR ALL OF ITS MFDs UNDER THE COMMONWEALTH OF MASSACHUSETTS BLANKET CONTRACT FOR OFFICE EQUIPMENT. STAFF DETERMINED THAT IT IS NOW MORE COST EFFECTIVE TO PURCHASE THE MFDs THAN TO LEASE THEM, AND PLAN TO TRANSITION TO OWNERSHIP AS THE REMAINING THIRTY-FOUR LEASES EXPIRE THROUGH 2018.	WRA-4166Q OFF32		TOSHIBA AMERICA BUSINESS SOLUTIONS	\$142,616.87
P-20. 3/24/16	DATA DIODE SOLUTION AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR A DATA DIODE SOLUTION FOR THE PROCESS INFORMATION AND CONTROL SYSTEM AT THE DEER ISLAND TREATMENT PLANT. THE DATA DIODE TECHNOLOGY PHYSICALLY PREVENTS INFORMATION FROM TRAVELING FROM THE CORPORATE NETWORK TO THE PICS NETWORK. THIS ONE-WAY COMMUNICATION PREVENTS OUTSIDE CYBER INTRUSIONS FROM ACCESSING OR ALTERING ANY DATA ON THE PICS NETWORK.	WRA-4169Q ITC47		HUB TECHNICAL SERVICES, LLC	\$166,524.00
P-21. 3/24/16	SUPPLY AND DELIVERY OF CARBON DIOXIDE AWARD OF A ONE-YEAR PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE SUPPLY AND DELIVERY OF CARBON DIOXIDE TO THE JOHN J. CARROLL WATER TREATMENT PLANT.	WRA-4173		PRAXAIR, INC.	\$356,937.00
P-22. 3/30/16	30 GLASS-LINED PLUG VALVES WITH HAND WHEEL AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR 30 GLASS-LINED PLUG VALVES WITH HAND WHEEL FOR THE DEER ISLAND TREATMENT PLANT. THE HIGH PRESSURE PLANT WATER SYSTEM (W3H) PROVIDES HIGH PRESSURE PLANT WATER FOR FILLING CHANNELS AND TANKS FOR PROCESS TESTING, SLUDGE DILUTION, FLUSHING TANKS PRIOR TO CLEANING, FLUSHING WATER TO CLEAN PROCESS PIPELINE SYSTEMS, HOSE BIBS FOR CLEANING PROCESS CHANNELS AND TANK, AND VARIOUS OTHER USES. W3H PLUG VALVES ISOLATE THE PRIMARY CLARIFIERS, PRIMARY SLUDGE PUMPS, AND SECTIONS OF THE PIPELINES FROM W3H WATER WHEN NOT NEEDED. CURRENTLY, THERE ARE APPROXIMATELY 25 GLASS-LINED W3H PLUG VALVES, ORIGINALLY INSTALLED UNDER THE BOSTON HARBOR PROJECT THAT NO LONGER PROVIDE LEAK-FREE ISOLATION. STAFF RECOMMENDED THAT ALL 25 BE REPLACED AND THAT AN ADDITIONAL FIVE PLUG VALVES BE PURCHASED AS SPARES TO HAVE ON HAND FOR AS-NEEDED REPLACEMENTS.	WRA-4175		ATLANTIC FLUID TECHNOLOGY	\$110,250.00
P-23. 3/30/16	ONE 15.25-INCH SPLIT MECHANICAL SEAL AWARD OF A SOLE SOURCE PURCHASE ORDER FOR ONE 15.25-INCH SPLIT MECHANICAL SEAL FOR THE NORTH MAIN PUMP STATION. THE NORTH MAIN PUMP STATION HANDLES RAW WASTEWATER FLOWS FROM THE BOSTON MAIN DRAINAGE AND NORTH METROPOLITAN DRAINAGE TUNNELS. THERE ARE TEN 3,500 HP FAIRBANKS MORSE PUMPS LOCATED IN THE NORTH MAIN PUMP STATION. THE FAIRBANKS MORSE "PUMPS" HAVE A UNIQUE SHAFT SIZE OF 15.25-INCH WHICH IS EXCLUSIVE TO DITP. A. W. CHESTERTON SPECIFICALLY DESIGNED AND MANUFACTURED A SPLIT SEAL SYSTEM TO FIT THESE PUMPS. THIS REQUEST IS FOR A SPARE COMPLETE SPLIT MECHANICAL SEAL FOR THE NORTH MAIN PUMP STATION'S FAIRBANKS MORSE PUMPS. DUE TO FAIRBANKS MORSE'S UNIQUE 15.25-INCH SHAFT SIZE, THIS SPLIT MECHANICAL SEAL IS CUSTOM MANUFACTURED AND HAS A SIGNIFICANT LEAD-TIME. THE COMPLETE SPLIT MECHANICAL SEAL IS REPLACEMENT FOR ANY OF THE TEN 3,500 HP FAIRBANKS MORSE RWW PUMPS.			A. W. CHESTERTON COMPANY	\$114,372.00
P-24. 3/31/16	THREE IRONPORT C380 EMAIL FILTERING APPLIANCES AND SUPPORT AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THREE IRONPORT C380 EMAIL FILTERING APPLIANCES AND SUPPORT. IN APRIL 2009 MWRA PURCHASED TWO IRONPORT C380 APPLIANCES TO PROVIDE EMAIL FILTERING. SUBSEQUENTLY IN 2011 MWRA PURCHASED A THIRD IRONPORT C380 APPLIANCE FOR DISASTER RECOVERY ON THE DEER ISLAND TREATMENT PLANT. THE CURRENT IRONPORT C380 APPLIANCES ARE AT END OF HARDWARE SUPPORT LIFE AND NEED TO BE REPLACED SO THAT THEY CAN CONTINUE TO PROVIDE UNINTERRUPTED EMAIL PROTECTION SERVICES.	WRA-4130Q		K LOGIX, LLC	\$30,737.00

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P-25.	3/31/16 PLUMBING TOOLS AND MATERIALS AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR SPECIALIZED PLUMBING TOOLS AND MATERIAL FOR THE DEER ISLAND TREATMENT PLANT TO REPAIR AND UPGRADE THE PNEUMATIC AIR SYSTEM COMPONENTS OF THE WET SCRUBBERS WHICH WERE ORIGINALLY INSTALLED AS PART OF THE BOSTON HARBOR PROJECT AND WHICH ARE NOW DETERIORATING.	WRA-4150Q		INDEPENDENT PIPE AND SUPPLY CO.	\$45,366.84
P-26.	3/31/16 LASER AND BELT ALIGNMENT TRAINING AND SUPPORT AWARD OF A TWO-YEAR PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE AS-NEEDED LASER AND BELT ALIGNMENT TRAINING AND SUPPORT SERVICES. MWRA STAFF ARE RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF A VARIETY OF ROTATING EQUIPMENT SUCH AS FANS, PUMPS, COMPRESSORS, MIXERS AND OTHER PROCESS EQUIPMENT AT THE DEER ISLAND TREATMENT PLANT. THE USE OF THIS EQUIPMENT REQUIRES REGULAR STAFF TRAINING TO ENSURE THE MOST ACCURATE RESULTS WHEN ALIGNING EQUIPMENT. ALL CURRENT AND NEWLY-HIRED MAINTENANCE STAFF MUST BE TRAINED ON PROPER ALIGNMENT TECHNIQUES AND PROCEDURES.	WRA-4145		ALIGNMENT SPECIALISTS, LLC	\$57,750.00
P-27.	3/31/16 REPAIR SERVICES FOR TELEDYNE/ISCO ADFM METERING EQUIPMENT AWARD OF A TWO-YEAR, SOLE SOURCE BLANKET PURCHASE ORDER FOR AS-NEEDED REPAIR SERVICES FOR MWRA'S TELEDYNE/ISCO ADFM METERING EQUIPMENT. TELEDYNE/ISCO COMPANY'S ADFM METERS, WHICH WERE INSTALLED IN 2004 UNDER MWRA'S WASTEWATER METER REPLACEMENT PROJECT, ARE BEING UTILIZED IN MOST OF MWRA'S LARGER PIPES AND HIGH LEVEL SEWERS DUE TO THE METER'S UNPARALLELED FLOW MEASUREMENT ACCURACY, ESPECIALLY DURING WET WEATHER EVENTS. IT IS IMPORTANT TO KEEP THESE METERS IN PRIME WORKING CONDITION AS THE DATA DERIVED FROM THESE METERS IS USED FOR BILLING PURPOSES. THERE ARE 30 ADFM METERS CURRENTLY IN OPERATION IN THE WASTEWATER FLOW METERING SYSTEM. THESE METERS ARE APPROXIMATELY 12 YEARS OLD AND HAVE EITHER PASSED OR ARE NEAR THE END OF THEIR LIFE EXPECTANCY.			TELEDYNE/ISCO COMPANY	\$60,000.00
P-28.	3/31/16 REPLACEMENT PARTS FOR THE ACTIVATED SLUDGE PUMPS AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR REPLACEMENT PARTS FOR THE ACTIVATED SLUDGE PUMPS AT THE DEER ISLAND TREATMENT PLANT.	WRA-4167		DIVERSIFIED PUMP COMPANY	\$78,510.00
P-29.	3/31/16 INVASIVE PLANTS CONTROL APPROVAL OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR INVASIVE PLANT CONTROL AT THE CHESTNUT HILL RESERVOIR. IN 2009, 2010, 2012 AND 2015/16 MWRA FIRST PERFORMED INVASIVE CONTROL EFFORTS THROUGH WINTER DRAW-DOWNS OF THE RESERVOIR TO EXPOSE AND DESICCATE THE PLANTS DOWN THROUGH THE ROOT SYSTEMS. DRAW-DOWN OPERATIONS HAVE RESULTED IN A DRASTIC REDUCTION OF INVASIVE AND NUISANCE AQUATIC PLANTS. SHOULD AQUATIC INVASIVE PLANT HARVEST BE REQUIRED, STAFF WILL MOBILIZE THE CONTRACTOR AS IN PAST SEASONS. THE PERIOD OF CONTROL WORK UNDER THIS PURCHASE ORDER CONTRACT WILL BE APPROXIMATELY JULY 1, 2016 TO NOVEMBER 1, 2016.	WRA-4179		SOLITUDE LAKE MANAGEMENT, LLC	\$89,050.00
P-30.	3/31/16 ONE SPARE PUMP PULL OUT ASSEMBLY AWARD OF A SOLE SOURCE PURCHASE ORDER FOR ONE SPARE PUMP PULL OUT ASSEMBLY FOR THE GILLIS PUMP STATION. GILLIS PUMP STATION WAS ORIGINALLY BUILT IN THE 1890'S AND WAS LAST REHABILITATED IN 1996. THERE ARE THREE 19.0 MGD IN-LINE VERTICAL TURBINE PUMPS THAT CAN PUMP TO THE FELS TANK, AND 5 DRY PIT CENTRIFUGAL PUMPS THAT CAN PUMP TO THE BEAR HILL TANK. THESE PUMPS ARE 19 YEARS OLD AND ALTHOUGH PERFORMANCE HAS BEEN SATISFACTORY, PERIODIC REPAIRS ARE NECESSARY. STAFF RECOMMENDED THE PROCUREMENT OF A COMPLETE SPARE PUMP PULL OUT ASSEMBLY TO HAVE IN THE EVENT THAT A PUMP REBUILD IS REQUIRED.			AQUA SOLUTIONS, INC.	\$96,500.00
P-31.	3/31/16 ONE NEW 15-FT. BACKHOE LOADER AND ONE NEW 17-FT BACKHOE LOADER AWARD OF TWO SEPARATE PURCHASE ORDERS TO THE LOWEST RESPONSIVE BIDDERS FOR ONE NEW 15-FT BACKHOE LOADER FOR GROUNDS MAINTENANCE WEST AND ONE NEW 17-FT BACKHOE LOADER FOR WASTEWATER PIPELINE MAINTENANCE. STAFF HAVE DETERMINED THAT CONTINUED REPAIRS TO WRA-487 ARE NO LONGER COST EFFECTIVE AND RECOMMENDED REPLACEMENT. WRA-487 WILL BE REPLACED WITH THE 17-FOOT CLASS BACKHOE WHICH WILL BE DEPLOYED TO WASTEWATER PIPELINE MAINTENANCE. STAFF HAVE ALSO RECOMMENDED THE REPLACEMENT OF WRA-243, THIS ELEVEN YEAR OLD PIECE OF EQUIPMENT NEEDS NEW TIRES, BUCKET PINS AND BUCKET CUTTING EDGE. WRA-243 WILL BE REPLACED WITH THE 15-FOOT CLASS BACKHOE WHICH WILL BE DEPLOYED TO GROUNDS MAINTENANCE WEST.	WRA-4137		SCHMIDT EQUIPMENT, INC. NORTHLAND INDUSTRIAL TRUCK CO., INC.	\$124,900.00 \$144,200.00

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: April 13, 2016
SUBJECT: Analysis of Proposal to Reclassify Employees to Group 2 for Retirement

COMMITTEE: Administration, Finance & Audit

 VOTE
 X INFORMATION


Thomas J. Durkin
Director, Finance

The issue of classifying MWRA employees as "Group 2" for retirement has arisen over the years. Again, legislation has been filed in the Massachusetts legislature to reclassify "non-clerical workers of the Massachusetts Water Resources Authority" from Group 1 to Group 2. All MWRA employees are currently classified in Group 1.

At the March 16, 2016 Board of Directors meeting, Board members discussed a letter from the president of NAGE who asked for both an opportunity to address the Board and to seek support for this legislation. The Board directed staff to return with an analysis of the issue.

RECOMMENDATION:

For information only.

DISCUSSION:

Massachusetts retirement systems governed by MGL Chapter 32 classify all active members in four classifications. Generally, jobs requiring (i) greater daily physical exertion increasing the likelihood that the job could not be safely and effectively performed into older age and/or (ii) jobs requiring skills and responsibilities that make it more difficult for an employee in such a job to find suitable alternative employment, are classified with a more generous pension benefit. The classification system allows classes of members to retire with maximum benefits at different ages. Group 2 members can retire with maximum benefits five years earlier than Group 1 members can.

Group 1

Approximately 80% of all active members in Massachusetts are in Group 1. All MWRA employees are currently classified in Group 1. The statute defines Group 1 as "Officials and general employees including clerical, administrative and technical workers, laborers, mechanics

and all others not otherwise classified.” Group 1 members can retire with full pension benefits at age 65. The law goes on further to define Groups 2, 3 and 4 by job title.

Group 2

Group 2 generally includes certain employees with hazardous occupations. The job titles are enumerated in the statute beginning with *“Public works building police; permanent watershed guards and permanent park police; University of Massachusetts police; employees of the Massachusetts Port Authority, comprising guards, guard sergeants, head guard and chief of waterfront police; officials and employees of the department of public safety having police powers;* going on to name many other job titles. The 2015 Public Employees Retirement Administration Commission (PERAC) Retirement Guide describes Group 2 as including *“certain employees with hazardous occupations, such as mental health hospital attendants.”*

Group 3

Group 3 is relatively specific, identifying state police officers and inspectors. Group 3 has a separate method for calculating benefits.

Group 4

Group 4 generally includes public safety employees such as police and fire department employees, but also includes the conservation officer of the City of Haverhill. The PERAC Retirement Guide describes Group 4 as consisting of *“public safety officers, officials, and employees, such as police officers, firefighters, and certain correction officers.”*

The classification system has been criticized for many years as being complex and confusing. Over the past ten years, two formal groups have been created to evaluate the classification system and make recommendations on how to improve it. In 2006, the co-chairmen of the Joint Committee on Public Service appointed a Blue Ribbon Panel on Massachusetts Public Employees' Pension Classification System. The Panel issued a report noting among other things, that the groupings lacked a well-defined rationale for classification and that jobs with similar characteristics were often placed in different groupings. The Panel found that exposure to hazardous substances and risk should be *“reflected in compensation, not in retirement age.”* Several recommendations were reported including the need to clearly identify the job based reason for changing classification as well as the need to quantify the cost.

In 2011, the Special Commission to Study the Massachusetts Public Employees Pension Classification System was established by legislation. The Commission issued a twenty-five page report finding in part that *“...the group classification statute has grown and developed on an ad hoc basis over the past sixty plus years and that there is no clear definition as to the groupings...”* The Commission found that the ability to retire earlier is fair for jobs where employees routinely encounter high risk/high stress, but distinguished this employment situation from those where high risk/high stress is encountered only on occasion. The Special Commission's report recommended changing to either a one group system or a two group system. The two group system would differentiate Group “A” as front line public safety personnel including police, corrections and fire personnel with the benefit of retiring earlier from all other employees.

The retirement benefit calculation begins with three variables: the average of a member's highest three years salary (members joining after April 2, 2012 use highest five years), the number of years of service and a proxy for age referred to as the age factor. The age factor of 2.5% is the greatest factor for all groups; however the age at which a member reaches that factor is different. The table below details the factors for members hired before April 2, 2012.

Factor %	Age Last Birthday at Date of Retirement		
	Group 1	Group 2	Group 4
2.5	65 or over	60 or over	55 or over
2.4	64	59	54
2.3	63	58	53
2.2	62	57	52
2.1	61	56	51
2.0	60	55	50
1.9	59	-	49
1.8	58	-	48
1.7	57	-	47
1.6	56	-	46
1.5	55	-	45

The annual retirement benefit can be significantly different for different groups.

Example:

A 60-yearold employee with 32 years of service with an average salary of \$60,000

Group 1 $\$60,000 \times 32 \times 2.0\% = \$38,400$ per year

Group 2 $\$60,000 \times 32 \times 2.5\% = \$48,000$ per year

The MWRA Retirement System's actuary has estimated for FY17 that changing from Group 1 to Group 2 would increase the Annual Required Contribution by \$6,119 from \$2,874 to \$8,993 for each employee changed and would increase the Unfunded Actuarial Accrued Liability by \$36,458 from \$2,397 to \$38,855 for each employee changed.

The overall financial impact cannot be determined at this time as it is unclear which employees are being proposed to change to Group 2. The proposed language "*non-clerical workers*" is quite broad and would likely need further definition.

BUDGET/FISCAL IMPACT:

There is no impact to FY16 Current Expense Budget. Any costs associated with approved increases to the pension benefits will be budgeted appropriately in future fiscal years.

ATTACHMENT:

Letter from NAGE



3/11/16

To: Bonnie Hale, MWRA Assistant to the Board

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

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

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

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

Sincerely,

Bill Lane
President

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

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: April 13, 2016
SUBJECT: FY16 Financial Update and Summary



COMMITTEE: Administration, Finance & Audit


Kathy Soni, Budget Director
Preparer/Title

INFORMATION

VOTE


Thomas J. Durkin
Director, Finance

RECOMMENDATION:

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

DISCUSSION:

Total year-to-date expenses are lower than budget by \$3.4 million or 0.7% due to lower direct expenses of \$2.9 million, indirect expenses of \$516,000, and higher revenues of \$2.4 million or 0.5% for a total variance of \$5.8 million.

In March, \$1.3 million was transferred to the Defeasance Account as result of continued low variable rate environment, the effect of last year's reserves release, and the timing of new money borrowing which brought the defeasance account balance to \$17.1 million. Should these favorable trends continue, the defeasance account is projected at \$27.6 million. Without the transfer of the \$17.1 million in debt service savings to the Defeasance Account, the total year-to-date budget variance through March would have been \$22.9 million.

Beyond debt service savings, staff project a surplus of approximately \$8.9 million at year-end of which \$4.7 million is for direct expenses, mainly due to conservative budgeting for wages and utilities both of which are lower than anticipated, offset by higher maintenance expenses associated with the Nut Island fire incident, \$688,000 for Indirect expenses, \$874,000 for the receipt of Debt Service Assistance in April, and revenues of \$2.6 million.

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

Staff will continue to refine the year-end projections and update the Board in May.

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

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

	FY16 Budget YTD	FY16 Actual YTD	\$ Variance	% Variance
Direct Expenses	\$158.9	\$156.0	-\$2.9	-1.8%
Indirect Expenses	\$33.2	\$32.7	-\$0.5	-1.6%
Debt Service	\$318.3	\$318.3	\$0.0	0.0%
Total	\$510.4	\$507.0	-\$3.4	-0.7%

The major variances through March by categories were:

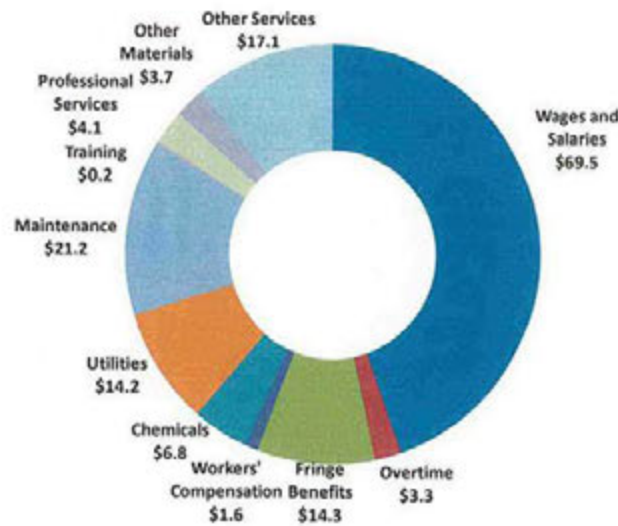
- Lower Direct Expenses of \$2.9 million for Wages and Salaries, Utilities, Other Services, Workers' Compensation, Chemicals, Fringe Benefits, and Professional Services. This is offset by higher spending for Maintenance, Other Material, and Overtime.
- Lower Indirect Expenses of \$516,000 for lower Watershed reimbursements; lower HEEC capacity charges; and lower insurance costs, mostly for premiums.
- Revenues exceeded budget by \$2.4 million due to higher non-rate revenue related to higher than expected TRAC penalty fees, unbudgeted water revenues, US Treasury bond proceeds arbitrage rebate and energy rebates.

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

Direct Expenses

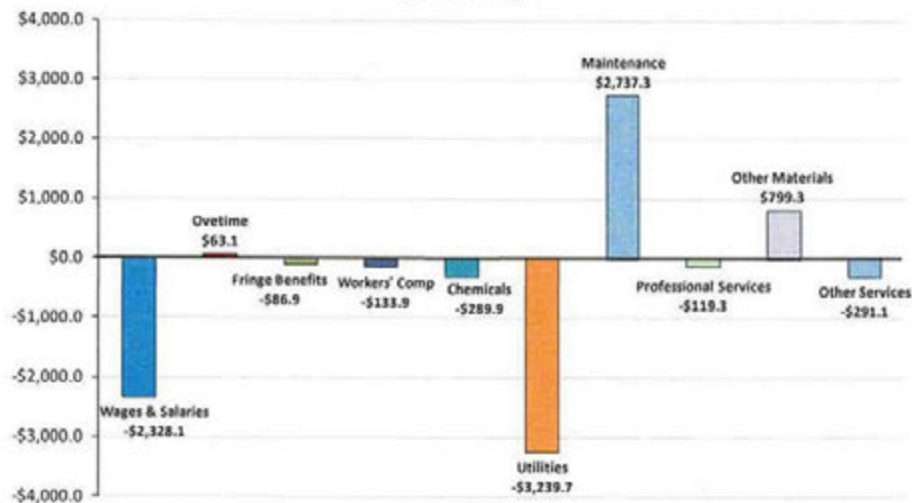
Year-to-date direct expenses totaled \$156 million, \$2.9 million or 1.8% less than budgeted.

FY16 Direct Expenses-YTD
(in millions)



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

FY16 Direct Expense Variance
(in 000's)



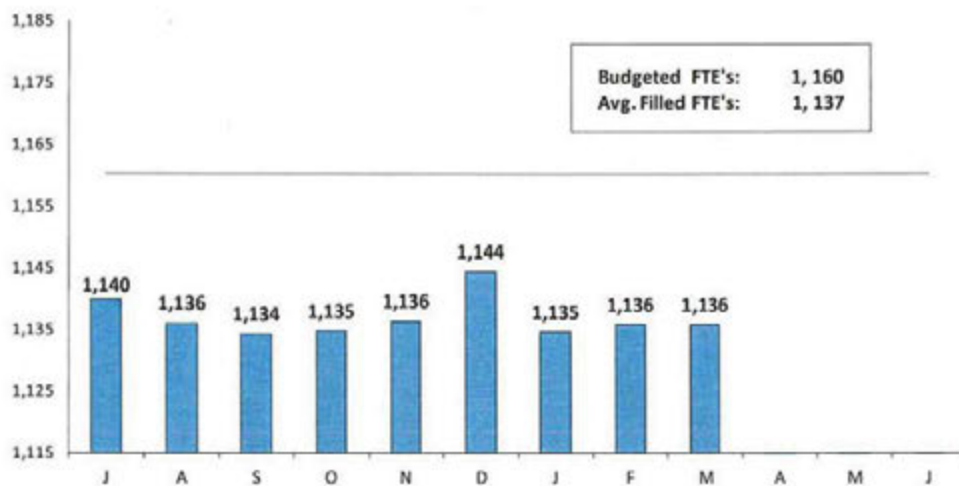
Utilities

Utilities were underspent \$3.2 million or 18.6% for lower Electricity of \$1.9 million mainly due to underspending at Deer Island of \$1.6 million for lower commodity and transmission and distribution costs, lower flows which resulted in less pumping demand, and an over accrual at the end of FY15. Diesel Fuel spending is under budget by \$1.3 million for both lower pricing and less usage due to the relatively mild winter.

Wages and Salaries

Wages and Salaries were underspent by \$2.3 million or 3.2% mainly as a result of lower average Full Time Equivalent positions (FTEs) than budgeted and the timing of backfilling vacant positions and the salary mix differential between staff retiring and new hires. The average FTEs through March were 1,137, which was 23 positions lower than the 1,160 FTEs budgeted. Additionally, the Authority had two temporary employees.

FY16 MWRA Full Time Equivalent (FTE) Position Trend



Through March 2016, the Authority had 1,143 filled positions vs. 1,170 budgeted positions.

Other Services

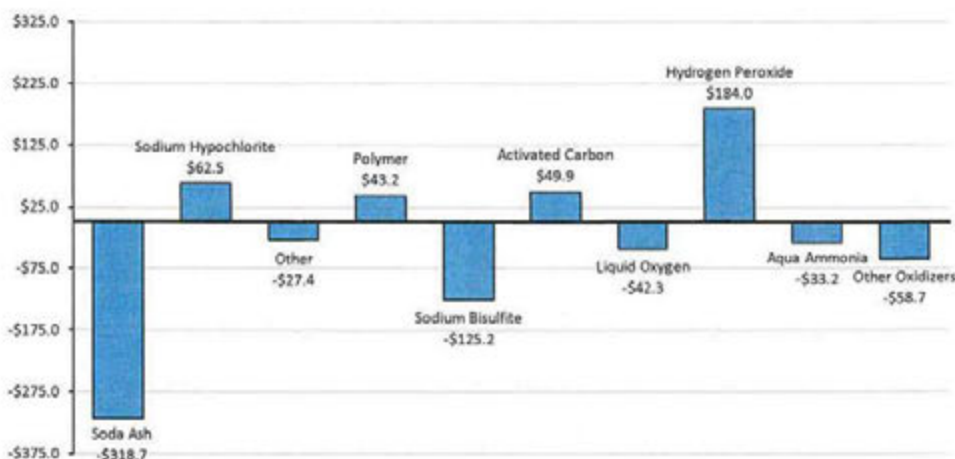
Other Services spending was lower than budget by \$291,000 or 1.7% due to lower spending of \$160,000 for sludge pelletization services for lower year to date tonnage; \$88,000 for Space Lease Rentals for the Chelsea facility lease due to an overpayment of escrow for insurance; \$87,000 for Grit and Screenings disposal services primarily due to lower quantities; and \$59,000 for Other Rentals. The underspending is offset by higher spending on Telephone Services of \$65,000 associated with Field Operations SCADA lines for the water and wastewater facilities; Other Services of \$56,000 for Ward Street Headworks radio tower demolition and Membership/Dues/Subscriptions of \$49,000 due to timing.

Chemicals

Chemical expenses were lower than budgeted by \$290,000 or 4.1% year-to-date mainly due to lower than budgeted spending on Soda Ash of \$319,000 due to lower usage to meet corrosion control targets and timing of deliveries for Soda Ash; Sodium Bisulfite of \$125,000 due to timing of deliveries at DITP and lower usage at the Carroll Water Treatment Plant for Ozone residual removal; Other Oxidizers of 59,000 due to timing of deliveries and lower pricing for the new contract; and Ozone of \$42,000 due to higher water quality and change in operating target resulting from UV disinfection. The underspending is offset by overspending on Hydrogen Peroxide of \$184,000 due to increased need for pretreatment of hydrogen sulfide gas due to plant

flows; Sodium Hypochlorite of \$62,000 primarily at Deer Island; Activated Carbon of \$50,000 primarily at Deer Island, and Polymer of \$43,000.

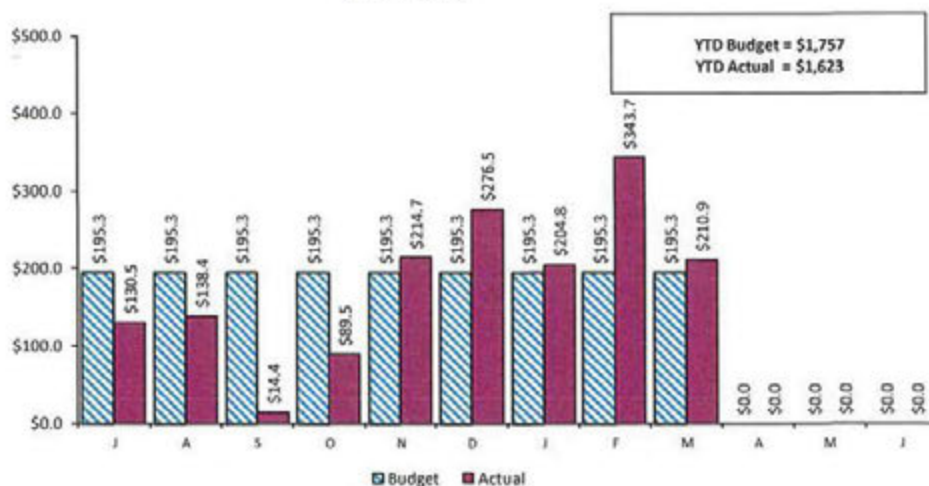
FY16 Chemical Expense Variances (in 000's)



Workers' Compensation

Workers' Compensation expenses were lower than budget by \$134,000 or 7.6% based on lower compensation payments of \$126,000 and medical expenses of \$51,000. In March, actual spending was \$16,000 over budget. The year to date favorable variance is the result of lump sum settlements in prior periods, thus lowering reserves. It is important to note that spending on this line item can change significantly depending on future claims and severity of cases.

FY16 Workers' Compensation Spending (in 000's)



# of Open Claims-Lost Time	62	61	62	62	63	58	64	68	62	0	0	0
# of Open Claims Medical Only	22	17	23	23	23	21	26	21	16	0	0	0

Professional Services

Professional Services spending was lower than budget by \$119,000 or 2.9% primarily associated with Lab Testing and Analysis of \$169,000 in ENQUAL-Wastewater and Engineering of \$54,000 at Deer Island and Reservoir Operations. This is offset by higher spending for Legal Services of \$72,000 primarily in Law.

Fringe Benefits

Fringe Benefits spending was lower than budgeted by \$87,000 or 0.6% for Health Insurance of \$129,000 and Dental Insurance of \$52,000 due to fewer than budgeted filled positions. This was offset by higher spending in Medicare costs of \$32,000, Tuition Reimbursement of \$25,000, and Unemployment Insurance of \$21,000.

Maintenance

Maintenance expenses were higher than budgeted by \$2.7 million or 14.8% year-to-date mostly due to \$1.5 million associated with the remediation effort for the Nut Island fire incident. Approximately \$712,000 overspending is attributed to more than planned energy efficiency projects.

Other Materials

Other Materials were higher than budget by \$799,000 or 27.6% mainly due to the timing of Vehicle Purchases of \$752,000; Computer Hardware of \$114,000; Lab and Testing Supplies of \$80,000 mainly due to receipt of equipment ordered in FY15 and received in the first Quarter of FY16; Equipment/Furniture of \$61,000; and Health and Safety of \$44,000. The overspending is offset by lower spending for Vehicle Expenses of \$289,000 mostly due to lower fuel prices.

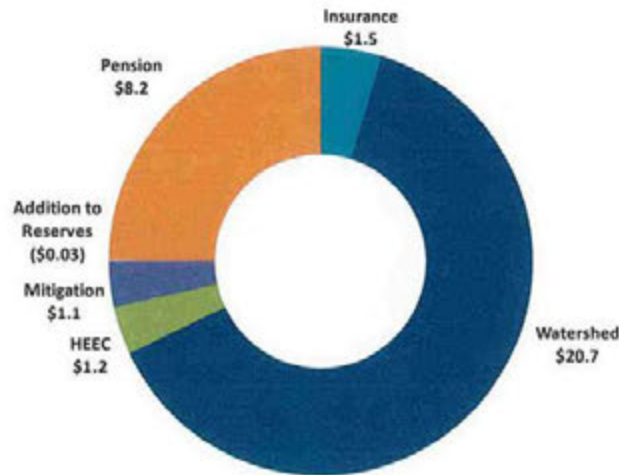
Overtime

Overtime was higher than budget by \$63,000 or 2.0% for greater spending in Water Valve Maintenance to reconfigure system flows associated with providing Lynn water, responding to a Cambridge water main break, start-up at Spot Pond, Treatment and Transmission Operation for half plant maintenance at Carroll Water Treatment Plant, and in Field Operations in response to the Nut Island fire. This is offset by fewer wet weather events and shutdowns related to the North Main Pump Station valve replacement project.

Indirect Expenses

Through March Indirect expenses total \$32.7 million, \$516,000 or 0.1% lower than budget. The majority of the FY16 underspending is related to lower Watershed Reimbursement of \$375,000 for FY15 over accrual and projected FY16 underspending; lower HEEC Agreement cost of \$147,000 due to timing of payments versus budget; and lower Insurance costs of \$84,000 mostly related to premiums. This is offset by higher spending of \$90,000 for Winthrop and Quincy mitigation, due to finalizing the agreements after the budget was developed.

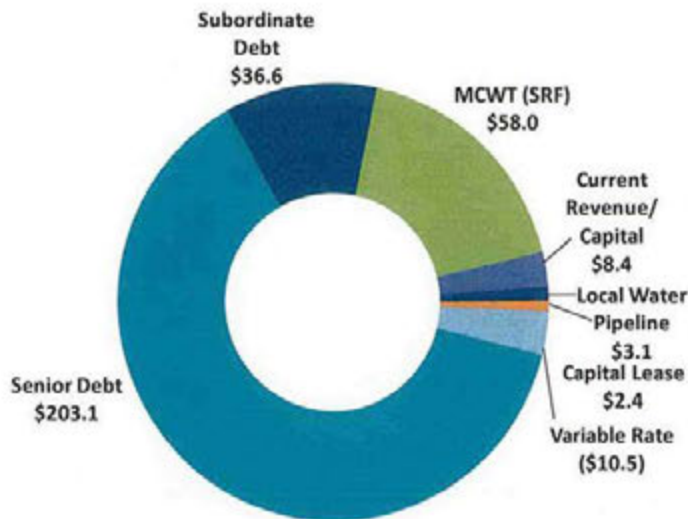
FY16 Indirect Expenses-YTD
(in millions)



Debt Service Expenses

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

FY16 Debt Expenses-YTD
(in millions)

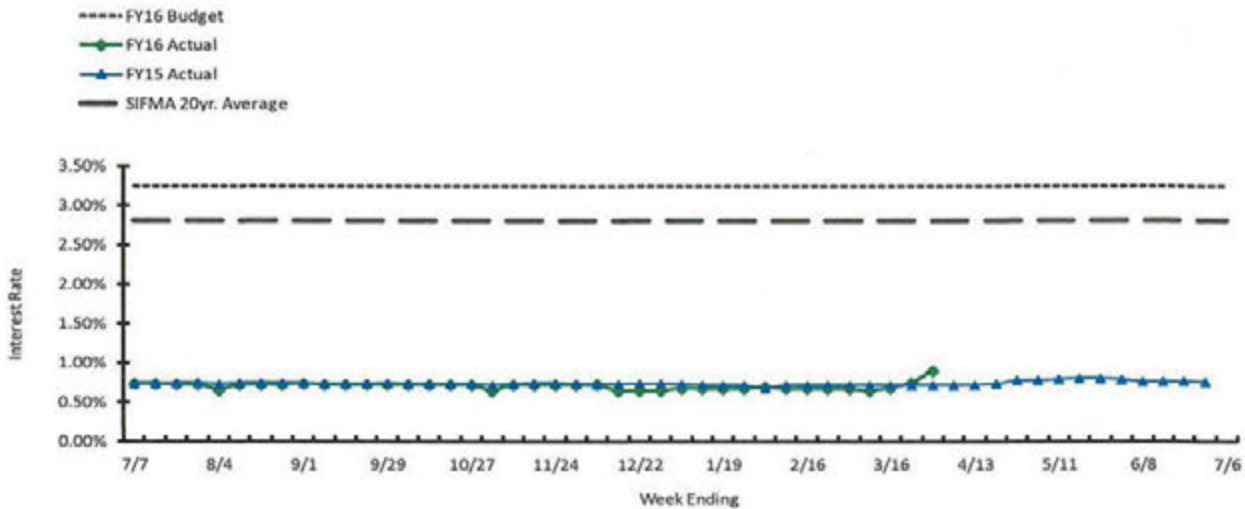


Debt Service expenses through March totaled \$318.3 million which is at budgeted level after the transfer of \$17.1 million of a favorable year-to-date variance to the Defeasance Account. The short-term rates related variance is \$10.5 million year-to-date. Additionally, the Authority

recognized \$6.6 million in year-to-date underspending that is the result of the favorable impact of defeasances related to reserve releases and for not borrowing senior debt scheduled for November.

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

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



Revenue

Revenue for year to date through March totaled \$530.7 million which was \$2.4 million or 0.5% higher than budget.

The higher non-rate Revenue is due to Other Revenue of \$1.9 million of which, \$593,000 is for City of Lynn MWRA water use while they completed maintenance work on their water system, \$610,000 for TRAC Penalties mainly attributed to a large settlement with a company who had a series of discharge violations to the MWRA sewer, which since then has been addressed and corrective measures were implemented; US Treasury rebate of \$296,000; energy rebates of \$254,000; higher surplus equipment sales of \$249,000, and greater Investment Income of \$390,000.

Investment Income is over budget by \$390,000, due to higher than budgeted short-term interest rates.

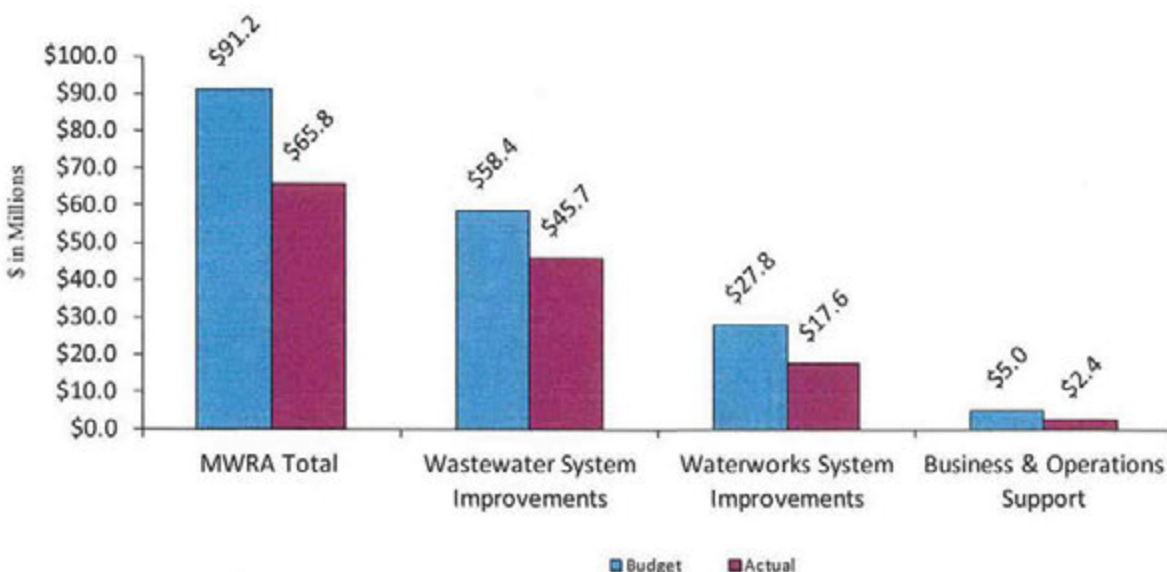
Please refer to Attachment 2 for a more detailed comparison by line item.

FY16 Capital Improvement Program

Spending year-to-date in FY16 totals \$65.8 million, \$25.4 million or 27.8% below budget. After accounting for programs which are not directly under MWRA's control, most notably the Inflow and Infiltration (I/I) program, the Local Water Pipeline program, and the community managed Combined Sewer Overflow (CSOs) projects, underspending totals \$22.3 million or 33.6%. Underspending was reported across all three programs with Wastewater underspent by \$12.6 million, Waterworks posting underspending of \$10.2 million and Business and Operations Support and \$2.5 million, respectively.

Spending By Program:

FY16 CIP Spending Year-To-Date March



\$ in Millions	Budget	Actuals	\$ Var.	% Var.
Wastewater System Improvements				
Interception & Pumping	9.2	3.4	-5.8	-63.3%
Treatment	24.2	18.3	-5.9	-24.2%
Residuals	0.0	0.0	0.0	N/A
CSO	12.3	14.0	1.6	13.3%
Other	12.7	10.0	-2.6	-20.6%
Total Wastewater System Improvements	\$58.4	\$45.7	-\$12.6	-21.7%
Waterworks System Improvements				
Drinking Water Quality Improvements	5.1	5.7	0.6	11.3%
Transmission	10.2	2.4	-7.8	-76.3%
Distribution & Pumping	10.8	10.7	0.0	-0.3%
Other	1.7	-1.2	-2.9	-170.4%
Total Waterworks System Improvements	\$27.8	\$17.6	-\$10.2	-36.6%
Business & Operations Support	\$5.0	\$2.4	-\$2.5	-51.3%
Total MWRA	\$91.2	\$65.8	-\$25.4	-27.8%

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

Waterworks Transmission: Net underspending of \$7.8 million reflects the combination of underspending for Long Term Redundancy of \$7.0 million due to lower than budgeted award and schedule change for Wachusett Aqueduct Pump Station and ongoing tunnel alternatives review for metropolitan redundancy, and Watershed Land of \$1.1 million due to the timing of land acquisitions. Offset by Hatchery Pipeline Construction of \$189,000 due to contractor progress and Design/Engineering Services During Construction/Resident Engineer Inspection of \$157,000 due to consultant progress and scope changes.

Wastewater Treatment: Underspending of \$5.9 million reflects underspending on Electric Equipment Upgrade – Construction 4 of \$2.5 million, North Main Pump Station VFD Replacement of \$1.4 million, As-Needed Design 7-2 and 7-3 of \$1.1 million, Thermal Power Plant Boiler Control Replacement of \$901,000, Scum Skimmer Replacement of \$759,000 and Fire Alarm System Replacement – Design of \$206,000 due to timing. Barge Berth and Facility Replacement of \$475,000 and Winthrop Terminal Facility VFD Replacement of \$200,000 due to schedule changes, and Steam Turbine Generator System Modifications Construction of \$450,000 due to energy efficiency rebate. Offset by overspending on Butterfly Valve Replacement of \$1.5 million and HVAC Equipment Replacement Design/Engineering Services During Construction of \$303,000 due to timing.

Interception & Pumping: Underspending of \$5.8 million reflecting underspending on Chelsea Creek Screen House Upgrades of \$2.0 million due to timing, Alewife Brook Pump Station Rehab Final Design/CA/REI and Construction of \$1.9 million, Caruso Pump Station Improvements Construction of \$640,000 due to schedule change, Chelsea Screenhouse Upgrades of \$1.2 million due to timing, and other smaller projects totaling \$527,000. Offset by Nut Island Headworks Electric, Grit & Screenings Conveyance Design and Construction of \$231,000 and Nut Island System-wide Odor Control – Evaluation of \$219,000 due to progress.

Waterworks Other: Underspending of \$2.9 million due to lower community requests for Local Water System Loans of \$2.6 million, and Quabbin Power Communication and Security Construction of \$326,000 due to schedule shift.

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

Business and Operations Support: Underspending of \$2.6 million due to lower than budgeted spending on MIS-related projects of \$1.6 million due to timing of IT Strategic Plan implementation, \$552,000 due to lower than projected use of as-needed technical assistance contracts, and Security Equipment of \$549,000 due to delay in award of equipment contracts.

Combined Sewer Overflow: (CSO) Net overspending of \$1.6 million due to \$3.2 million in overspending at Cambridge Sewer Separation due to water use during construction and updated cost estimates due to unforeseen utility locations and private utility coordination, subsurface conditions, and additional engineering services during construction, partially offset by Reserved

Channel Sewer Separation of \$969,000 due to updated cost estimates and MWR003 Gate & Siphon of \$492,000, and Dorchester Bay Sewer Separation of \$125,000 due to timing.

Drinking Water Quality Improvements: Overspending of \$0.6 million due to Existing Facilities CP-7 of \$862,000, Spot Pond Storage Facility Owners' Representative of \$214,000, and Carroll Water Treatment Plant's Ultraviolet Disinfection - Design/Engineering Services During Construction/Resident Engineer Inspection of \$161,000 due to timing, and Brusch Treatment Facility of \$344,000 reflecting additional construction administration and resident engineering services. Offset by Carroll Water Treatment Plant's Ultraviolet Disinfection Construction of \$952,000 due to litigation settlement.

Water Distribution and Pumping: Overspending nearly matched underspending within this program. Overspending on Weston Aqueduct Supply Mains Section 36/C/S9-A11 Valve of \$1.4 million due to contractor progress, Southern Extra High Redundancy & Storage Final Design/CA/RI of \$487,000 due to timing, and other projects totaling \$119,000. Offset by NIH Redundancy & Storage of \$1.0 million due to lower than budgeted award and schedule change for Section 89/29 Redundancy Construction Phase 1B of \$1.2 million, and WASM 3 - MEPA/Design/CA/RI of \$624,000 due to ongoing tunnel alternatives review for metropolitan redundancy, and Valve Replacement of \$348,000 due to timing.

Construction Fund Balance

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

The construction fund balance is now at \$77.9 million for March. The Authority received Massachusetts Water Pollution Abatement Trust (MWPAT) loans for \$53 million. Commercial Paper available for construction projects is \$201 million.

Attachment 1 – Variance Summary March 2016

Attachment 2 – Current Expense Variance Explanations

Attachment 3 – Capital Improvement Program Variance Explanations

Attachment 4 – FY16 Budget vs. FY16 Projections

ATTACHMENT 1

	March 2016 Year-to-Date					
	Period 9 YTD Budget	Period 9 YTD Actual	Period 9 YTD Variance	%	FY16 Approved	% Expended
EXPENSES						
WAGES AND SALARIES	\$ 71,840,962	\$ 69,512,899	\$ (2,328,063)	-3.2%	\$ 99,363,168	70.0%
OVERTIME	3,197,824	3,260,895	63,071	2.0%	4,219,293	77.3%
FRINGE BENEFITS	14,377,009	14,290,061	(86,948)	-0.6%	19,326,756	73.9%
WORKERS' COMPENSATION	1,757,250	1,623,398	(133,852)	-7.6%	2,343,000	69.3%
CHEMICALS	7,126,576	6,836,644	(289,932)	-4.1%	9,790,848	69.8%
ENERGY AND UTILITIES	17,392,913	14,153,176	(3,239,737)	-18.6%	23,164,822	61.1%
MAINTENANCE	18,459,781	21,197,087	2,737,306	14.8%	28,698,772	73.9%
TRAINING AND MEETINGS	281,206	235,613	(45,593)	-16.2%	413,714	57.0%
PROFESSIONAL SERVICES	4,169,816	4,050,497	(119,319)	-2.9%	5,819,611	69.6%
OTHER MATERIALS	2,893,230	3,692,567	799,337	27.6%	6,164,589	59.9%
OTHER SERVICES	17,422,863	17,131,777	(291,086)	-1.7%	23,529,902	72.8%
TOTAL DIRECT EXPENSES	\$ 158,919,430	\$ 155,984,614	\$ (2,934,816)	-1.8%	\$ 222,834,475	70.0%
INSURANCE	\$ 1,620,598	\$ 1,536,473	\$ (84,125)	-5.2%	\$ 2,160,797	71.1%
WATERSHED/PILOT	21,072,175	20,696,996	(375,179)	-1.8%	28,096,233	73.7%
BEC _o PAYMENT	1,340,112	1,193,011	(147,101)	-11.0%	1,946,157	61.3%
MITIGATION	1,050,000	1,140,000	90,000	8.6%	1,400,000	81.4%
ADDITIONS TO RESERVES	(26,195)	(26,195)	-	0.0%	(34,927)	75.0%
RETIREMENT FUND	8,159,521	8,159,521	-	0.0%	8,159,521	100.0%
POST EMPLOYEE BENEFITS	-	-	-	---	5,224,848	0.0%
TOTAL INDIRECT EXPENSES	\$ 33,216,211	\$ 32,699,806	\$ (516,405)	-1.6%	\$ 46,952,629	69.6%
STATE REVOLVING FUND	\$ 57,628,678	\$ 58,019,620	\$ 390,942	0.7%	\$ 81,876,277	70.9%
SENIOR DEBT	210,128,430	203,062,398	(7,066,032)	-3.4%	283,024,431	71.7%
CORD FUND	-	-	-	---	-	---
DEBT SERVICE ASSISTANCE	-	-	-	---	-	---
CURRENT REVENUE/CAPITAL	8,400,000	8,400,000	-	0.0%	11,200,000	75.0%
SUBORDINATE MWRA DEBT	36,607,032	36,607,032	-	0.0%	49,222,442	74.4%
LOCAL WATER PIPELINE CP	3,111,930	3,111,930	-	0.0%	4,149,240	75.0%
CAPITAL LEASE	2,412,795	2,412,795	-	0.0%	3,217,060	75.0%
VARIABLE DEBT	-	(10,456,635)	(10,456,635)	---	-	0.0%
BOND REDEMPTION SAVINGS	-	-	-	---	-	---
DEFEASANCE ACCOUNT	-	17,131,725	17,131,725	---	-	0.0%
TOTAL DEBT SERVICE	\$ 318,288,865	\$ 318,288,865	\$ -	0.0%	\$ 432,689,450	73.6%
TOTAL EXPENSES	\$ 510,424,506	\$ 506,973,284	\$ (3,451,222)	-0.7%	\$ 702,476,554	72.2%
REVENUE & INCOME						
RATE REVENUE	\$ 504,330,000	\$ 504,330,000	\$ -	0.0%	\$ 672,440,000	75.0%
OTHER USER CHARGES	6,352,023	6,456,474	104,451	1.6%	8,683,898	74.3%
OTHER REVENUE	10,791,306	12,684,533	1,893,227	17.5%	12,000,066	105.7%
RATE STABILIZATION	-	-	-	---	-	---
INVESTMENT INCOME	6,874,246	7,263,887	389,641	5.7%	9,352,590	77.7%
TOTAL REVENUE & INCOME	\$ 528,347,575	\$ 530,734,894	\$ 2,387,316	0.5%	\$ 702,476,554	75.6%

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY16 Budget YTD March	FY16 Actuals YTD March	FY16 YTD Actual vs. FY16 Budget		Explanations
			\$	%	
Direct Expenses					
Wages & Salaries	71,840,962	69,512,899	(2,328,063)	-3.2%	Underspending is mainly the result of lower average Full Time Equivalent positions (FTEs) than budgeted and the timing of backfilling vacant positions and the salary mix differential between staff retiring and new hires. The average FTEs through March was 1,137, which was 23 positions lower than the 1,160 FTEs budgeted. Additionally, the Authority had two temporary employees.
Overtime	3,197,824	3,260,895	63,071	2.0%	Overspending mainly in Water Valve Maintenance to reconfigure system flows associated with providing Lynn water, responding to a Cambridge water main break, and start-up at Spot Pond, Treatment & Transmission Operations for planned operator half plant maintenance, and in FOD in response to the Nut Island fire. This is offset by fewer wet weather events and shutdowns related to the North Main Pump Station valve replacement project.
Fringe Benefits	14,377,009	14,290,061	(86,948)	-0.6%	Lower than budget mainly due to Health Insurance of \$129,000 and Dental Insurance of \$52,000 due to fewer than budgeted filled positions, offset by overspending for Medicare of \$32,000; Tuition Reimbursement of \$25,000; and Unemployment Insurance of \$21,000.
Worker's Compensation	1,757,250	1,623,398	(133,852)	-7.6%	Underspending due to lower compensation payments of \$126,000 and medical expenses of \$51,000. In March, actual spending was \$16,000 over budget. The year to date favorable variance is the result of lump sum settlements in prior periods, thus lowering reserves. It is important to note that spending on this line item can change significantly depending on future claims and severity of cases.
Chemicals	7,126,576	6,836,644	(289,932)	-4.1%	Lower year-to-date spending primarily due to lower than budgeted spending on Soda Ash of \$319,000 due to lower usage to meet corrosion control targets and timing of deliveries for Soda Ash; Sodium Bisulfite of \$125,000 due to time of deliveries at DITP and lower usage at the Carroll Water Treatment Plant for Ozone residual removal; Other Oxidizers of \$59,000 due to timing of deliveries and lower pricing for the new contract; and Liquid Oxygen of \$42,000 due to higher water quality and change in operating target resulting from UV disinfection. This is offset by overspending on Hydrogen Peroxide of \$184,000 due to increased need for pretreatment of hydrogen sulfide gas due to lower than budgeted plant flows; Sodium Hypochlorite of \$62,000 primarily at Deer Island; Activated Carbon of \$50,000 primarily at Deer Island; and Polymer of \$43,000.

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY16 Budget YTD March	FY16 Actuals YTD March	FY16 YTD Actual vs. FY16 Budget		Explanations
			\$	%	
Utilities	17,392,913	14,153,176	(3,239,737)	-18.6%	Underspending due to lower Electricity of \$1.9 million mainly due to underspending at Deer Island of \$1.6 million for lower commodity and transmission and distribution costs, lower flows which resulted in less pumping demand, and an over accrual at the end of FY15. There has also been underspending in Diesel Fuel of \$1.3 million primarily in FOD and DITP, Natural Gas of \$75,000, Propane of \$46,000 and #2 Fuel Oil of \$43,000. This is offset by higher water usage of \$97,000 at DITP, NI Headworks and JCWTP.
Maintenance	18,459,781	21,197,087	2,737,306	14.8%	Materials were overspent by \$1.7 million. Higher spending for energy efficiency projects totaling \$922,000 of which a portion of the overspending is related to timing. Services were overspent by \$989,000. Nut Island maintenance repair costs have total \$1.5 million through March.
Training & Meetings	281,206	235,613	(45,593)	-16.2%	Underspending primarily due to timing of Fleet Services training initiatives.
Professional Services	4,169,816	4,050,497	(119,319)	-2.9%	Lower spending on Lab Testing & Analysis of \$169,000 in ENQUAL-Wastewater; and Engineering of \$54,000 at Deer Island and Reservoir Operations. This is offset by overspending in Legal Services in Law.
Other Materials	2,893,230	3,692,567	799,337	27.6%	Higher than budget mainly due to timing of Vehicle Purchase of \$752,000 funds are budgeted in May and June; Computer Hardware of \$114,000; Lab and Testing Supplies of \$80,000 mainly due to receipt of equipment ordered in FY15 and received in the first Quarter of FY16; Equipment/Furniture of \$61,000; and Health & Safety of \$44,000. The overspending is offset by lower spending for Vehicle Expense of \$289,000 mostly due to lower fuel prices.
Other Services	17,422,863	17,131,777	(291,086)	-1.7%	Lower than budgeted spending of \$160,000 for Sludge Pelletization for lower year to date tonnage; \$87,000 for Grit and Screenings disposal services primarily due to lower quantities; \$88,000 for Space Lease Rentals for the Chelsea facility lease due to an overpayment of escrow for insurance; and \$59,000 for Other Rentals. This is offset by higher spending of \$65,000 for Telephone Services associated with Field Operations SCADA lines for the water and wastewater facilities; \$56,000 for Other Services for Ward Street Headworks radio tower demolition; and \$49,000 for Membership/Dues/Subscriptions.
Total Direct Expenses	158,919,430	155,984,614	(2,934,816)	-1.8%	

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY16 Budget YTD March	FY16 Actuals YTD March	FY16 YTD Actual vs. FY16 Budget		Explanations
			\$	%	
Indirect Expenses					
Insurance	1,620,598	1,536,473	(84,125)	-5.2%	Lower Premiums of \$82,000. Claims are at budgeted level.
Watershed/PILOT	21,072,175	20,696,996	(375,179)	-1.8%	Underspending due to lower Reimbursement expenses of \$305k due to FY15 overaccrual and projected lower spending in FY16, and lower PILOT payments.
HEEC Payment	1,340,112	1,193,011	(147,101)	-11.0%	Lower spending due to timing of actual billing.
Mitigation	1,050,000	1,140,000	90,000	8.6%	Higher cost due to current agreements being signed after the budget was established.
Addition to Reserves	(26,195)	(26,195)	-	0.0%	
Pension Expense	8,159,521	8,159,521	-	0.0%	
Post Employee Benefits	-	-	-		
Total Indirect Expenses	33,216,211	32,699,806	(516,405)	-1.6%	
Debt Service					
Debt Service	318,288,865	318,288,864	-	0.0%	Through March staff have transferred \$17.1 million of a favorable YTD variance to the Defeasance Account. The short-term rates related variance is \$10.5 million YTD. Additionally, the Authority recognized \$6.6 million YTD underspending that is the result of the favorable impact of defeasances related to reserve releases and for not borrowing senior debt scheduled for November.
Debt Service Assistance	-	-	-		
Total Debt Service Expenses	318,288,865	318,288,864	-	0.0%	
Total Expenses	510,424,506	506,973,283	(3,451,222)	-0.7%	
Revenue & Income					
Rate Revenue	504,330,000	504,330,000	-	0.0%	
Other User Charges	6,352,023	6,456,474	104,450	1.6%	
Other Revenue	10,791,306	12,684,533	1,893,226	17.5%	City of Lynn water non-rate revenue of \$593,000 for use of MWRA water while they completed maintenance work on their water system; TRAC penalty payment of \$610,000, US Treasury rebates of \$296,000, energy rebates of \$254,000, and sale of surplus equipment of \$249,000.
Rate Stabilization	-	-	-		
Investment Income	6,874,246	7,263,887	389,640	5.7%	Investment Income is over budget by \$390,000, due to higher than budgeted short-term interest rates.
Total Revenue	528,347,575	530,734,894	2,387,316	0.5%	
Net Revenue in Excess of Expenses	17,923,069	23,761,611	5,838,537		

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

	FY16 Budget YTD March	FY16 Actuals YTD March	YTD Actuals vs. Budget		Explanations
			\$	%	
Interception & Pumping (I&P)	\$9,190	\$3,373	(\$5,817)	-63.3%	Underspending mainly due to Chelsea Creek Upgrades - Construction of \$2.0M, Alewife Brook Pump Station Rehab Final Design/CA/REI and Construction of \$1.9M and Caruso Pump Station Improvements Construction of \$640,000 due to schedule change, Chelsea Screenhouse Upgrades of \$1.2M due to timing, and other smaller projects totaling \$527,000. Offset by Nut Island Headworks Electric, Grit & Screenings Conveyance Design and Construction of \$231,000 and Nut Island System-wide Odor Control - Evaluation of \$219,000 due to progress.
Treatment	\$24,205	\$18,347	(\$5,858)	-24.2%	Underspending on Electrical Equipment Upgrade - Construction 4 of \$2.5M, North Main Pump Station VFD Replacements of \$1.4M, As-Needed Design 7-2 and 7-3 of \$1.1M, Thermal Power Plant Boiler Control Replacement of \$901,000, Scum Skimmer Replacement of \$759,000 and Fire Alarm System Replacement - Design of \$206,000 due to timing. Barge Berth and Facility Replacement of \$475,000 and Winthrop Terminal Facility VFD Replacements of \$200,000 due to schedule changes, and Steam Turbine Generator System Modifications Construction of \$450,000 due to energy efficiency rebate. Offset by overspending on Butterfly Valve Replacement of \$1.5M, Secondary Reactor VFDs of \$360,000 and HVAC Equipment Replacement Design/Engineering Services During Construction of \$303,000 due to timing.
Residuals	\$0	\$0	\$0	-	
CSO	\$12,317	\$13,961	\$1,644	13.3%	Overspending on Cambridge Sewer Separation of \$3.2M due to water use during construction activities and updated cost estimates as a result of additional unforeseen conditions. Offset by Reserved Channel Sewer Separation of \$969,000 due to updated cost estimates, MWR003 Gate & Siphon of \$492,000, and Dorchester Bay Sewer Separation (Commercial Point) of \$125,000 due to timing.
Other Wastewater	\$12,651	\$10,040	(\$2,610)	-20.6%	Underspending on Infiltration and Inflow (I/I) due to lower community requests for grants and loans.
Total Wastewater	\$58,364	\$45,722	(\$12,642)	-21.7%	

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

	FY16 Budget YTD March	FY16 Actuals YTD March	YTD Actuals vs. Budget		Explanations
			\$	%	
Drinking Water Quality Improvements	\$5,116	\$5,696	\$579	11.3%	Overspending due to Existing Facilities CP-7 of \$862,000, Spot Pond Storage Facility Owners' Representative of \$214,000 and Carroll Water Treatment Plant's Ultraviolet Disinfection - Design/Engineering Services During Construction/Resident Engineer Inspection of \$161,000 due to timing, and Brutsch Treatment Facility of \$344,000 due to additional construction administration and resident engineering services. Offset by Carroll Water Treatment Plant's Ultraviolet Disinfection - Construction of \$952,000 due to litigation settlement.
Transmission	\$10,231	\$2,423	(\$7,809)	-76.3%	Underspending for Long Term Redundancy of \$7.0M due to lower than budgeted award and schedule change for Wachusett Aqueduct Pump Station and ongoing tunnel alternatives review for metropolitan redundancy, and Watershed Land of \$1.1M due to the timing of land acquisitions. Offset by Hatchery Pipeline Construction of \$189,000 due to contractor progress and Design/Engineering Services During Construction/Resident Engineer Inspection of \$157,000 due to consultant progress and scope changes.
Distribution & Pumping	\$10,760	\$10,724	(\$36)	-0.3%	Underspending for NIH Redundancy & Storage of \$1.0M due to lower than budgeted award and schedule change for Section 89/29 Redundancy Construction Phase 1B of \$1.2M, WASM 3 - MEPA/Design/CA/RI of \$624,000 due to ongoing tunnel alternatives review for metropolitan redundancy, and Valve Replacement of \$418,000 due to timing. Offset by Weston Aqueduct Supply Mains Section 36/C/S9 - A11 Valve of \$1.4M due to contractor progress, and Southern Extra High Redundancy & Storage Final Design/CA/RI of \$487,000 due to timing and other projects totaling \$119,000.
Other Waterworks	\$1,707	(\$1,203)	(\$2,910)	n/a	Underspending due to lower community requests for Local Water System Loans of \$2.6M, and Quabbin Power Communication and Security Construction of \$326,000 due to schedule shift.
Total Waterworks	\$27,815	\$17,640	(\$10,176)	-36.6%	

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

	FY16 Budget YTD March	FY16 Actuals YTD March	YTD Actuals vs. Budget		Explanations
			\$	%	
Business & Operations Support	\$4,975	\$2,425	(\$2,550)	-51.3%	Underspending on MIS-related projects of \$1.6M due to timing of IT Strategic Plan implementation, \$552,000 due to lower than projected use of as-needed technical assistance, and Security Equipment of \$549,000 due to delay in award of equipment contracts.
Total MWRA	\$91,154	\$65,786	(\$25,368)	-27.8%	


ATTACHMENT 4

FY16 Budget vs FY16 Projection

TOTAL MWRA	FY16 Budget	FY16 Projection	Change FY16 Budget vs FY16 Projection	
			\$	%
EXPENSES				
WAGES AND SALARIES	\$ 99,363,168	\$ 96,434,276	\$ (2,928,892)	-2.9%
OVERTIME	4,219,293	4,276,968	57,675	1.4%
FRINGE BENEFITS	19,326,756	19,344,213	17,457	0.1%
WORKERS' COMPENSATION	2,343,000	2,204,000	(139,000)	-5.9%
CHEMICALS	9,790,849	9,429,204	(361,645)	-3.7%
ENERGY AND UTILITIES	23,164,822	19,123,274	(4,041,548)	-17.4%
MAINTENANCE	28,698,772	31,984,591	3,285,819	11.4%
TRAINING AND MEETINGS	413,714	404,086	(9,628)	-2.3%
PROFESSIONAL SERVICES	5,819,611	5,528,130	(291,481)	-5.0%
OTHER MATERIALS	6,164,588	6,096,451	(68,137)	-1.1%
OTHER SERVICES	23,529,902	23,279,680	(250,222)	-1.1%
TOTAL DIRECT EXPENSES	\$ 222,834,475	\$ 218,104,873	\$ (4,729,602)	-2.1%
INSURANCE	\$ 2,160,797	\$ 2,076,672	(84,125)	-3.9%
WATERSHED/PILOT	28,096,233	27,519,959	(576,274)	-2.1%
HEEC PAYMENT	1,946,157	1,799,056	(147,101)	-7.6%
MITIGATION	1,400,000	1,520,000	120,000	8.6%
ADDITIONS TO RESERVES	(34,927)	(34,927)	-	0.0%
RETIREMENT FUND	8,159,521	8,159,521	-	0.0%
ADDITIONAL PENSION DEPOSIT	-	-	-	-
POSTEMPLOYMENT BENEFITS	5,224,848	5,224,848	-	0.0%
TOTAL INDIRECT EXPENSES	\$ 46,952,629	\$ 46,265,129	\$ (687,500)	-1.5%
STATE REVOLVING FUND	\$ 81,876,277	\$ 78,874,468	(3,001,809)	-3.7%
SENIOR DEBT	283,024,431	275,717,759	(7,306,672)	-2.6%
SUBORDINATE DEBT	49,222,442	49,222,442	-	0.0%
LOCAL WATER PIPELINE CP	4,149,242	500,000	(3,649,242)	-87.9%
CURRENT REVENUE/CAPITAL	11,200,000	11,200,000	-	0.0%
CAPITAL LEASE	3,217,060	3,217,060	-	0.0%
CORE FUND DEPOSIT	-	-	-	-
BOND REDEMPTION	-	-	-	-
VARIABLE RATE SAVINGS	-	(13,639,885)	(13,639,885)	-
DEFEASANCE ACCOUNT	-	27,597,607	27,597,607	-
DEBT SERVICE ASSISTANCE	-	(873,804)	(873,804)	-
TOTAL DEBT SERVICE	\$ 432,689,450	\$ 431,815,646	\$ (873,804)	-0.2%
TOTAL EXPENSES	\$ 702,476,554	\$ 696,185,648	\$ (6,290,906)	-0.9%
REVENUE & INCOME				
RATE REVENUE	\$ 672,440,000	\$ 672,440,000	-	0.0%
OTHER USER CHARGES	8,683,898	8,683,898	-	0.0%
OTHER REVENUE	12,000,066	13,893,293	1,893,227	15.8%
RATE STABILIZATION	-	-	-	-
INVESTMENT INCOME	9,352,590	10,052,590	700,000	7.5%
TOTAL REVENUE & INCOME	\$ 702,476,554	\$ 705,069,781	\$ 2,593,227	0.4%

VARIANCE: \$ (8,884,133) \$ (8,884,133)


STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: April 13, 2016
SUBJECT: Approval of Amendment to the Seventy-Second Supplemental Resolution

COMMITTEE: Administration, Finance & Audit

VOTE
 INFORMATION

Matthew R. Horan, Treasurer *MH*
 Sean R. Cordy, Sr. Financial Analyst *SRC*
 Preparer/Title


 Thomas J. Durkin
 Director of Finance

On February 10, 2016, the Board approved the issuance of \$100 million in new money General Revenue Bonds and \$450 million in General Revenue Refunding Bonds. Staff are now requesting approval to increase the General Revenue Refunding Bond authorization by \$235 million, bringing the total refunding for savings authorization from \$450 million to \$685 million.

MWRA originally intended to sell these bonds the week of April 4, 2016, but given the significant improvements to long-term interest rates and the increase in refunding candidates that meet MWRA's refunding criteria, it was decided to seek additional refunding authorization from the Board. The current financing schedule has the retail order period starting in the afternoon of April 13, 2016 and completing the sale on April 14, 2016. The transaction will close the week of May 9, 2016.

RECOMMENDATION:

To adopt an amendment to the Seventy-Second Supplemental Resolution authorizing the issuance of up to \$785,000,000 of Massachusetts Water Resources Authority General Revenue Bonds and Massachusetts Water Resources Authority General Revenue Refunding Bonds and the supporting Issuance Resolution.

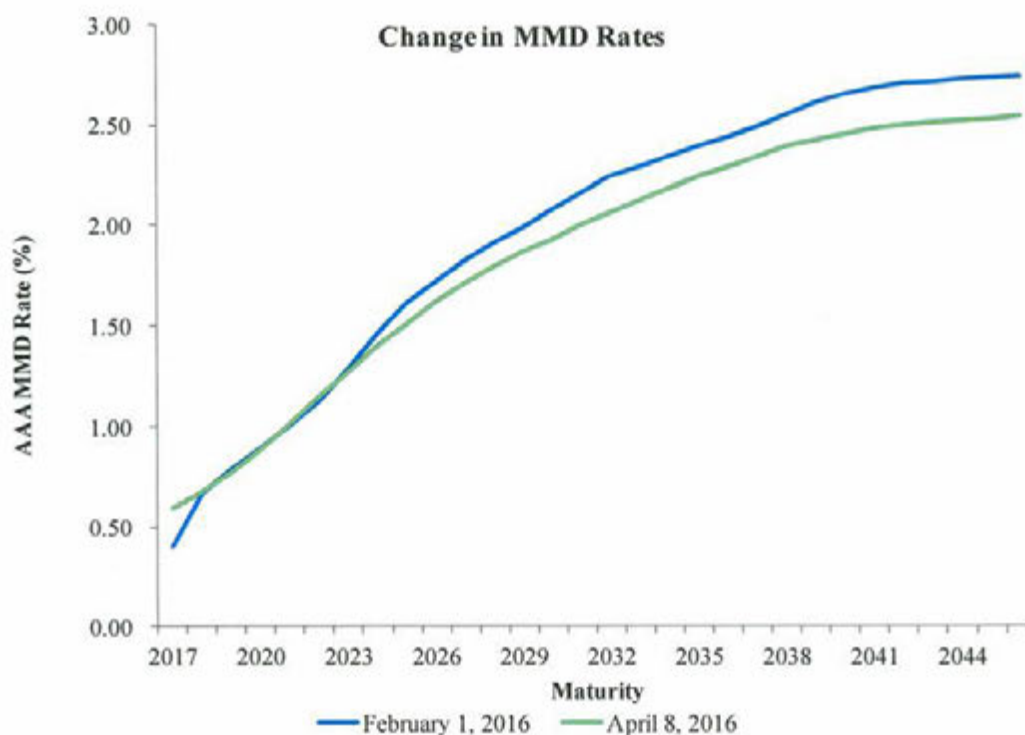
DISCUSSION:

The bonds to be issued under this authorization include both new money and refunding bonds. The \$100 million in new money will be used to fund ongoing capital improvements and retire a portion of the outstanding revolving loan. The new money deposited into the construction fund will be used to pay for Deer Island asset protection projects including scum skimmer replacement, and the North Main Pump Station Variable Frequency Drive replacement, as well as water system distribution improvements including the Wachusett Aqueduct Pump Station, and the Northern Intermediate High Section 89/29 construction. In addition to the new money, this authorization would allow for the issuance of up to \$685 million in General Revenue Refunding

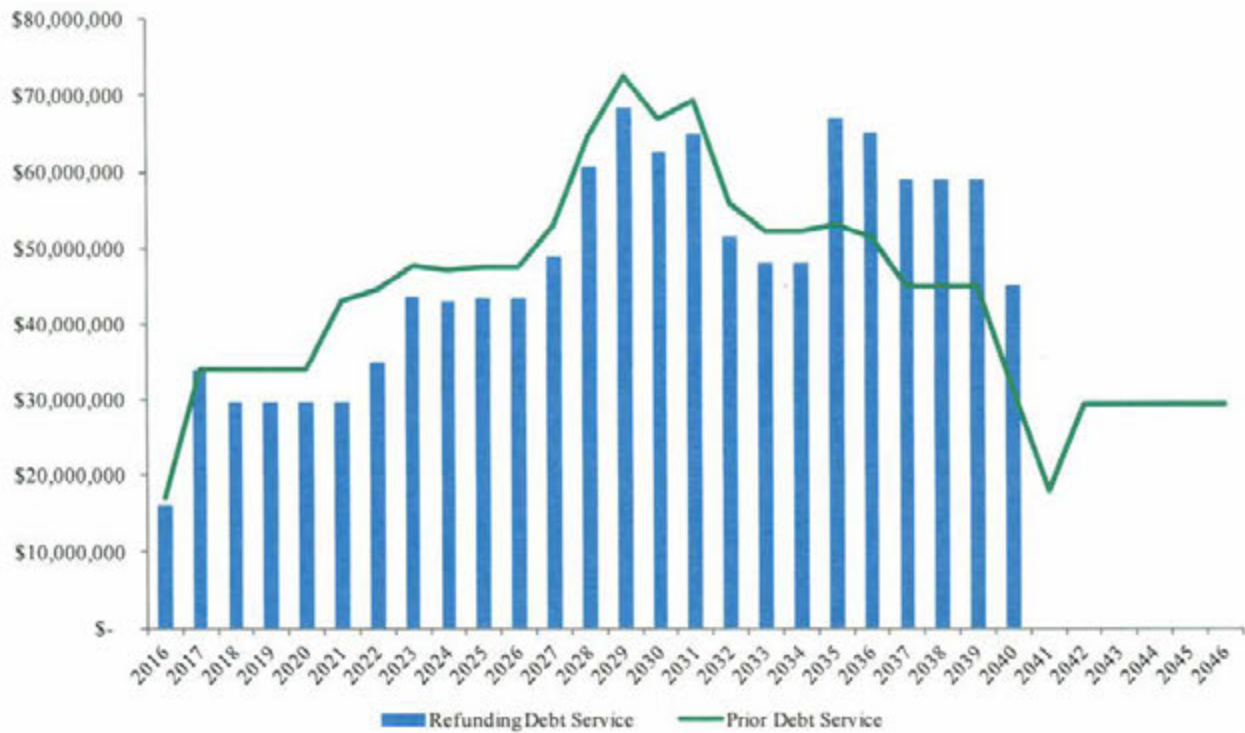
Bonds which is an increase of \$235 million over the \$450 million approved at the February 10, 2016 meeting.

	Original Authorized Issuance Amount	Amended Authorized Issuance Amount	Difference
New Money Bonds	\$ 100,000,000	\$ 100,000,000	\$ -
Refunding Bonds	\$ 450,000,000	\$ 685,000,000	\$ 235,000,000
Total Authorization	\$ 550,000,000	\$ 785,000,000	\$ 235,000,000

Over the last several weeks, there have been improvements to tax-exempt interest rates driven by world events which have caused investors to seek high quality investments and by comments from the Federal Reserve Board which has changed the outlook for future interest rates. These changes have resulted in decreases ranging from 2 to 21 basis points in rates between 2023 and 2046. Ninety-six percent of the bonds to be refunded mature between 2023 and 2046. In addition to the reductions on the long end of the curve, short-term interest rates have increased which improves the earnings on the securities used to fund the escrow. The following graph details the Municipal Market Data Tax-Exempt Yield Curve as of February 1, 2016 (blue line) and as of April 5, 2016 (green line).



As a result of the changes to interest rates, the number of bonds that meet MWRA's refunding criteria has increased which has resulted in the present value savings on the refunding improving from \$40.0 million to \$104.6 million and gross savings increasing from \$58.9 million to \$178.7 million. The following graph shows the difference between the prior and refunding debt service amounts.




As part of MWRA’s multi-year long-term rates management strategy, staff looked at opportunities to structure the transaction to prudently maximize interest rate savings and address the peak debt service years. The refunding reduces both overall and peak year debt service. The final maturity of the bonds was shortened from 2046 to 2040 which provided an additional \$11 million in present value savings. Staff will continue to work with MWRA’s financial advisor to determine the most appropriate size and structure for the refunding.

BUDGET/FISCAL IMPACT:


There are sufficient funds available in the FY16 and Proposed FY17 CEBs to pay the debt service costs associated with these borrowings. The potential refunding for savings component will reduce future debt service. The amount of the potential reduction will be determined based on market conditions and the ultimate pricing of the refunding transaction.


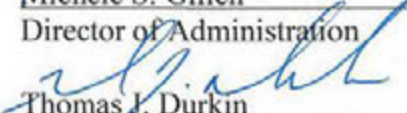
STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: April 13, 2016
SUBJECT: Accounts Payable and Payroll Depository Services
Century Bank and Trust Company
Contract F239

COMMITTEE: Administration, Finance & Audit

VOTE
 INFORMATION

Matthew R. Horan, Treasurer 
Thomas H. Frontiero, Cash Manager THF
Preparer/Title


Michele S. Gillen
Director of Administration

Thomas J. Durkin
Director of Finance

RECOMMENDATION:

To approve the recommendation of the Consultant Selection Committee to award contract F239 to Century Bank and Trust Company, to provide accounts payable and payroll depository services and to authorize the Executive Director, on behalf of the Authority, to execute Contract F239 in an amount not to exceed \$89,875 for a term of 50 months from May 1, 2016 to June 30, 2020.

DISCUSSION:

MWRA requires a commercial bank to provide an operating account for its accounts payable and payroll activities. The services provided by the bank include depository, account reconciliation, Automatic Clearing House transactions (ACH), checking, wire transfers, escrows and information services for the operating account. MWRA maintains an average balance of approximately \$30 million in its operating account.

In order to submit a proposal, the banks had to meet the requirements of MWRA's General Revenue Bond Resolution (Resolution). The Resolution requires that the bank be organized under the laws of the Commonwealth or a national banking association and having capital stock, surplus and undivided earning aggregating at least \$100 million. The banks were also required to confirm they meet the requirements of 201CMR 17:00 which establishes the standards for the protection of personal information. All banks were required to provide positive pay services, which require the teller processing a check to match the information printed on the check to the system to ensure that checks have not been altered or copied. The Proposers were also required to confirm they would meet MWRA's technology standards and would provide MWRA with remote deposit capabilities. The Proposers also provided MWRA with information related to their disaster recovery plans to ensure uninterrupted service.

Prior to releasing the RFQ/P, MWRA reviewed best industry practices to determine if there were technologies or service improvements which should be implemented. As result of the review, MWRA determined that other entities, including the Commonwealth, pay some of their vendors through a credit card platform. In utilizing this instead of being paid through a check or ACH, the vendor would receive their payment through the credit card platform. When a payment is made through the credit card platform the vendor will pay an interchange fee typically ranging from 2.5% to 4% which is similar to what other merchants pay. MWRA would then receive a portion of that fee, typically around 1%, as a rebate. Typically larger vendors which have built credit fees into their pricing models will utilize this type of payment method. Since this program would be voluntary, it is difficult to estimate the number of companies that would participate, but based on a review of MWRA's vendor list there is a potential for rebate payments. Staff will continue to explore the use of a credit card platform with the selected bank.

PROCUREMENT PROCESS:

The procurement process to select a bank utilized a one step Request for Qualification Statements/Proposals (RFQ/P), which was issued on February 17, 2016. Ten banks, Bank of America, Century Bank (Century), Citizens Bank (Citizens), J.P. Morgan Chase Bank (JP Morgan), People's United Bank (People's), Santander Bank (Santander), TD Bank, US Bank, Webster Bank (Webster), and Wells Fargo Bank submitted proposals on March 11, 2016. As part of the RFQ/P process, MWRA required that all banks certify that they would meet the requirements of the General Bond Resolution in regard to usage and control of the Authority's funds. Proposers were also required to certify that they would sign MWRA's Professional Services Agreement without exception. All of the proposers except JP Morgan provided that certification. As such, JP Morgan's proposal was not evaluated by the Selection Committee.

The Selection Committee evaluated and ranked the nine proposals for Accounts Payable and Payroll Depository Services based on the criteria contained in the RFQ/P (Cost, Capacity/Organization and Management Approach, Technical Approach, Experience and Past Performance Qualifications and Key Personnel). Cost was weighted the highest and included an evaluation of annual fees (e.g., ACH services, reconciliation services) and interest income earned on cash balances. In order to evaluate the different banks' interest earnings proposals, MWRA required that the rates be presented as a spread to either the Federal Funds Rate or the three month Treasury Bill rate. With regard to the cost criteria, Century proposed the highest combination of interest rate for earned income (10 basis points above the Federal Funds Rate) and the rates for annual fees making their cost proposal the best overall value for the Authority yielding the highest net annual income. All proposers were required to carry a not-to-exceed allowance of \$10,000 to cover the costs associated with implementation. The following table provides details on the cost analysis for the different proposals.

Proposer	Estimated Average Interest Rate	Estimated Average Annual Interest Income	Average Annual Fees	Net Annual Income/(Expense)
Century	0.85%	\$ 236,250	\$ 20,074	\$ 216,176
Peoples	0.75%	\$ 213,750	\$ 9,372	\$ 204,378
Webster	0.75%	\$ 206,250	\$ -	\$ 206,250
Citizens	0.68%	\$ 185,250	\$ 8,118	\$ 177,132
Bank of America	0.65%	\$ 176,250	\$ 14,551	\$ 161,699
Santander	0.58%	\$ 164,250	\$ 4,352	\$ 159,898
TD Bank	0.50%	\$ 131,250	\$ 34,684	\$ 96,566
Wells Fargo	0.41%	\$ 104,250	\$ 66,371	\$ 37,879
US Bank	0.35%	\$ 86,250	\$ 47,773	\$ 38,477

*Interest income is based on an average balance of \$30 million. Annual fees above do not include \$10,000 allowance to cover implementation

In addition to cost, Century's proposal included staff with considerable experience in public sector banking. Century has sufficient capacity to ensure accurate and timely processing of payroll and accounts payables, and demonstrated the necessary skills to complete work required under this contract. The remaining eight banks included experienced bankers and demonstrated a proven ability to perform the work but at a higher net cost to MWRA.

After reviewing all proposals, the selection committee ranked the proposals as follows:

Final Ranking	Proposer	Order of Preference Total Score	Total Points
1	Century	6	435
2	Peoples	10	423
3	Citizens	15	413
4	Bank of America	24	386
5	Webster	27	376
6	TD Bank	32	352
7	Wells Fargo	33	348
8	Santander	34	349
9	US Bank	44	321

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

The Selection Committee voted unanimously to recommend that Century be ranked first. Citizens Bank is currently providing these services under a contract which will expire on June 30, 2016. Staff are seeking to commence the new contract on May 1, 2016 to allow for a transition period for account set up and testing so that Century can go live on July 1, 2016.


BUDGET/FISCAL IMPACT:

There are sufficient funds in the Proposed FY17 CEB for the costs associated with this contract.

MBE/WBE PARTICIPATION:

No minimum M/WBE participation requirements were included on this project because of the lack of subcontracting opportunities and neither Century nor any other proposers included any M/WBE participation.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: April 13, 2016
SUBJECT: Groundskeeping Services – Metropolitan Boston
C&W Facilities Services, Inc.
Contract OP-315

COMMITTEE: Administration, Finance and Audit

INFORMATION

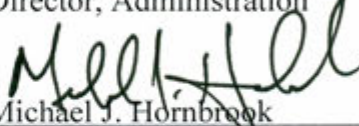
VOTE



Michele S. Gillen

Director, Administration

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



Michael J. Hornbrook

Chief Operating Officer

RECOMMENDATION:

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

DISCUSSION:

Contract OP-315 will provide grounds maintenance at 33 MWRA water and wastewater locations spread across the metropolitan Boston area (see attached map.)

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

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

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

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

Procurement Process

Contract OP-315 was initially advertised and bid as a non-professional services contract without minimum MBE and WBE participation requirements. Bids were received and opened on January 28, 2016. The Contract was re-advertised with minimum MBE and WBE participation requirements. These bids were received and opened on April 11, 2016 with the following results:

<u>Contractor</u>	<u>Bid Amount</u>
C&W Facility Services, Inc.	\$375,911.06
<i>Staff Estimate</i>	<i>\$450,000.00</i>
LEI	\$486,732.00
Leahy Landscaping, Inc.	\$571,500.00
Shady Tree Landscaping, Inc.	\$862,500.00

C&W Facility Services, Inc. bid of April 11, 2016 contains the same bid amount (\$375,911.06) as the initial January 28, 2016 bid with substantially the same scope (minus one Nut Island spring cleaning being performed outside this contract). To ensure that spring cleanup did not fall behind during the re-bidding process, a separate \$10,000 purchase order was issued for this work at a limited number of sites. Staff's estimate for this contract was developed based on past experience with contracted landscape and lawn maintenance contracts, factoring in additional work tasks, and added facilities, and a projected inflationary increase. C&W's bid is 16.5% below staff's estimate.

Staff are of the opinion that C&W possesses the skill, ability, and integrity necessary to perform the work under this contract and is qualified to do so. Staff interviewed a representative from C&W Services who demonstrated a clear understanding of the scope of work and affirmed that the bid price included all work items. C&W is familiar with the scope of work as it was the contractor for contract OP-232 under the name DTZ, Inc. C&W also completed the final months

of OP-232A after the original contract was terminated for non-performance. Prior to that, C&W was the contractor for OP-183 under the name UGL Services. This familiarity with the work allows C&W to provide more competitive pricing.

Therefore, staff recommend the award of Contract OP-315 to C&W Facility Services, Inc. as the lowest responsive bidder.

BUDGET/FISCAL IMPACT:

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

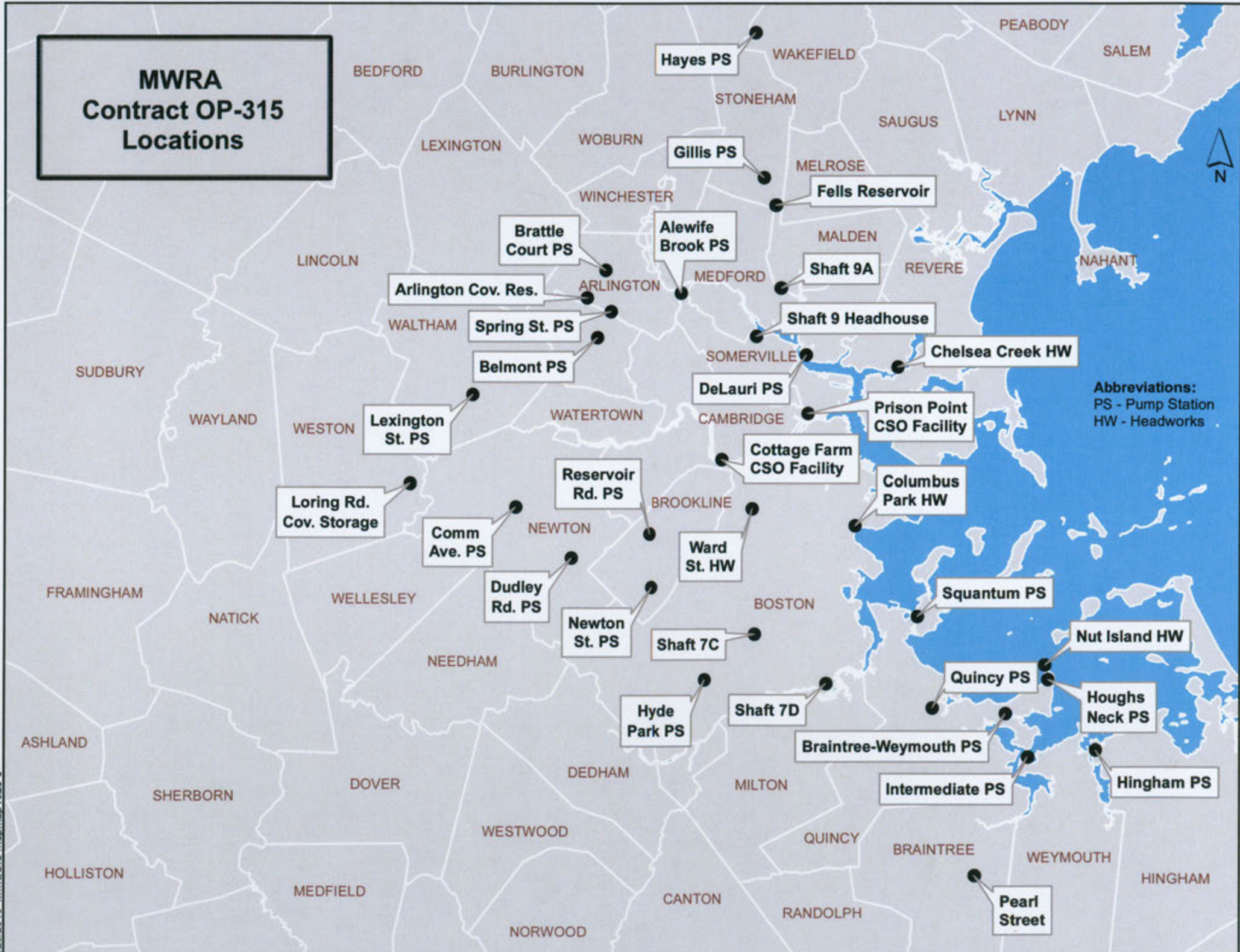
MBE/WBE PARTICIPATION:

The minimum MBE and WBE participation requirements for this project were established at 5.61% and 4.88%, respectively. The Affirmative Action and Compliance Unit has reviewed the bid and has determined that it meets these requirements.

ATTACHMENTS:

Map of Facility Locations

MWRA Contract OP-315 Locations



Abbreviations:
PS - Pump Station
HW - Headworks





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, April 13, 2016

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

Time: Immediately following AF&A Comm.

AGENDA

A. Information

1. Nut Island Fire Update
2. March 22, 2016 Deer Island Power Outage

B. Contract Awards

1. Preferred Service Agreement for the Combustion Turbine Generators at the Deer Island Treatment Plant: PW Power Systems, Inc.
2. Thermal and Hydro Power Plant Maintenance, Deer Island Treatment Plant: IPC Lydon, LLC, Contract S551
3. Winthrop Terminal VFD and Synchronous Motor Replacement: Deer Island Treatment Plant: J. F. White Contracting Co., Contract 6875

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the
Wastewater Policy and Oversight Committee

March 16, 2016

A meeting of the Wastewater Policy and Oversight Committee was held on March 16, 2016 at the Authority headquarters in Charlestown. Vice-Chairman Walsh presided. Present from the Board were Ms. Wolowicz and Messrs. Blackmon, Carroll, Cotter, Foti, Pappastergion, Peña, and Vitale. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Mike Hornbrook, John Vetere, Brian Kubaska, Carl Leone and Bonnie Hale. The meeting was called to order at 11:15 a.m.

Information

Nut Island Odor Control Fire Update

Staff provided a 50-day post-fire update, including short and long-term plans to restore odor control treatment to operational condition. There was general discussion and question and answer.

Infiltration/Inflow Local Financial Assistance Program Annual Update

Staff summarized the Program, and there was general discussion and question and answer.

The meeting adjourned at 11:50 a.m.

* Approved as recommended at March 16, 2016 Board of Directors meeting.

STAFF SUMMARY

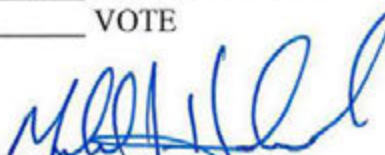
TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: April 13, 2016
SUBJECT: Nut Island Fire Update



COMMITTEE: Wastewater Policy & Oversight

INFORMATION
 VOTE

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



Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

For information only.

DISCUSSION:

This staff summary provides a 78 day post-fire update on the progress made at Nut Island including short and long-term plans to restore odor control treatment to operational condition.

Cleaning and Demolition

The ServPro contract to clean the walls, ceiling, floors, ductwork and equipment from heavy smoke and water damage is complete. The main building, grit and screenings level, and the lower level including the odor control room have been cleaned. All control and MIS cabinets that contain electronic components were inspected and cleaned if necessary.

All staging has been removed in the large underground odor control chamber with the exception of the staging used to install a new access hatch above the area of scrubber #4 and staging used to install an HVAC duct cross connection between scrubbers #2 and #3. The remaining staging is expected to be removed by the end of April.



Figure 1 – Cleaned OC Room

Daniel O'Connell's Sons (demolition contractor) has removed the destroyed Wet Scrubber #4 and associated ductwork and fan. The air duct connections from Wet Scrubber #4 to the odor control system were capped to allow start up of the remaining carbon odor control system.

A critical step in the recovery process of the odor control system is to ensure that all ventilation and odor control duct work and wet scrubbers are free of any internal soot and dust potentially containing sulfur. As part of the demolition contract internal cleaning of all large diameter odor control fiberglass ductwork and aluminum ducts has been completed.



Figure 2 – Access Hatch

A change order to Daniel O'Connell's Sons will be presented to the Board at a future meeting for out of scope work identified during demolition activities.

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

- Odor control fans and motors (#1, #2, #3) have been rebuilt and reinstalled. They have been tested and are available for operation;
- All HVAC units including the units in the odor control area, have been returned to service with new filters;
- All dampers controlling air flow through the odor control system have been tested and repaired as needed;
- All scrubbers have been emptied of their media and mist eliminators and cleaned;
- All sulfur dust was removed from the carbon adsorbers by removal of the top layer of carbon. The removed carbon was replaced;
- All fire protection sprinkler heads within the odor control room have been replaced and tested;
- All critical instrumentation and control interlocks and most monitoring instrumentation has been tested or replaced to permit safe operation of the odor control system (damper positions, pressure switches, H₂S measurements, etc.);
- MWRA staff connected the Quincy water system to the Nut Island hydrants to provide better fire fighting capacity by separating the hydrants flow from the building sprinkler flow; and
- Replacement energy efficient lighting has been installed to replace damaged lighting in



Figure 3 – SCADA Panel Energized

the odor control room.

The following work is in progress and is required to return the system to operation:

- Fire protection devices impacted by fire (smoke detectors, control modules, pull stations, etc) replacement is 50% complete. This work is expected to be completed in one week;
- Replacement of instrumentation to fully monitor odor control operation (air flow meter, carbon temperature transmitters, etc.) is continuing, but has not impacted restarting the odor control system. Staff believe that the carbon units alone will meet air permit requirements; however, the short-term system will not have the full redundancy previously available with odor control scrubber #4 and fan #4 removed. A spare rebuilt motor is available to replace fan #3 if needed. In addition, the suction ductwork was reconfigured to allow the use of the # 2 fan for redundancy to the #3 fan. The installation of two new dampers will be completed in one week.
- The odor control system fans and motors have been tested and now are available to be used with the carbon adsorbers to treat the odorous air exiting the facility. Outside agencies including Quincy Fire, Department of Labor, and the Department of Public Safety will be informed prior to continuous operation of the odor control equipment. The restoration of the odor control operation is expected by April 30, 2016.

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

An air testing program will be completed during the summer to determine the effectiveness of using only carbon for odor control during the peak odor months. Stray odors will be tested in the site areas and at the outside vents for underground Nut Island structures. In addition, an odor hot line will be established for the residential areas surrounding the Nut Island Facility. A flyer will be sent to local residents with contact information and each odor complaint will be investigated. A similar process has been effective at Deer Island for over 15 years.

Long-Term Odor Control System


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

BUDGET FISCAL IMPACT:

Costs to repair fire related damage will exceed the insurance policy self-insured retention of \$2.5


million. The Authority will absorb this amount in the FY16 Current Expense Budget. Amounts in excess of this self-retention will be paid by the Authority and then be reimbursed by the insurance company on a periodic basis. The total estimated repair cost has not yet been determined and will be provided in a future update to the Board.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: April 13, 2016
SUBJECT: March 22, 2016 Deer Island Power Outage

COMMITTEE: Wastewater Policy & Oversight

Ethan Wenger, Deputy Director, DIWWTP
David F. Duest, Director, DIWWTP
John P. Vetere, Deputy Chief Operating Officer
Preparer/Title

X INFORMATION
 VOTE

Michael J. Hornbrook
Chief Operating Officer

At 11:02 on Tuesday, March 22, 2016, a failure occurred on a control board at the Eversource (formerly NStar) Substation 385 in South Boston. This resulted in a complete loss of power to the Deer Island Treatment Plant ("DITP"). At the time of the power disruption, the DITP flow rate, typical of dry weather at this time of year, was 379 MGD. DITP staff powered up its backup generator - Combustion Turbine Generator B, and power was made available 8 minutes after of the outage. The DITP power grid on Bus-B was cleared of all faults and pumping operation began restoration within 19 minutes, with all sewer levels in the MWRA system restored to normal, pre-event conditions within 1.75 hours from the main loss of power. All flows were contained within the MWRA collection system. No untreated wastewater was released, and there were no NPDES permit violations as a result of this outage. Below is a more detailed synopsis of what happened.

RECOMMENDATION:

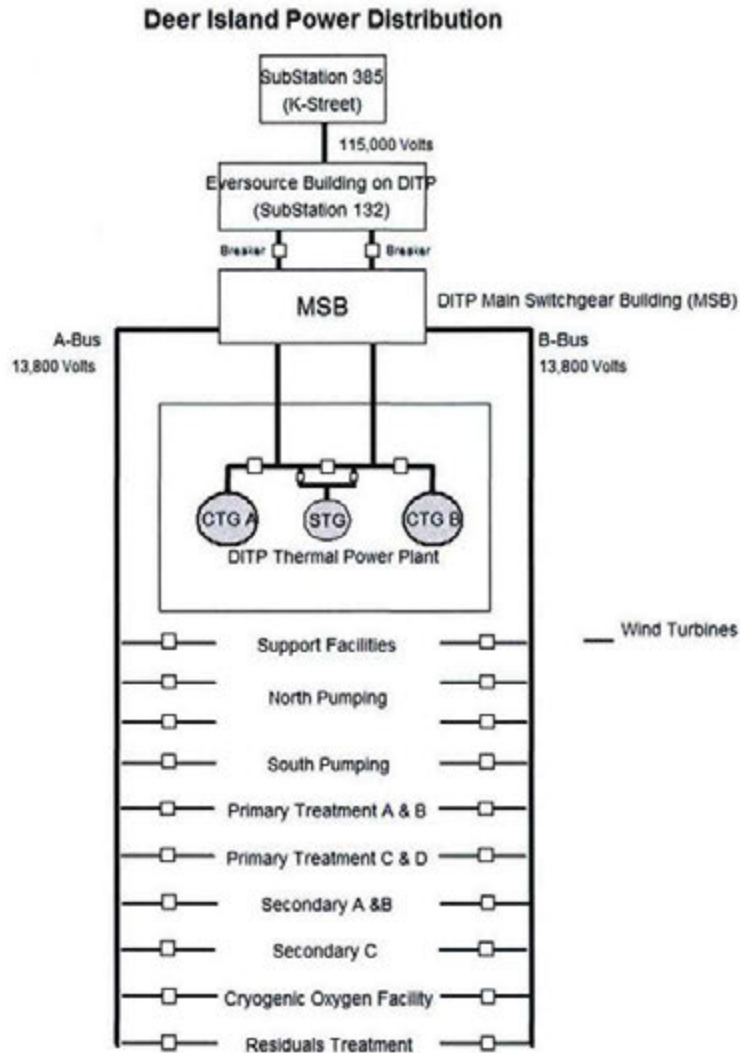
For information only. This staff summary provides the Board with a synopsis of the power-related events of March 22, 2016 at the Deer Island Treatment Plant.

DISCUSSION:

Background

Electricity is normally supplied to Deer Island by a cross-harbor submarine cable originating at an Eversource-owned and operated electrical substation (Substation 385) on K-Street in South Boston. The feeder cable terminates on Deer Island at Eversource Substation 132. Voltage is supplied at 115,000 volts through the Eversource facilities and reduced to 13,800 volts for distribution on Deer Island. Deer Island's electrical distribution system originates at the Main Switchgear Building, immediately downstream of Station 132 and distributes power through 43 substations. Voltage is supplied at 13,800 volts to the substations and is reduced to 4,160 volts and/or 480 volts. Power is distributed via two parallel buses (A and B) to each substation. The system is designed, so that if

one power feed fails, then the other feed will take over and power all equipment. The power distribution overview diagram is shown below:



For backup power, Deer Island relies upon two 26 megawatt combustion turbine generators (“CTG”) located in the Thermal/Power Plant. The CTG units are designed to fully restore power back to the Main Switchgear in the event of loss of power from Eversource. The power then has to be distributed to each of the 43 unit substations after it is determined safe to do so by Deer Island electrical distribution staff.

Pre-Power Disruption Scenario

DITP has a design average flow of 361 million gallons per day (“MGD”), but flow can vary from 250 MGD to 400 MGD throughout a dry day at this time of year. Flow tends to be higher during the middle of the day, and flow was 379 MGD right before the power outage. The power outage occurred at 11:02 am on Tuesday, March 22, 2016, during the day shift while the treatment plant was

at full staff. Because the flow was not high, staff were able to systematically put equipment back online in a controlled manner once power was restored on the internal electrical distribution system.

Summary of Power Disruption and DITP Recovery

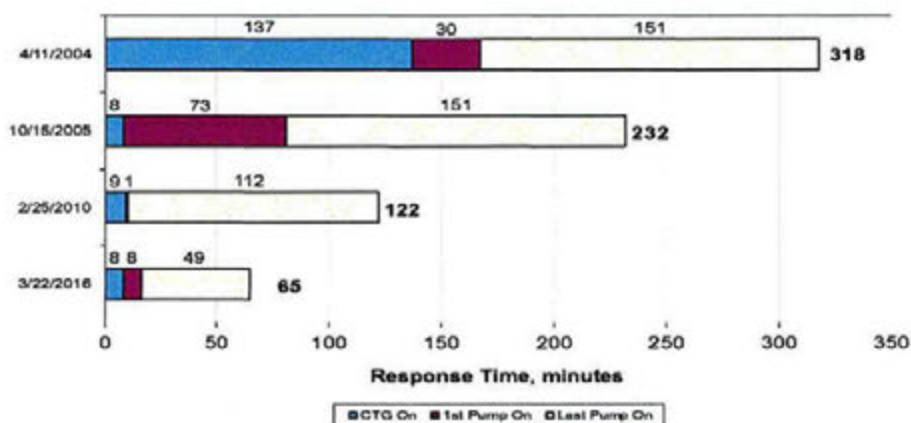
Eversource Station 385 on K Street in South Boston feeds power via the submarine cable under Boston Harbor to Eversource Station 132 located on Deer Island. Modern power equipment is managed electronically by control systems and includes numerous electronic control boards and sensors. A key component (a control board) in the Eversource transformer control system failed, which caused the breakers feeding Deer Island at Station 385 to immediately open, instantaneously stopping all power feed to Deer Island.

Deer Island:

As soon as the power disruption occurred, MWRA staff implemented previously developed standard operating procedures to cold start the backup generators - the CTGs. The graph below provides the timeline for re-energization of critical equipment for this event and also provides comparative metrics for full plant power loss events in 2010, 2005 and 2004. CTG B was activated on the B-Bus within 8 minutes - at 11:10 am. The Main Switchgear was reset within the next several minutes as electrical distribution staff verified there were no remaining faults on the DITP B-Bus distribution system. One pump was operating at the South System Pump Station within 8 minutes and two within 11 minutes of CTG startup, only 19 minutes after the power loss event. South System restart is prioritized by staff because the south collection system is a separated system with limited storage capacity and no upstream CSO treatment facilities to provide emergency treated relief. The North Main Pump Station was restored next with the first pump on the Boston Main Drain restored 26 minutes after the CTG was started. The first pump on the North Metropolitan Relief Tunnel was restored within 28 minutes after the CTG was activated. Winthrop Terminal Facility was restarted within 27 minutes of the CTG startup. All flows and collection systems levels were restored to pre-outage levels by 11:37 am at Nut Island, 11:58 am for Winthrop Headworks, 12:03 pm for Columbus Park, 12:23 pm at Ward Street, and 12:45 pm for Chelsea Creek.

It is evident from the graph below that the MWRA has made great progress in responding to electrical outages at Deer Island. After the outages in 2004 and 2005, several measures were implemented to ensure a rapid response to the loss of power. These include periodic electrical testing of all switchgear, improvements to the electrical system, strict preventative maintenance program for backup power sources, and enhanced electrician and control staffing during rain events (when power must be restored very quickly to avoid sewer overflows). Most importantly, our staff have learned from past events and continue to improve their performance.

Deer Island Treatment Plant Power Outage Response Times



All critical systems were restored in local-manual operation mode first then to normal remote-automated operation within the first hour. All other unit operations were restored to normal operating mode within 3 hours from the start of the event. All flows were contained and stored within the collection system. There were no raw sewerage releases to the environment and no Combined Sewer Overflows or Sanitary Sewer Overflow activations due to the power outage.

Eversource identified its source of failure (transformer control panel) within 15-minutes of the trip and deployed staff to Station 132 at Deer Island to ensure no additional failures or faults occurred in its remote facility. Eversource re-established power distribution from Station 385 to Station 132 by 12:45 pm (within 1.75 hrs of the power loss event). MWRA staff continued to recover its systems on internal backup power until staff were certain that Eversource power had indeed been returned to stable operation and treatment plant flows and levels had returned to pre-event conditions. The facility was then fully reconnected to Eversource power by 3:05 pm. CTG B was shut down at 3:25 pm (4 hours and 23 minutes after the event) once the power from Eversource was restored and stabilized on both the A- and B-buses.

Eversource has not identified the cause of the component failure in the transformer control panel. Eversource was not performing maintenance on the control panel when the event occurred (a previous Deer Island blackout event had occurred at Deer Island when Eversource was doing maintenance at this substation). Eversource temporarily bypassed the failed transformer component then later replaced it with a new board.

Post-event Assessment & Impacts

Overall, staff response to the event was excellent. CTG B was started at the expected response times and flows were re-established carefully after that to ensure there were no raw sewage releases or activations of CSO or SSO at any time. Staff carefully monitored flow recovery at the plant to ensure no secondary blending events or other hydraulic issues within the plant associated with a rapid restart occurred. Restart priorities were maintained.

Several problems arose as a result of this outage that was discovered after restart:

- CTG A failed to start during the recovery of power due to an apparent start air issue. The unit had last been tested and was operational without issue on March 9th. This failure was tracked back to a mechanically-failed fuel pump that was preventing the starter motor from operating, which in turn exhausted the unit's air start system. Staff have submitted operational logs and the failed fuel pump to Pratt & Whitney to try to identify the cause of the failure to prevent this failure from happening again in the future. Staff are also reviewing the condition of the fuel pump and other components with CTG B to ensure this failure does not occur on that unit. Cost of the materials and labor associated with the fuel pump failure is estimated to be approximately \$125,000. Equipment on this unit is proprietary to Pratt & Whitney. Quality and reliability of the equipment and its components is critical given the CTG is a modified jet engine. The CTGs have been in operation at the treatment plant since startup in 1995 and have been well maintained.
- Several DITP Control System ("PICS") control cards failed as a result of the outage and restart. Cost of this equipment totals under \$7,000.

One PICS control card unit that failed controls the flow distribution to Secondary Battery C reactors and impacts the flow distribution going to Secondary Treatment. Staff operated the system in manual during plant restart to work around the failure until DITP's PICS staff could replace the control card.

One PICS control card unit failed in the secondary Battery C return sludge pump process area. RSL pumping can impact the biological balance of the secondary treatment process. Again, staff operated the units in manual until the control board was replaced by PICS staff. Given the short duration and quick equipment replacement by staff, the biological process continued without interruption.

- Other miscellaneous equipment failures (a failed air compressor, power supply, and pH transmitter) occurred scattered around Deer Island totaling under \$10,000 in total. Most of the costs were associated with personnel time and to a lesser extent materials.

The plant operated as designed and staff demonstrated their training and skills with the quickness of their response to the event. Of the four full plant power outages Deer Island has experienced since startup in 1995, the response to this outage was quickest on record.

BUDGET/FISCAL IMPACT:

There are sufficient funds within the Deer Island current expense budget to cover any expenses associated with equipment failures as a result of this power outage. MWRA will investigate cost recovery for damaged equipment as a result of the power outage.

Maintenance of the CTGs is conducted by a combination of in-house staff, a contract maintenance contractor (currently with O'Connor Constructors at roughly \$80,000 annually) and proprietary items

are handled by a Preferred Service Agreement ("PSA") with PW Power Systems, a subdivision of Pratt & Whitney at roughly \$92,000 annually for both CTG units. The PSA renewal is the subject of another item being presented to the Board at this meeting.

Improvements to Deer Island's electrical distribution system, since the first power outage in 2004, have improved system resiliency. The capital cost for these improvements was approximately \$22.5 million. Another \$64 million in capital expenditures has been spent to date for replacement of existing electrical distribution equipment nearing or at the end of its useful life (e.g. VFDs, motors, transformers, load break switches, etc.). The award of a construction contract to replace obsolete VFDs and motors at the Winthrop Terminal Facility at Deer Island is also being presented to the Board at this meeting.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director *F. A. Laskey*
DATE: April 13, 2016
SUBJECT: Preferred Service Agreement for the Combustion Turbine Generators
at the Deer Island Treatment Plant
PW Power Systems, Inc.

COMMITTEE: Wastewater Policy & Oversight

Phillip Szottfried, Program Manager, I&C
Richard J. Adams, Manager, Engineering Services
David Duest, Director, Deer Island WWTP
Preparer/Title

 INFORMATION

 X VOTE

Michele S. Gillen
Michele S. Gillen

Director, Administration

Michael J. Hornbrook
Michael J. Hornbrook

Chief Operating Officer

RECOMMENDATION:

To approve the award of a Preferred Service Agreement to provide technical support, emergency repair services, and spare parts for the combustion turbine generators at the Deer Island Treatment Plant to the original equipment manufacturer, PW Power Systems, Inc. (formerly Pratt & Whitney), and to authorize the Executive Director, on behalf of the Authority, to execute said contract for an amount not to exceed \$438,316 for a period of three years.

BACKGROUND:

As part of the approval process for the Boston Harbor Project, regulatory agencies (EPA and MADEP) required MWRA to develop a contingency plan, which included the provision of a back-up power source in the event of a loss of power from the cross-harbor cable. As a result, the Thermal/Power Plant became an important component of the project. The requirement for providing a 100% back-up power source continues as part of MWRA's National Pollutant Discharge Elimination System (NPDES) permit.

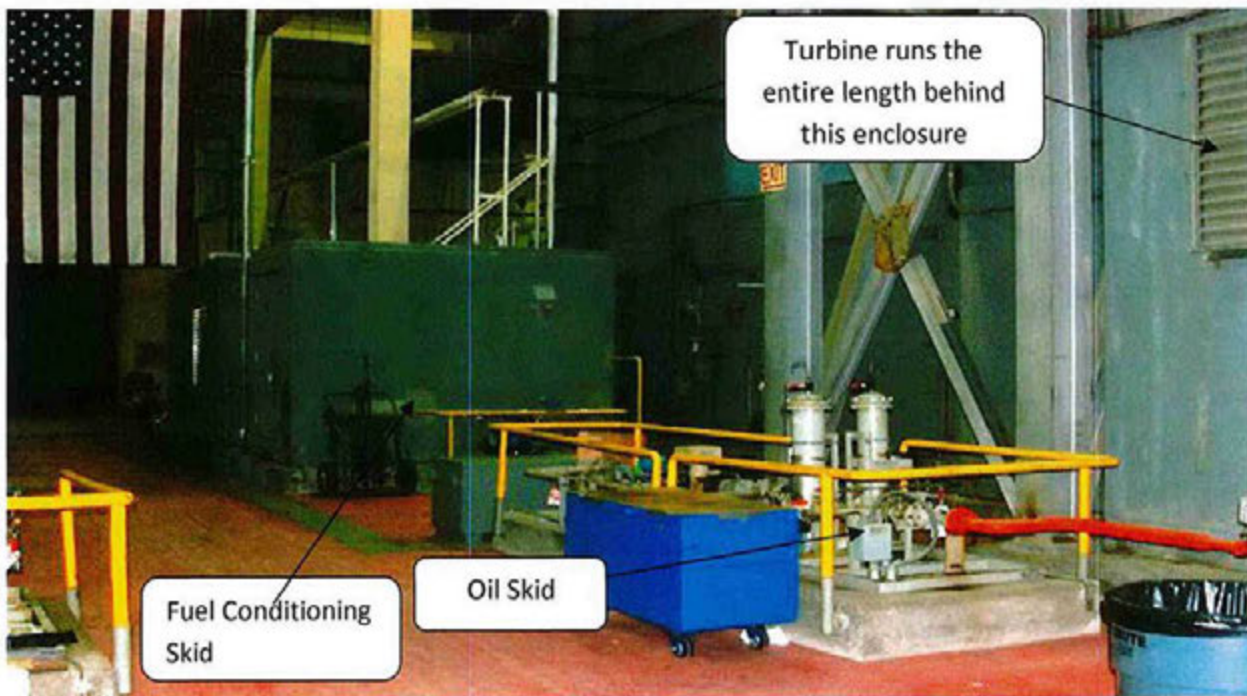
In addition to two high-pressure steam boilers which meet thermal demands of the plant and drive two steam turbine generators, the Thermal/Power Plant houses two FT-8 Power Pac combustion turbine generators (CTGs). Given that each of the two CTGs is capable of generating 26 megawatts of back-up power to the plant, the importance of the CTGs cannot be overstated. In the event of a sustained power failure from Eversource Energy, the CTGs would be needed to keep the plant operational. Complete loss of power for an extended period of time would not only destroy the biological processes of the plant, but would also render the pump stations inoperable, resulting in sewage back-ups across MWRA's service area. The CTGs serve a critical role in keeping the plant operational during storm events, power system interruptions

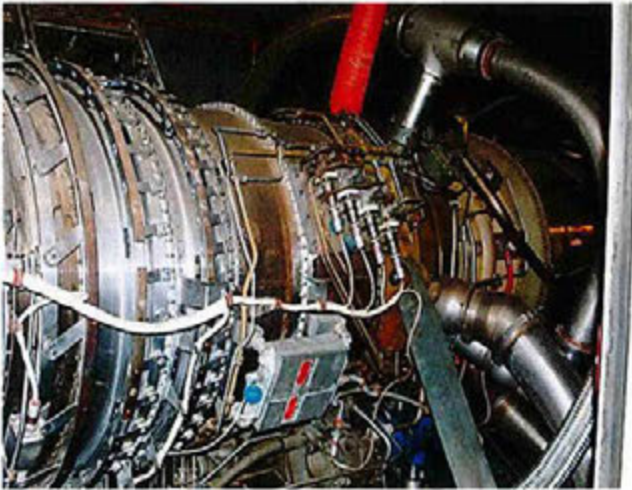
and during peak-power demand periods in the summer.

MWRA's two CTGs, manufactured by Pratt & Whitney, are essentially aircraft derivative design jet engines. The picture on the right depicts the actual turbine blades of an FT-8 similar to the two installed on Deer Island.



The FT-8s were first introduced in early 1991. To date, there are now approximately 450 FT-8 Power Pac units in operation worldwide. Deer Island's FT-8s were among the first production units delivered and were brought on-line in June 1995. Below are several pictures of various components of Deer Island's CTGs.





Close-up view of one section of the core of the turbine



One set of control panels

DISCUSSION:

Periodic maintenance is necessary to ensure that the CTGs operate reliably and efficiently. MWRA employs a two-component maintenance strategy for its CTGs. One component is a competitively-bid maintenance contract, which, for the most part, addresses many of the routine, mechanical-type tasks (e.g., replacing air filters, lubrication, repairing fuel and/or water leaks, etc.).

The second and more critical maintenance component is a "Preferred Service Agreement" with the original equipment manufacturer, PW Power Systems, Inc., which addresses the more complex and technical maintenance and repair needs of the CTGs. There are critical control programs that need to function properly and certain components require alignment that must be maintained or re-established to original factory tolerances. There are other important and complex components that can deteriorate through normal operation and must be replaced. Ensuring that the CTGs will start and operate without interruption is of paramount importance to the power contingency plan. Individual CTG control programs necessary to operate the unit properly are proprietary and require the expertise that only PW Power Systems technicians can provide when adjustments are required.

In May 2005, MWRA entered its first Preferred Service Agreement (PSA) with PW Power Systems. A PSA benefits MWRA in a number of ways. First and foremost, it continues to identify MWRA as a priority customer when diagnostic troubleshooting or on-site field service is required. PW Power Systems' technicians travel the globe servicing its client base, but MWRA's priority status ensures that critical response times will be met. This priority status has proven to be instrumental during a number of severe wet-weather events during the past several years.

A PSA provides MWRA with a comprehensive program of customer support that includes calibration of critical sensors and identification of all immediate-need maintenance requirements (many of which would then be performed by MWRA's current CTG

maintenance contractor).

Of the recommended \$438,316 for this PSA, MWRA's committed cost for three years is \$237,316. The PSA will cost \$77,544 in the first year and increase approximately 2% in years two and three. "Mini-Audits" will be performed in years one and three for each unit. In addition to their normal Mini-Audit, PW Power Systems has issued new service bulletins to inspect engine to power turbine deflection and collector box air seals. These will be performed in the first set of outages. The normal "Mini Audit" does not include moving the machine. However, inspections to measure deflection between the engine and the generator require moving the engine away from the power turbine. The collector box inspection requires accessing the internal components which is also not part of the Mini Audit. PW Power Systems has included extra time to perform these inspections.

Also included in the total not-to-exceed amount of this PSA are two allowance categories, one for \$75,000 for unanticipated on-site PW Power Systems field technician support when needed, and one for \$126,000 for the replacement spare parts. Approximately \$26,000 of the \$126,000 will be used to replace the existing human-machine interface computers. The existing computers run on Windows XP. PW Power Systems has standardized on Windows 10, since Microsoft no longer supports this operating platform. These allowances are not-to-exceed amounts and will be drawn down during the three years as needed.

Staff recommend that MWRA continue to contract directly with PW Power Systems under a PSA. This is the most expedient way to ensure that MWRA will receive the fastest response in critical situations; the best technical advice and troubleshooting/repair services available; and a reliable supply of the highly specialized and complex replacement components when needed. The Director of Procurement has approved the sole source nature of this procurement.

BUDGET/FISCAL IMPACT:

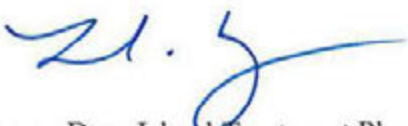
Sufficient funds for the first portion of this purchase order are included in the FY16 Current Expense Budget. Appropriate funding will be included in future Proposed CEB requests for the remaining term of this agreement.

MBE/WBE PARTICIPATION:

PW Power Systems, Inc. is not a certified Minority- or Women-owned business. There are no MBEs or WBEs available to provide this service.

STAFF SUMMARY

WW B.2
IV B.4
4/13/16

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: April 13, 2016
SUBJECT: Thermal and Hydro Power Plant Maintenance, Deer Island Treatment Plant
IPC Lydon, LLC.
Contract S551


COMMITTEE: Wastewater Policy & Oversight

____ INFORMATION

X VOTE


Michele S. Gillen
Director, Administration

Paul Pisano, Program Manager
Richard J. Adams, Manager, Engineering Services
David Duest, Director, Deer Island WWTP
Preparer/Title


Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To approve the award of Contract S551, Thermal and Hydro Power Plant Maintenance, Deer Island Treatment Plant, to the lowest responsible and eligible bidder, IPC Lydon, LLC and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of \$4,207,464 for a contract term of 730 calendar days from the Notice to Proceed.

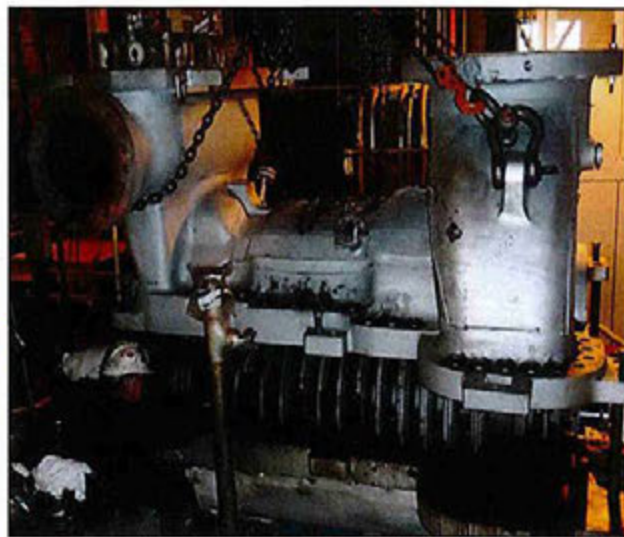
DISCUSSION:

Contract S551 will provide scheduled annual inspection and maintenance services, as well as emergency and non-emergency repair services, replacement parts and factory authorized vendor services for all equipment associated with the steam generation and heating systems in the Thermal Power Plant, and the hydroelectric turbine generators in the Hydro Power Plant, for a two-year period.

The On-Site Thermal/Power Plant on Deer Island, which has been in service since 1998, contains two high-pressure power boilers that generate steam energy, which is used for facility heating, process heating, and electrical generation. Both boilers can be fired with digester gas (methane), No. 2 diesel fuel oil, or a combination of both. The high-pressure steam from the boilers is directed to the main 18-megawatt steam turbine generator and a 1.2-megawatt back-pressure steam turbine generator to generate electricity. The electric power generated by the steam turbines varies in relation to the plant's heating demand and digester gas production. The low-pressure exhaust steam from the steam turbines provides facility and process heating through Deer Island's hot water heat loop.



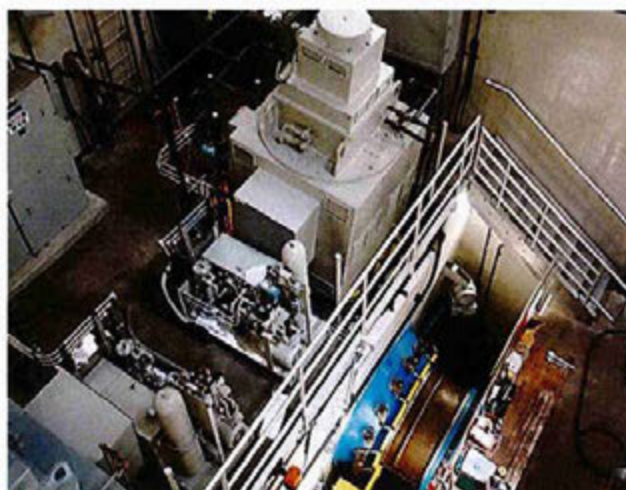
Two High-Pressure Steam Boilers



18-Megawatt Main Steam Turbine Generator



1.2-Megawatt Back-Pressure Steam Turbine Generator



Hydroelectric Turbine Generator

The Hydro Power Plant, which has been in service since 2001, contains two hydroelectric turbine generators that use treated plant effluent to generate electricity before the effluent is discharged into the outfall tunnel. The electric power generated by the hydro turbines varies in relation to total plant flow and ocean tide levels.

All thermal and electric power generated by the steam and hydroelectric turbines is used on Deer Island, decreasing the amount of purchased electricity and fuel oil. The combined estimated cost savings at current market pricing from these systems is approximately \$18 to \$21 million per year. This includes the total electrical and thermal output of the existing Steam and Hydroelectric generator systems. State regulations require that all steam boilers and appurtenances be thoroughly inspected externally and internally at least once a year in accordance with the National Board Inspection Code. These required inspections, along with preventive maintenance of the boilers, steam turbine generators, hydro turbine generators and associated equipment, are

essential to ensuring the continued safe and reliable operation of these critical systems, and their optimum performance.

The scope of work under this contract includes two annual maintenance services for the specified equipment at the Thermal/Power Plant. Each annual maintenance service on the high-pressure steam turbines is a labor-intensive, complex, and comprehensive exercise that must be performed by specially trained technicians. The contract also includes two scheduled annual maintenance services for the specified equipment at the Hydro Power Plant, and a quarterly operational surveillance program for both steam turbine generators and hydro turbine generators.

It should be noted that in addition to the scope of work identified above, the total contract bid price also includes several allowance items and unit price items that will be drawn down on an as-needed basis. The non-allowance work for this contract is \$3.27 million, which includes a one-time cost (\$600,000) to replace the existing four 250-horsepower hot water pumps in the Thermal/Power Plant and the 5-year major overall of the 18 MW Steam Turbine Generator (\$250,000). The existing pumps were installed in 1997 and are at the end of their useful life. In addition, the contract includes unit bid items not defined in the lump sum for emergency and non-emergency labor (\$307,750) and also includes allowances for replacement parts (\$450,000), authorized factory representative services (\$150,000), and fire department detail services (\$30,000), which are required when repairs are made that require welding. Bid items were developed based on reasonable assumptions and historical past usage from previous maintenance contracts for these systems.

Procurement Process

Contract S551 was advertised and bid in accordance with Chapter 149 of the Massachusetts General Laws. Bids were opened on March 18, 2016; the results are presented below.

BIDDERS	BID PRICE
*Thielsch Engineering, Inc.	\$4,127,000.00
IPC Lydon, LLC	\$4,207,464.00
O'Connor Corporation	\$4,252,278.00
<i>Engineer's Estimate</i>	<i>\$4,400,000.00</i>
Energy Resources Group, Inc.	\$5,030,000.00
John Danforth	\$5,740,676.27

* Thielsch's bid included a number of exceptions and clarifications which caused the bid to be conditional. Accordingly, pursuant to G.L. c. 149, §44E (3) staff have rejected Thielsch's bid.

Staff have reviewed the bids and determined that IPC Lydon, LLC bid meets all of the requirements of the specifications, and is 4% lower than the Engineer's Estimate. References were checked and found to be favorable. Staff have determined that the bid price is reasonable, complete, and includes the payment of prevailing wages.

IPC Lydon, LLC possesses the skill, ability, and integrity necessary to perform the work under

this contract and is qualified to do so. Therefore, staff recommend the award of this contract to IPC Lydon, LLC as the lowest responsible and eligible bidder.


BUDGET/FISCAL IMPACT:

Funding of \$1,100,000 is included in Deer Island's FY16 Current Expense Budget for the first year of this contract. Appropriate funding will be included in subsequent Proposed CEB requests for the remaining term of the contract.

MBE/WBE PARTICIPATION:

Due to the limited opportunities for subcontracting, there were no MBE or WBE participation requirements established for this contract.

STAFF SUMMARY

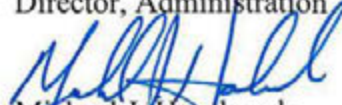
TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: April 13, 2016
SUBJECT: Winthrop Terminal VFD and Synch Motor Replacement
Deer Island Treatment Plant
J.F. White Contracting Company
Contract 6875

COMMITTEE: Wastewater Policy & Oversight

David Duest, Director, Deer Island WWTP
Richard J. Adams, Manager, Engineering Services
Preparer/Title

 INFORMATION
 X VOTE


Michele S. Gillen
Director, Administration


Michael J. Horabrook
Chief Operating Officer

RECOMMENDATION:

To approve the award of Contract 6875, Winthrop Terminal VFD and Synch Motor Replacement, Deer Island Treatment Plant, to the lowest eligible and responsible bidder, J.F. White Contracting Company, and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the bid amount of \$11,945,000, with a contract term of 1,365 calendar days from the Notice to Proceed.

DISCUSSION:

As part of Deer Island's on-going Asset Management Program, the condition and performance of plant equipment is assessed on a routine basis. A critical element of the overall facility infrastructure is the electrical equipment system. Within the electrical system, there are many sub-systems and individual components that distribute power from the utility to various facilities across the island. These components include transformers, load-break switches, bus ducts, substations, variable frequency drives (VFDs), and large horsepower motors, among others.

Deer Island continues to implement capital improvement projects which replace older obsolete electrical equipment and systems with new equipment. This project focuses on the Winthrop Terminal Facility, where staff have had an increasingly difficult time attaining critical replacement control and power modules components to maintain the operation of the VFDs. In addition, the six pump motors also need to be replaced due to inherent problems with the overall reliability of the existing motors (end-ring failure) and the new VFD technology requires a motor

with a higher voltage level than the existing units. This equipment was installed in the mid 1990s under the Boston Harbor Project. At that time, VFDs utilized a Silicon Controlled Rectifier technology that was readily available in the industry. The VFD industry has shifted away from the use of Silicon Controlled Rectifier devices, and now utilizes an Insulated Gate Bipolar Transistor technology, which is more energy efficient and allows better control of the motor. Another benefit of this technology is it produces lower harmonics which can be disruptive to other wastewater process equipment such as PLCs, other VFDs and electromechanical equipment. The original equipment manufacturer no longer manufactures or supports the key components in the VFDs, such as the existing control and power circuitry. These VFDs cannot operate without these fully functional parts.



Raw Wastewater Pump Variable Frequency Drive (VFD)

VFDs control the speed and thus the flow of the six 600-HP raw wastewater pumps located in the Winthrop Terminal Facility. Flow from the station into the plant varies based on flow rates and tunnel levels. Typically, two pumps operate at partial load during dry weather conditions. The number of pumps in use increases to five during severe wet weather conditions.

A typical VFD contains several hundred electronic and power components. One of the major components is the control module (known as the GEM drive). The GEM drives process and control all functions of the VFD units. This control module utilizes electronic components (i.e. integrated chips and processors) similar to those found in advanced personal computing systems. Technological advances in the electronic industry eventually leads to obsolescence of older equipment. The VFD industry has shifted to new, more efficient components since the Winthrop Terminal Facility was designed and built. When this happens, the manufacturer typically ramps down its production and support of the obsolete parts. This is the case with the VFDs in service on Deer Island.

In addition, the raw wastewater pump motors will need to be replaced with new 600 horsepower synchronous motors. These motors will operate at a higher voltage level (4,160 volts) compared to the existing units which operate at 600 volts. The 4,160 volt motors are more common in the industry and are economically more feasible to install than the existing 600 volt motors.



600 Horsepower Motors

Procurement Process

Contract 6875 was bid in accordance with Chapter 149 of Massachusetts General Laws. General bids were opened on March 22, 2016 and two bids were received as follows:

J.F. White Contracting Company	\$11,945,000
<i>Engineer's Estimate</i>	<i>\$14,200,000</i>
Dagle Electrical Construction	\$16,433,000

J.F. White's bid is \$11,945,000 or 15.9% lower than the Engineer's (AECOM) Estimate. MWRA staff interviewed J.F. White to determine the cause of the difference between the Engineer's Estimate and the bid price. Staff have determined that the difference was caused by three main factors: 1) Competitive pricing received by the Contractor from the VFD and Motor manufacturers (difference of \$795,000). The price quotes provided to AECOM by the these manufacturers during development of the bid estimate were considerably higher than actual prices provided to J.F. White; 2) Escalation costs for major equipment in the Engineer's Estimate compared to Contractor actual bid (difference of \$780,000); and 3) Lower Contractor overhead (10.5%) compared to the Engineer's Estimate (15% overhead), a difference of \$495,000. These three factors resulted in approximately \$2,070,000 difference between the Engineer's Estimate

and the Contractor's bid price. The Contractor has stated that it plans on providing the major equipment from the manufacturers listed in the specifications. MWRA staff and the Design Engineer, AECOM, have reviewed J.F. White's bid and have determined that it is complete, the bid price is reasonable, and it includes the payment of prevailing wages as required.

References were checked and found to be favorable. It should be noted that J.F. White Contracting Company is currently working on Contract 6903, North Main Pump Station Variable Frequency Drive and Synchronous Motor Replacement, Deer Island Treatment Plant. Based upon the information received during the interview, staff and AECOM are of the opinion that the Contractor understands the nature and complexity of the project, has the skill, ability and integrity necessary to complete the work, and is qualified to do so.

Therefore, MWRA staff recommend that Contract 6875 be awarded to J.F. White Contracting Company as the lowest eligible and responsible bidder.

BUDGET/FISCAL IMPACT:

The FY16 CIP includes \$4,159,788 for Contract 6875, for replacement of the VFDs only. The Proposed FY17 CIP was increased to \$14,691,462 to also include replacing the motors and the existing pumping control systems. The contract award is \$11,945,000. MWRA will also be applying for energy rebates available through Eversource in the amount of approximately \$200,000.

MBE/WBE PARTICIPATION:

The MBE and WBE participation requirements for this contract were established at 7.24% and 3.6%, respectively. The Affirmative Action and Compliance Unit has reviewed the bid and has determined that it meets these requirements.



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 (2)

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, April 13, 2016

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

Time: Immediately following Wastewater Comm.

AGENDA

A. Contract Amendments/Change Orders

1. Southborough Water Quality Laboratory Upgrades: Paul J. Rogan Co., Inc., Contract 6650A, Change Order 3

B. Information

1. Section 4 Webster Avenue Pipe and Utility Bridge Replacement: NEL Corporation, Contract 7335

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the
Water Policy and Oversight Committee

March 16, 2016

A meeting of the Water Policy and Oversight Committee was held on March 16, 2016 at the Authority headquarters in Charlestown. Chairman Blackmon presided. Present from the Board were Ms. Wolowicz and Messrs. Carroll, Cotter, Pappastergion, Peña, Vitale and Walsh. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Carl Leone, Elaine Donohue, and Bonnie Hale. The meeting was called to order at 11:50 a.m.

Information

Local Pipeline and Water System Assistance Program Annual Update

Staff described the Program, and there was general discussion and question and answer.

The remaining three agenda items were referred to the full Board.

- Metropolitan Water Transmission Tunnel Redundancy: Decision Making Process
- Update on Lead

Approvals


*Proposed Community Loan Program for Lead Service Line Replacement

(ref. agenda item B.1)

The meeting adjourned at 11:55 a.m.

* Approved as amended at March 16, 2016 Board of Directors meeting.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: April 13, 2016
SUBJECT: Southborough Water Quality Laboratory Upgrades
Paul J. Rogan Co., Inc.
Contract 6650A, Change Order 3

COMMITTEE: Water Policy and Oversight

 INFORMATION

 X VOTE

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


Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to approve Change Order 3 to Contract 6650A, Southborough Water Quality Laboratory Upgrades, with Paul J. Rogan Co., Inc., for a lump sum amount of \$26,999.82, increasing the contract amount from \$3,358,083.01 to \$3,385,082.83, with no increase in contract term.

Further, to authorize the Executive Director to approve additional change orders as may be needed to Contract 6650A 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 Southborough Water Quality Laboratory Building is a one story structure, built in 1981, that provides laboratory and office spaces, with an existing ballasted membrane flat roof. There have been no major renovations of the building since it was built and the membrane roof leaks. Patches are temporary and are no longer effective. The existing electric heating and cooling systems, as well as other systems, need modifications or replacement.

Under Contract 6650A, the Contractor is performing necessary rehabilitation work at the Southborough Water Quality Laboratory Building including the removal and replacement of the existing roof with a new metal hip roof to match adjacent buildings, abatement of asbestos detected in the roof ballast and rubber membrane, modifications to the electrical, HVAC and fire protection systems, replacement of laboratory cabinetry and casework, flooring, painting, windows and doors, installation of a buried tight tank for disposal of laboratory wastewater and gutter repairs at Shaft 4 Building.



Original Flat Roof



New Hip Roof



New HVAC Duct Work



Utility Installation

This Change Order

Change Order 3 consists of the following two items:

Remove and Replace the Exterior Door

\$17,880.90



The locking mechanism on the exterior entrance doors to the Laboratory will not securely lock so that the door can still be opened when it appears that the lock is engaged. Numerous attempts have been made to repair the lock, but it continues to malfunction which jeopardizes building security. The existing thirty-five year old doors need to be replaced. There is a glass enclosure in a metal frame attached to either side of the front doors and to the two interior foyer doors which comprise the door entrance system (see picture at left). It is not possible to replace pieces

of the original door system so the entire door system must be replaced.

The approved PCO for this item has been identified by MWRA staff as an unforeseen condition. MWRA staff and the Contractor have agreed to a lump sum amount of \$17,880.90 for this additional work with no increase in contract term. This work has not yet begun.

Remove and Dispose of Existing Underground Propane Storage Tank

\$9,118.92



Propane Tank Removal

The Laboratory currently uses propane gas that is stored in a 1,000 gallon underground storage tank and piped into the building. The design anticipated that the lab would continue to use propane and that a natural gas line would be added to fuel HVAC and hot water systems. A plumbing inspection in October 2015 (after contract award) revealed that natural gas and propane lines servicing the same building would be a code violation. As a result, Change Order 2 included the cutting and capping of the external propane pipeline because natural gas would be connected to the Laboratory as well as the other systems. Subsequently, it was determined that the abandoned tank and piping must be removed because the

storage tank previously contained pressurized propane gas, which is a potential safety hazard. Therefore, it is necessary for the Contractor to excavate, decommission, remove, and dispose of the tank and piping, and backfill, prior to completion of the final landscaping required in the contract.

The approved PCO for this item has been identified by MWRA staff as a design error. MWRA staff and the Contractor have agreed to a lump sum amount of \$9,118.92 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.

CONTRACT SUMMARY:

	<u>Amount</u>	<u>Time</u>	<u>Dated</u>
Original Contract:	\$3,125,840.00	365 Days	08/04/15
Change Orders:			
Change Order 1*	\$175,000.00	90 Days	11/23/15
Change Order 2*	\$57,243.01	0 Days	Pending
Change Order 3	<u>\$26,999.82</u>	<u>0 Days</u>	Pending
Total of Change Orders:	\$259,242.83	90 Days	
Adjusted Contract:	\$3,385,082.83	455 Days	

*Approved under delegated authority

If Change Order 3 is approved, the cumulative total value of all change orders to this contract will be \$259,242.83 or 8% of the original contract amount. Work on this contract is approximately 60% complete.


BUDGET/FISCAL IMPACT:

The FY16 CIP includes a budget of \$3,536,582 for Contract 6650A.

MBE/WBE PARTICIPATION:

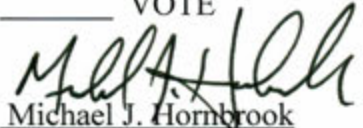
The MBE and WBE participation requirements for this contract have been established at 7.24% and 3.6%, respectively. The Contractor will be notified that these requirements are still expected to be met.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: April 13, 2016
SUBJECT: Section 4 Webster Avenue Pipe and Utility Bridge Replacement Update
 NEL Corporation
 Contract 7335

COMMITTEE: Water Policy & Oversight

John P. Vetere, Deputy Chief Operating Officer
 Corinne Barrett, Director, Construction
A. Navanandan, P.E., Chief Engineer
 Preparer/Title

INFORMATION
 VOTE

Michael J. Hornbrook
 Chief Operating Officer

RECOMMENDATION:

For information only.

BACKGROUND:

MWRA's Section 4 water main is a 48-inch diameter, cast-iron pipe constructed in 1911 that supplies low-service water through the communities of Cambridge and Somerville. It is part of the East Spot Pond Supply Main and provides redundancy to the Northern Low Service Area supplying the Spot Pond Storage Facility and in turn providing water to the communities of Somerville, Medford, Malden, Everett, Chelsea, Revere and Boston.

On September 18, 2013, the Board approved the award of Contract 7334 to Dewberry Engineers, Inc. for design, construction administration and resident engineering services for replacement of water pipes and a utility bridge over the MBTA Fitchburg Commuter Rail line at Webster Avenue near Union Square, Somerville in the amount of \$685,536 and a contract duration of 37 months (includes Amendment 1, January 22, 2014, by delegated Authority).

On April 15, 2015, the Board approved the award of Contract 7335 Section 4 Webster Avenue Pipe and Utility Bridge Replacement to NEL Corporation in the amount of \$1,759,000. Subsequent change orders for \$197,727.12 increased the project cost to \$1,956,727.12. The project includes replacement of MWRA's 48-inch pipe, the City of Somerville's 20-inch pipe as well as the utility bridge that supports both pipes. The City of Somerville is reimbursing the MWRA \$100,000 for the cost of replacing the City's 20-inch pipe.



Figure 1. New 48-inch pipe and utility bridge.

A Notice to Proceed was issued on May 4, 2015. The project was scheduled to be completed by December 4, 2015 with an interim milestone for bridge installation of September 2, 2015. The bridge and 48-inch pipe were installed by September 1, 2015.

The 48-inch water main is required to pass a pressure test at 150 psi for four hours. Pressure testing was initiated on September 3, 2015. Pressure testing requires that the water main be tested to the limits of new piping with restrained end caps before connecting to the existing piping at the north and south ends of the project. The initial pressure test failed after reaching approximately 70 psi. A joint failure was identified near the end of the buried pipe on the north side of the bridge. This joint was repaired and a second pressure test was initiated on September 8th, but an additional buried joint failure was identified on the south side of the bridge at the direct opposite side of the initial failure. Internal pressure only reached



Figure 2. First Failed HP LOK joint.

approximately 95 psi during the second pressure test when leakage appeared in the excavation.

The Contractor repaired the second failed joint with new gasket and lock-ring materials. Upon further inspection of the adjacent buried joints, several were found to be deflected with the joint gasket displaced. The failures were symmetrical on the north and south side of the piping. Further investigation into visible above-ground mechanical joints (restrained with “Megalug” restraint rings) on the north and south side of the bridge showed evidence of pipe movements and loose locking mechanisms. On September 10, 2015 the Contractor stopped work due to the extent of the failures.



Figure 3. Horizontal and Vertical Bends on South side of bridge.

DISCUSSION:

Dewberry Engineers, Inc. (Dewberry) provided the original design and engineering services during construction for this project. As a result of the pipe failures, MWRA hired CDM Smith to provide an independent review of Dewberry’s design and inspect the failed pipe joints. CDM Smith found that there is potential for shared responsibility between the designer (Dewberry) and the contractor (NEL) for the failed pressure test. CDM Smith also found that Dewberry’s design was not adequate to fully restrain the pipe at the final connections to the existing pipe at the north and south ends of the pipe. CDM Smith recommended that additional external thrust restraint be added to both the north and south ends of the buried pipe.



Figure 4. Vertical mechanical joints bends with Megalug restraints.

On September 24, 2015, MWRA notified both Dewberry and the contractor (NEL) of the potential for cost recovery by MWRA for deficient work. In a letter dated October 1, 2015 Dewberry took exception to MWRA’s findings and denied liability for damages.

On March 9, 2016, Dewberry provided design modifications to the pipe system to rectify what MWRA and CDM Smith believe to be design deficiencies. Dewberry is tracking costs but not invoicing for redesign to date. Dewberry also retained an independent consulting engineer, Simpson Gumpertz and Heger (SGH), to review the re-design.

At this time and based upon reviews of the new design by both CDM and SGH, it appears to staff that Dewberry's re-design, which includes additional restrained joint pipe length on the north and south ends of the pipe and tie rods at all changes in direction, should be adequate to resist the displacements at the final connections. See Attachment 2. This redesign requires extensive rehabilitation or replacement of newly installed 48-inch water main and additional thrust blocks and extension of the 20-inch water main.

Potential Responsibility for Redesign and Reconstruction

Based on staff's review of documents, correspondence, and several meetings with Dewberry (the designer of record), CDM Smith (MWRA's independent reviewer), and SGH (Dewberry's independent reviewer) it appears that there may be the potential for cost recovery against either or both the designer and construction contractor for the cost of the rework associated with the re-design and reconstruction plan. It is not known at this time whether there were any defects in materials, components or workmanship which might have contributed to the pressure test failures. The pipe material will be inspected at the time of the rework to determine if there were any defective materials, components or workmanship. The contractor and the Dewberry resident engineer allowed changes to the pipe bracing system while increasing the internal pressure on the pipe system during testing, and did not provide full backfill to the pipe system prior to pressure testing. These actions during the pressure test may have caused or contributed to the pipe failure.

Possible Options

Staff identified several possible options to proceed, all of which include cost recovery for rehabilitation/replacement due to the pipe failure as presented below:

- 1.) Continue to work with Dewberry and NEL
 - Negotiate change order with NEL for the re-work.
- 2.) Continue to work with Dewberry and re-bid the construction re-work immediately
 - Dewberry to produce bid documents for re-bid.
- 3.) Start a new procurement process. Release Dewberry and NEL and hire a new designer and contractor.
 - Significantly delays re-activation of both MWRA's 48-inch and Somerville 20-inch water mains, extending the duration of period with lack of redundancy for MWRA and Somerville's systems.
 - Concern that no other consultant would bid on the project (CDM, SGH and Dewberry would not be allowed to propose due to their existing involvement.)
 - Issues with existing materials and liability would result in replacement of all pipe material.

Recommendation

Considering the above information, staff recommend that the Authority continue to work with Dewberry (options one or two above) to finalize its design for the reconstruction plan for the Webster Avenue pipeline and the City of Somerville's pipeline, with oversight review of the revised Dewberry design by CDM Smith. The current design approach is to use the existing materials to the extent feasible and new materials if deemed necessary based on field inspection. As with other construction projects that have had design deficiencies and/or faulty materials/workmanship, staff recommends the continuation of the designer and contractor of record and recover costs once the assets can be reconstructed and reestablished to operating standards. If a fair change order cost for the work cannot be established with the contractor, then staff would propose option two (solicit bids to complete the remainder of the work).

The scope of the reconstruction includes traffic controls, night work, excavation and inspection of existing pipe, replacement of HP LOK joint restraint materials and Megalug restraint rings on fittings, re-installation of pipe with tie rods between bends, compacted backfill and pressure testing. The Dewberry recommended design change includes an additional 75 feet of 48-inch pipe to extend the restrained pipe span on each end of the pipe system (150 feet of new pipe in total) and 60 feet of 20-inch pipe to dissipate thrust forces at the final connection. Additional QA/QC and inspections will be included in the reinstallation requirements to ensure proper alignment during the pipe installation.

Once the recommended option is finalized (negotiate change order with NEL or solicit bids for the remainder of the work), staff anticipates returning to the Board to request approval of the plan. Following completion of the work the Authority will proceed with cost recovery from the appropriate party(s). Both the contractor and the designer of record have already been notified of the potential for cost recovery.

BUDGET/FISCAL IMPACT:

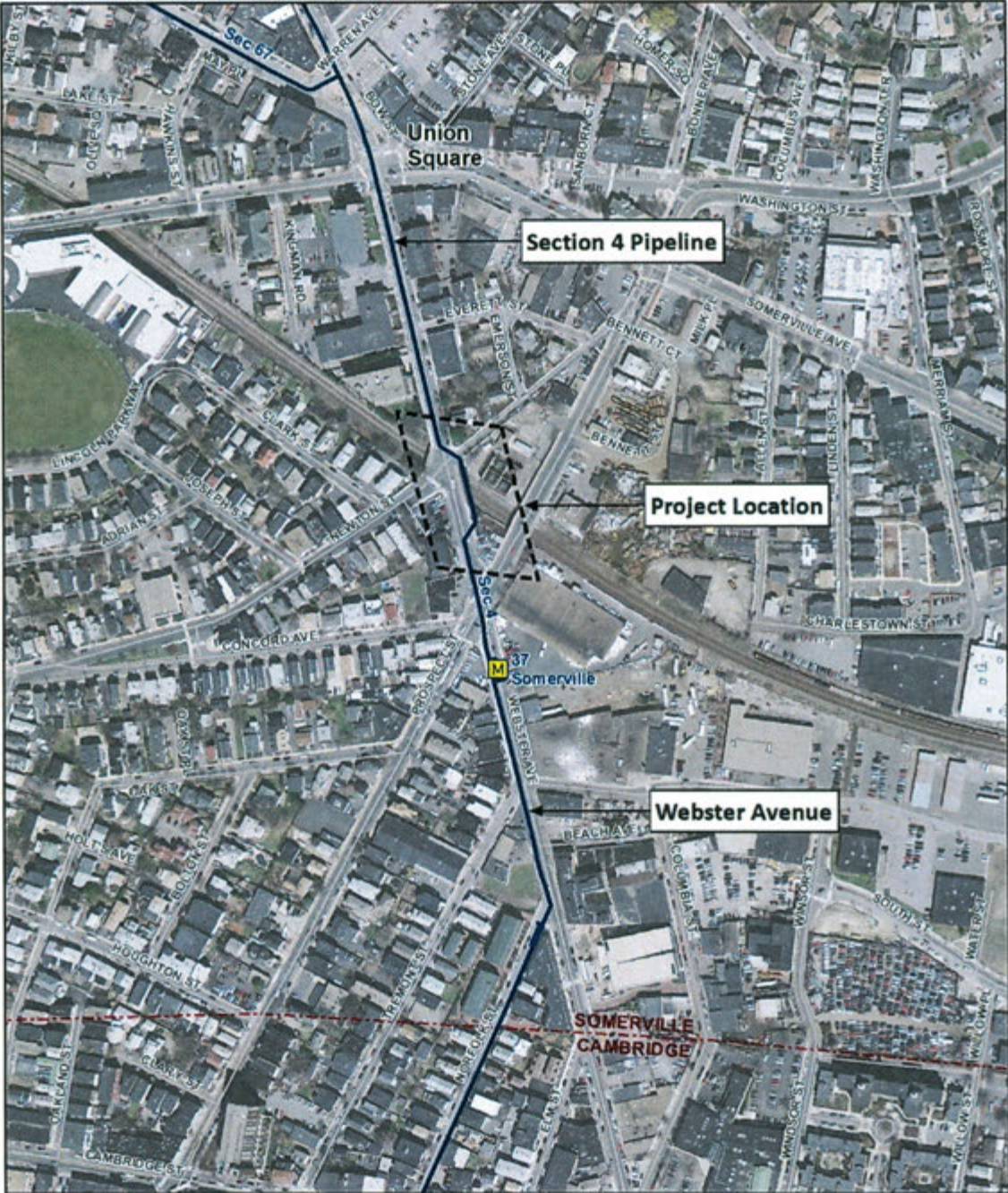
Staff will initiate negotiations with Dewberry and NEL Corporation to recover costs associated with the deficient design and/or construction of the original project. If either Dewberry or NEL Corporation is found to be at fault for design, installation and/or materials deficiencies, cost recovery will be pursued from all relevant parties.

MBE/WBE PARTICIPATION:

NA

ATTACHMENTS:

Attachment 1 - Webster Avenue Pipe and Utility Bridge Replacement Project Location
Attachment 2 - Re-Design Drawing C-1



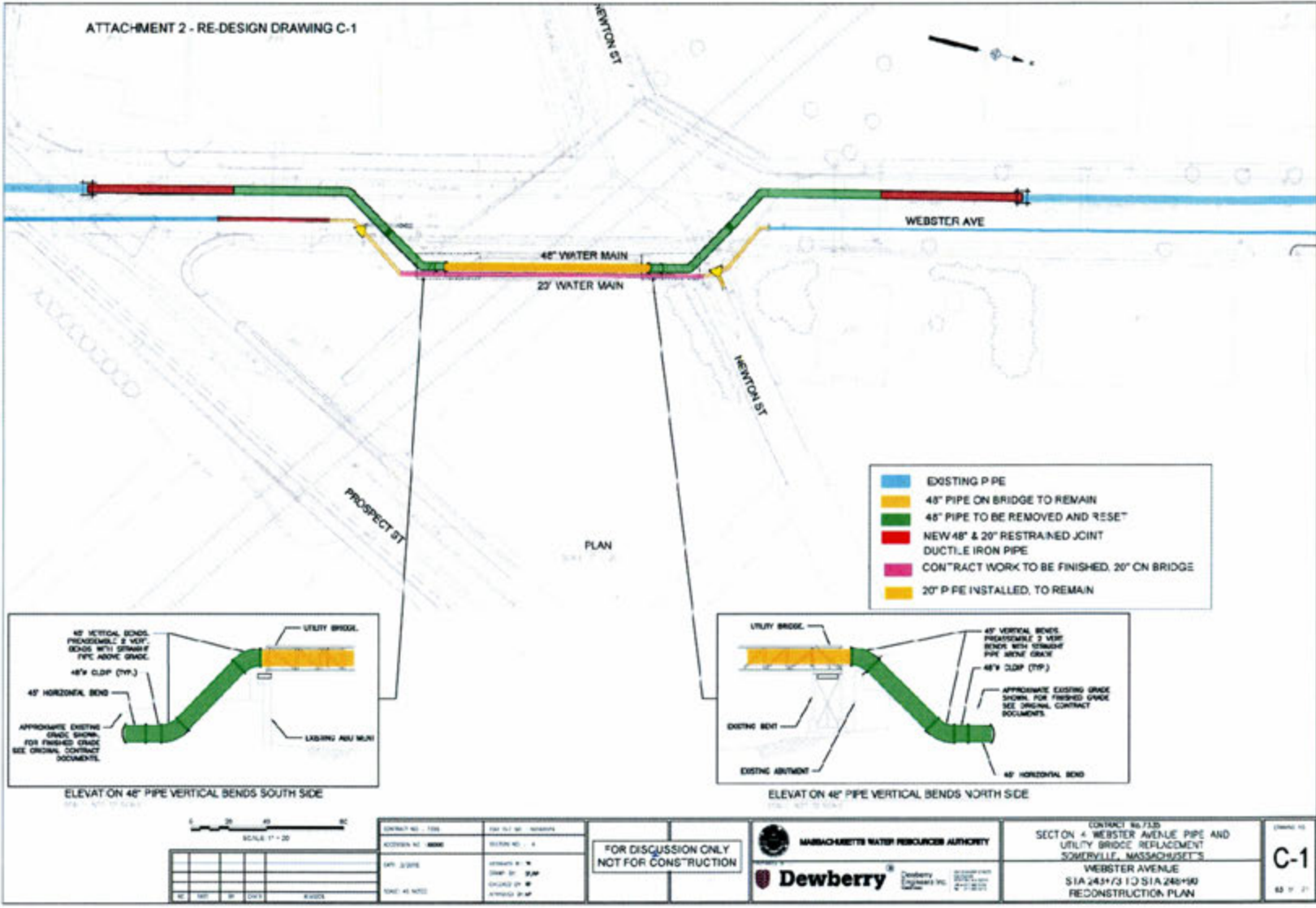
**Attachment 1
Webster Avenue Pipe and Utility
Bridge Replacement Location**

1 inch = 300 feet



Date: 3/31/2015 MWA-615781

ATTACHMENT 2 - RE-DESIGN DRAWING C-1



Attachment 2 - Re-Design Drawing C-1

<p>SCALE 1" = 20'</p>		<p>CONTRACT NO. 7330</p> <p>SECTION NO. 4</p> <p>DATE 3/2016</p> <p>DRAWN BY JWP</p> <p>CHECKED BY M</p> <p>APPROVED BY</p>	<p>FOR DISCUSSION ONLY NOT FOR CONSTRUCTION</p>	<p>MASSACHUSETTS WATER RESOURCES AUTHORITY</p> <p>Dewberry</p>	<p>CONTRACT NO. 7330</p> <p>SECTION 4 WEBSTER AVENUE PIPE AND UTILITY BRIDGE REPLACEMENT SOMERVILLE, MASSACHUSETTS</p> <p>WEBSTER AVENUE</p> <p>S1A 243+73 TO S1A 248+90</p> <p>RECONSTRUCTION PLAN</p>	<p>DRAWING NO.</p> <p>C-1</p> <p>63 OF 21</p>
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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

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, April 13, 2016

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

Time: Immediately following Water Comm.

AGENDA

A. Approvals

1. PCR Amendments – April 2016
2. Appointment of Manager, Process Control, DITP
3. Appointment of Senior Program Manager, Engineering Services Dept., DITP
4. Appointment of Assistant Financial Manager
5. Appointment of Budget Manager

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the Personnel and Compensation Committee

March 16, 2016

A meeting of the Personnel and Compensation Committee was held on March 16, 2016 at the Authority headquarters in Charlestown. Chair Wolowicz presided. Present from the Board were Messrs. Blackmon, Carroll, Cotter, Pappastergion, Peña, Vitale and Walsh. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Michele Gillen, and Bonnie Hale. The meeting was called to order at 11:55 a.m.

Approvals

*PCR Amendments – March 2016

The Committee recommended approval of amendments to the Position Control Register (ref. agenda item A.1).

*Appointment of Systems Analyst Programmer III (GIS)

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

*Appointment of Construction Coordinator

The Committee recommended approval of the appointment of Ms. Jami Walsh, P.E. (ref. agenda item A.3).

The meeting adjourned at 12:00 noon.

* Approved as recommended at March 16, 2016 Board of Directors meeting.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: April 13, 2016
SUBJECT: April PCR Amendments



COMMITTEE: Personnel and Compensation

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

 INFORMATION

 X VOTE

Michele S. Gillen
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.

April PCR Amendments

There are three PCR amendments related to changes within the Operations Division.

The Toxic Reduction and Control Department (TRAC) manages the MWRA's federally approved pretreatment program, which includes responsibilities for issuing permits and conducting inspections. As such, it is positioned well to assume management responsibilities of another Authority permit program. One PCR amendment creates a Senior Program Manager with TRAC to oversee consolidated Operations Division 8M and direct connection permitting functions as well as TRAC existing permitting and field functions. The Authority's 8M and direct connection permitting activities are currently dispersed among different departments: Wastewater Operations, Water Operations, and Engineering and Construction. With the creation of this position, Operations will centralize its permitting functions within TRAC. The position will be responsible for standardizing 8M permit procedures and developing robust tracking mechanisms as well as overseeing the TRAC field operations units. When the position has been advertised and filled, staff working on the water and sewer 8M permits will be reassigned to the TRAC Department.

The second amendment is the elimination of the vacant Manager of Facilities & Administration position which is no longer needed. Management efficiencies can be achieved by reassigning the work units overseen by this position to other groups doing similar functions. The resulting staff consolidations will lead to more flexibility and efficiency in field work assignments.

The third amendment is the creation of an Operations Supervisor. The Clinton Advanced Wastewater Treatment Plant is starting construction on a new phosphorus removal treatment process which will require higher skill levels for operations. The Operations Supervisor will oversee the start-up and commissioning of the new treatment process and the continued oversight of the operation of the advanced phosphorus treatment levels with higher levels of treatment complexity. The position will also provide additional operator coverage for the plant when conditions require 24/7 staffing. The position will report to the Superintendent of Clinton, and will oversee Clinton's Operators.

The amendments are:

1. Title and location change to a vacant position, Senior Program Manager, Operations Planning in the Operations Engineering Department to Senior Program Manager, Field Operations & Permitting, in the TRAC Department.
2. Elimination of a vacant position, Manager, Facilities Administration, Policy and Administration Department.
3. Title, grade and location change to a vacant position, Trades Foreman, Trade Labor Maintenance Department at Deer Island, to Operations Supervisor for Clinton AWWTP.

Two amendments require approval by the Personnel and Compensation Committee. The third requires Board approval after review by the Personnel and Compensation Committee.

BUDGET/FISCAL IMPACT:

The annualized budget impact of these PCR amendments will result in savings of between \$91,983 and \$119,189 depending on the individuals selected for the vacant positions upon the completion of the hiring processes.

ATTACHMENTS:

New/Old Job Descriptions

**MASSACHUSETTS WATER RESOURCES AUTHORITY
POSITION CONTROL REGISTER AMENDMENTS
FISCAL YEAR 2016**

PCR AMENDMENTS REQUIRING PERSONNEL & COMPENSATION COMMITTEE APPROVAL - April 13, 2016


Number	Current PCR #	V/F	Type	Current Title	UN	GR	Amended Title	UN	GR	Current/Budget Salary	Estimated New Salary	Estimated Annual \$ Impact	Reason For Amendment
P18	Operations Ops Engineering 5811015	V	T,L	Sr Program Manager, Operations Planning	9	30	Sr Program Manager, Field Operations & Permitting	9	30	N/A	N/A - N/A	\$0 - \$0	To consolidate Operations Division 8M and direction connection permitting functions in the TRAC Department
P19	Operations Policy & Administration 5910028	V	E	Manager, Facilities Administration	6	13	N/A	N/A	N/A	\$121,912	\$0 - \$0	-\$121,912 - -\$121,912	Position elimination
PERSONNEL & COMP COMMITTEE TOTAL =					2		SUBTOTAL:					-\$121,912 - -\$121,912	

PCR AMENDMENTS REQUIRING BOARD APPROVAL - April 2016

Number	Current PCR #	V/F	Type	Current Title	UN	GR	Amended Title	UN	GR	Current/Budget Salary	Estimated New Salary	Estimated Annual \$ Impact	Reason For Amendment
B11	Operations Trade Labor Maintenance 2988025	V	T,G,L	Trades Foreman	3	19	Operations Supervisor	3	24	\$67,182	\$69,905 - \$97,111	\$2,723 - \$29,929	To meet new Operations Supervisory requirement at Clinton AWWTP
BOARD TOTAL =					1		SUBTOTAL:					\$2,723 - \$29,929	
GRAND TOTAL =					3		TOTAL ESTIMATED COSTS:					-\$119,189 - -\$91,983	

Legend:
 V=Vacant Position, F=Filled Position
 T=Title Change, L=Location change, transfer to another Cost Center, G=Grade change, SA=Salary Adjustment, E=Elimination

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: April 13, 2016
SUBJECT: Appointment of Manager, Process Control
Deer Island Wastewater Treatment Plant

COMMITTEE: Personnel & Compensation

INFORMATION
 VOTE

Karen Gay-Valente, Director, Human Resources
Ethan Wenger, Deputy Director, DIWWTP
David F. Duest, Director, DIWWTP
Preparer/Title


Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To approve the appointment of Ms. Lisa Wong to the position of Manager, Process Control (Non-Union, Grade 14), Deer Island Treatment Plant, at an annual salary of \$122,967.47, to be effective on a date to be determined by the Executive Director.

DISCUSSION:

The recent promotion of Mr. Ethan Wenger to Deputy Director, Deer Island Wastewater Treatment Plant resulted in a vacancy in the position of Manager, Process Control. At the February 2016 meeting, the Board was informed that staff planned to backfill the position.

The Manager, Process Control position reports to the Deputy Director, Deer Island. This position is responsible for permit compliance of the plant, as well as the operation and maintenance of the Process Information and Control System ("PICS"). The position also oversees the process monitoring program and all operational reporting for Deer Island and leads all of the treatment plant's process optimization efforts. The Manager, Process Control manages 16 staff split into 3 main functional groups: PICS, Process Monitoring, and Process Optimization.

Selection Process:

The position was posted internally. Three qualified internal candidates applied and were referred to be interviewed. The Director, Deer Island, the Deputy Director, Deer Island and an Affirmative Action representative interviewed three internal candidates. Upon completion of those interviews Ms. Lisa Wong was identified as the most qualified candidate to fill this position based upon her combination of experience, abilities, knowledge and education.

Ms. Wong currently holds the position of Program Manager, Process Monitoring in the Process Control Department at Deer Island. She has twelve years of experience working in this department, first as the Project Manager, Process Monitoring, then as the Program Manager, Process Monitoring. In these roles she has been the key custodian and reviewer of the plant's operational data, and is instrumental in providing technical support to the operation of the plant. As the Program Manager, Process Monitoring, she is responsible for ensuring that Deer Island is compliant with all EPA and DEP permits. In addition, she is also responsible for maintaining up-to-date and accurate information and reports in Deer Island's Operations Management reporting database. Ms. Wong also has over ten years of experience working in the Department of Laboratory Services, including six years as a supervisor, where she developed a strong background in laboratory sampling, analysis, and data reporting.

Overall, Ms. Wong has twenty years of experience supervising technical staff and has successfully completed MWRA's Supervisory Development Program. Ms. Wong has a Bachelor of Science degree in Biology from the University of Massachusetts and has demonstrated critical thinking and research skills, as well as an ability to troubleshoot wastewater treatment process problems at Deer Island.

Ms. Wong has a Massachusetts Grade 6 Wastewater Operator's License and an excellent grasp of wastewater treatment principles. Her performance while in her positions at the MWRA makes her the strongest candidate for the position of Manger, Process Control.

BUDGET/FISCAL IMPACT:

There are sufficient funds in the FY16 Current Expense Budget for this position. The recommended salary is commensurate with Ms. Wong's experience and accompanying responsibilities.

ATTACHMENTS:

- Resume of Ms. Lisa Wong
- Position Description
- Organization Chart

Lisa L. Wong

QUALIFICATIONS

- Practical experience and understanding of wastewater, residuals, and odor control treatment processes, and related environmental impacts, gained primarily through 25+ years of experience in various capacities within the MWRA including 11+ years with the DITP Process Control Department, 10+ years with the Department of Laboratory Services, and nearly 4 years with the Harbor Studies Group (currently the Environmental Quality Department).
- Comprehensive understanding of regulatory and reporting requirements specified in the National Pollutant Discharge and Elimination System (NPDES) Permit and the Title V Air Quality Operating Permit for DITP.
- Over 20 years experience supervising and managing teams consisting of three to six staff members of varying levels of experience and skills.
- Effectively communicate and coordinate projects between various departments and groups.
- Demonstrated ability to manage special studies and investigations from design stage to summary reporting.
- Understanding of environmental monitoring methods and statistical analysis of data.
- Demonstrated ability to manage multiple projects and tasks while continuing to meet deadlines.
- Successfully completed all regulatory and compliance reporting and notifications within required deadlines.
- Strong oral and written communications skills.
- Proven self-motivator and a dedicated team player with strong management, supervisory, and leadership skills.

EXPERIENCE

MASSACHUSETTS WATER RESOURCES AUTHORITY, BOSTON, MA

July 1990 – Present

Program Manager - Process Monitoring, DITP Process Control Department (September 2014 – Present)

- Manage the Process Monitoring group comprised of a secretary for the Process Control Department and a team consisting of a Project Manager and several Plant Engineers.
- Responsible for managing the preparation, review, and distribution of all DITP wastewater and emissions regulatory compliance and non-regulatory operational performance reports, chemical budget models, all monthly chemical usage and electricity budget variance reports, monthly and quarterly performance indicator reports (DITP Yellow and Orange Notebook pages), Secondary Blending reports, and bi-annual Landfill Monitoring reports.
- Overall management of the DITP process monitoring and reporting program and includes managing the collection, review, quality control, reporting, and archiving of over 13,000 operational data points and over 8,000 laboratory results per month in the DITP Operations Management System (OMS) and the CTG Emissions Reporting databases integrating data from the Process Instrumentation & Control System (PICS) and the Central Laboratory Information Management System (LIMS), in addition to other sources of data.
- Manage the DITP Air Monitoring program to ensure Air Permit compliance requirements are met and to provide process monitoring support to Plant Operations.
- Manage the DITP real time process automated email notification application (Exele TopView software).
- Developed weekly reports tabulating DITP safety and process alarms for ongoing management review.
- Continually develop measures for improving the dissemination of data and information to managers and to Plant Operations personnel.
- Collaborate with Plant Operations and engineers in support of efforts to optimize treatment plant operations and evaluate alternative treatment strategies.

Project Manager - Process Monitoring, DITP Process Control Department (September 2004 – September 2014)

- Provided timely notifications and supporting information and data to internal regulatory liaisons for blending events, plant upset conditions, shutdowns, or failures and exceedances, as specified in the NPDES and the Air Quality Operating Permits for DITP.
- Managed the process laboratory testing program, as well as the inventory and equipment used in the two Process Control laboratories. Additionally, prepare equipment/instrument specifications and manage applicable laboratory equipment service contracts.
- Provided sampling assistance, laboratory testing coordination, data review, and technical assistance on a number of special studies.
- Developed and maintained systems for making data accessible to users and provide timely reports to Operations and Process Control staff for process monitoring and for evaluating alternative operational strategies.
- Responsible for all DITP routine and project specific sampling and testing programs and includes coordinating and monitoring such activities with Process Control, Central Laboratory, and Plant Operations staff.
- Implemented the DITP process chemicals testing program. Schedule and coordinate the periodic sampling and testing of process chemicals to ensure chemical deliveries meet minimum contract specifications.
- Managed data requests for internal use by MWRA staff and for external parties or consultants.

Project Manager, Department of Laboratory Services (August 2000 – September 2004)

- Directed and managed a wide range of sampling, monitoring, and laboratory testing projects and studies relevant to drinking water treatment, wastewater treatment, and environmental impact issues.
- Communicated project objectives and client needs to laboratory personnel and provided project updates to clients as needed or as requested.
- Interacted with contract laboratories to coordinate sampling/testing projects.
- Responsible for reporting laboratory results to both interagency and intra-agency client groups.
- Prepared internal and external correspondence, reports, and graphics that are both technical and administrative in nature.
- Reviewed results and evaluated monitoring program testing procedures, frequency, and quality assurance protocols.

Laboratory Supervisor I & II, Department of Laboratory Services (March 1994 – August 2000)

- Supervised a team of Microbiologist(s), Biologist(s), Chemist(s), technicians and interns in the performance of a wide range of laboratory analyses and field sampling activities.
- Provided training, mentoring and guidance to team and other laboratory personnel.
- Responsible for implementing and maintaining a thorough microbiology QA/QC program that complies with the DEP and FDA laboratory certification requirements.
- Wrote and reviewed analytical, sampling, safety and QA/QC SOP's and documents.

Junior Bacteriologist, Harbor Studies Group (August 1991 – March 1994)

- Coordinated field and laboratory activities to meet the requirements of the Harbor Monitoring Project.
- Trained and supervised a staff of six interns each summer to assist in field and laboratory operations.
- Collected in-situ water quality monitoring data and samples.
- Conducted laboratory analyses for sewage indicator bacteria using the membrane filtration technique.
- Assisted in the preparation of reports and presentations by developing graphs and figures.

Laboratory/Field Intern, Harbor Studies Group (July 1990 – August 1991)

- Performed field and laboratory activities in support of the Harbor Monitoring Project.

UNIVERSITY OF MASSACHUSETTS, BOSTON, MA

July 1987 – July 1990

Research Assistant, Psychology Department

- Performed and assisted in the development of experiments to investigate a variety of aspects in the psychobiological development of *Rattus norvegicus*.
- Published manuscripts (furnished upon request).

COMPUTER AND DATABASE SKILLS

Languages: PowerBuilder, Visual Basic, SQL, ANSI C
Databases / OS: Oracle, MS Access, Windows 10 and earlier, MS-DOS
Applications: Microsoft Office Suite (Excel, Word, PowerPoint, Outlook), OS/soft PI and PI
ProcessBook, Exele TopView Alarm Management and Notification software, Maximo
Work Order Tracking System

EDUCATION, LICENSES, AND CERTIFICATIONS

MA Wastewater Treatment Plant Operator License (Grade VI) – Active Status January 2006

Supervisory Development Training (6 week MWRA consultant training program) January – March 2015

Client/Server Technology Certificate Program (Worcester Polytechnic Institute, Waltham, MA)

- Intensive hands-on technical certificate program focused on database and graphical user interface design methodologies utilizing Oracle, SQL, Visual Basic 6 and PowerBuilder 6.

Introduction to Programming with C (University of Massachusetts, Lowell, MA)

Ocean Environments (Harvard University Extension School, Cambridge, MA)

- Semester course in the study of marine ecology and coastal ecosystems management.

Applied Statistics (University of Massachusetts, Boston, MA)

Bachelor of Science in Biology (GPA 3.5/4.0)

September 1985 – June 1990

Minor in Psychology

Distinguished Honors in Biobehavioral Studies

**MWRA
POSITION DESCRIPTION**

POSITION: Manager, Process Control
PCR#: 2938514
DIVISION: Operations
DEPARTMENT: Process Control, Deer Island

BASIC PURPOSE:

Manages and directs the Process Control department, to include the process engineering, process monitoring/data management, PICS support functions and all air and NPDES reporting. Responsible for providing process support, optimization and commissioning services to DITP Operations staff.

SUPERVISION RECEIVED:

This position reports to the Deputy Director, Deer Island Treatment Plant.

SUPERVISION EXERCISED:

Exercises close supervision of Program Managers, and some Project Manager functions within the Process Control Department. Has overall responsibility for all Process Control Staff.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Directs the development, management, and implementation of plant-wide and individual area performance and energy optimization programs. Coordinates these activities with other off-island management staff.
- Manages the evaluation, design, and implementation of control strategy and/or process operating strategy modifications. Directs the detailed design of new processes in response to plant operational needs and/or regulatory changes.
- Directs the development and management of the Process Control current expense budget (CEB). Provides technical assistance/input into the development and tracking of the Operations Division CEB on process consumables (e.g.: chemicals, electricity, etc.).
- Develops the facility and process-related CIP project list working in direct cooperation with the Deputy Directors of Maintenance and Operations as well as the Plant Engineer.

- Guides Operations staff in the identification and resolution of plant operating deficiencies. Develops plant corrective action plans and their communication to CNY and external regulatory authorities.
- Serves as the primary technical support for all plant operational issues, including process emergencies. Provides technical support for off-island departments and for special projects as defined by Senior Management.
- Directs Deer Island turnover and system start-up activities. Identifies, develops and manages the implementation of necessary corrective actions to improve performance of newly turned over plant areas.
- Serves as the primary Deer Island technical contact to consultants and outside contractors in the review and approval of process/operations-related deliverables.
- Acts as the lead Deer Island technical liaison to CNY on such Authority-wide issues as energy management and operating cost containment.
- Oversees the review and approval of area-specific RCM implementation plans. Acts as the Deer Island Process Control member of the FAMP steering committee.
- Works with department heads and staff to ensure effective communication and work flow practices between Operations, Maintenance and the O&M support group. Identifies issues/problems and creates action plans for resolution.
- Ensures that the training needs for the Process Engineering, PICS, and Process Monitoring groups are identified and met.

SECONDARY DUTIES:

- Provides training, as needed, to assigned staff. Acts as process trainer to Operations and other plant staff on process control, experimental design/analysis and other wastewater engineering principles and applications.
- Provides on-call emergency technical support to Plant Operations staff and provides routine assistance to support group's objectives.
- Assists in maintaining harmonious relations with plant staff. Responsible for the correct application of collective bargaining agreement provisions and established personnel policies. Participates in the preparing for collective bargaining, formulating collective bargaining proposals, and hears Step One Grievances.
- Evaluates assigned employee performance according to MWRA procedures.
- Performs other related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A Master of Science or Ph.D. degree in environmental, civil or chemical engineering; and
- (B) Ten (10) years of experience in the areas of wastewater process control and design with an emphasis on biological treatment unit operations and the full-scale evaluation and troubleshooting of processes typical within the wastewater treatment field; and
- (C) Ten (10) years of experience in a technical environment that includes managing various multi-disciplined technical teams and the successful management of operating and capital budgets; or
- (D) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

- (A) Proven expertise in the selection, specification, and commissioning of large-scale process equipment including a solid understanding of equipment operating characteristics and their relationship to process performance variables.
- (B) Proven expertise in the areas of experimental design, data analysis, and statistical process control.
- (C) Knowledge of wastewater unit operation design and operation, process control theory, practices and principles.
- (D) Knowledge of equipment energy demand principles, energy production systems and their impacts on plant performance and budgets.
- (E) Working knowledge of wastewater treatment regulatory and permitting procedures to include both routine and non-routine reporting requirements.
- (F) Outstanding computer skills to include proficiency with MS Office software package as well as MS Project and statistical data analysis packages.
- (G) Demonstrated organizational, written and verbal communication skills.

SPECIAL REQUIREMENTS:

Grade 6 Massachusetts Wastewater Treatment Plant Operators license.

A valid Massachusetts Class D Motor Vehicle Operators License.

TOOLS AND EQUIPMENT USED:

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

PHYSICAL DEMANDS:

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

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

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

WORK ENVIRONMENT:

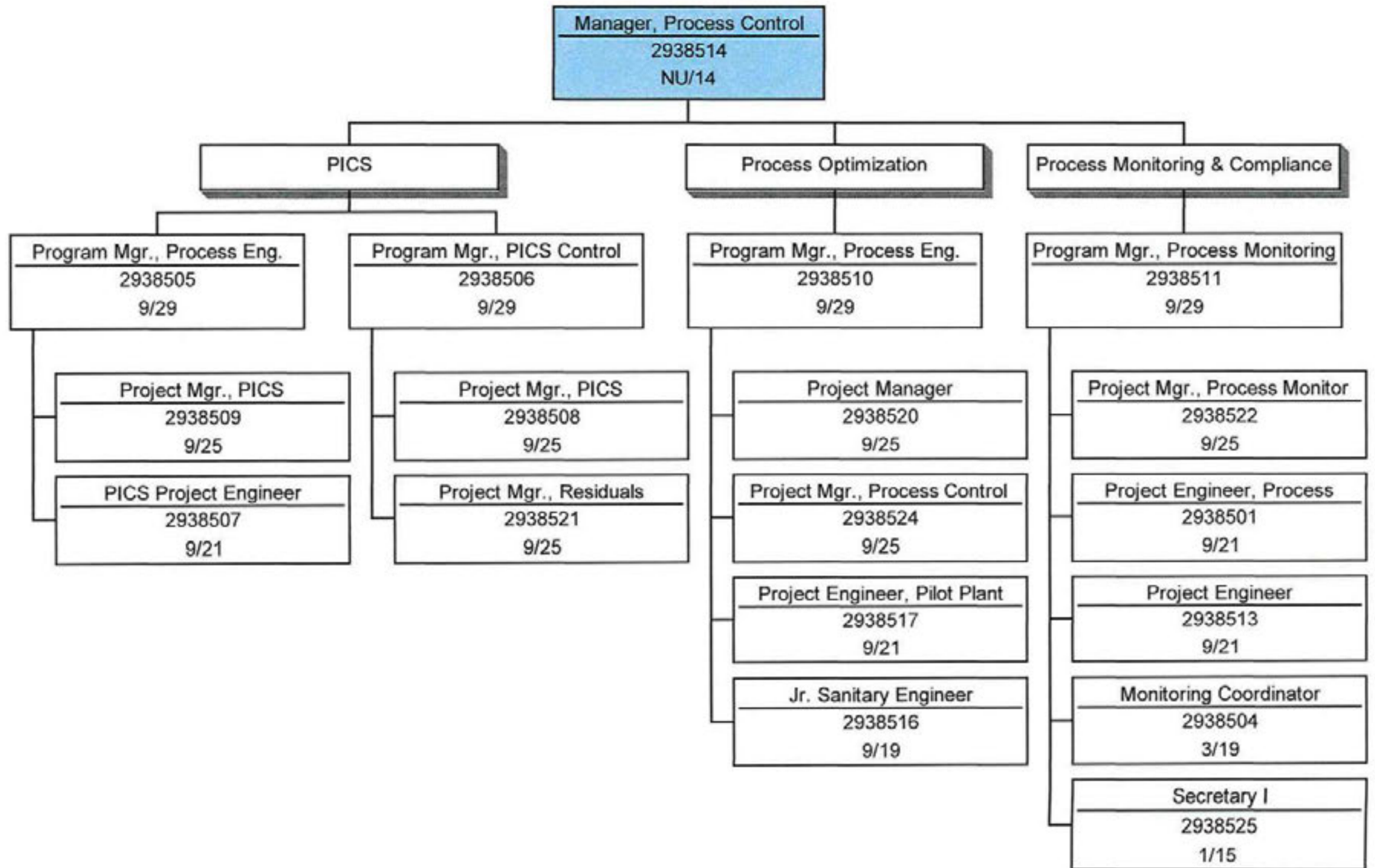
The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job.

While performing the duties of this job, the employee occasionally works in outside weather conditions. The employee occasionally works near moving mechanical parts and occasionally is 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.

Feb 2014

Operations - Wastewater Treatment
 Deer Island - Process Control
 April 2016




STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: April 13, 2016
SUBJECT: Appointment of Senior Program Manager,
Engineering Services Department, Deer Island Treatment Plant

COMMITTEE: Personnel & Compensation

Karen Gay-Valente, Director, Human Resources
John P. Vetere, Deputy Chief Operating Officer
David F. Duest, Director, Deer Island WWTP
Preparer/Title

 INFORMATION
 X VOTE


Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To approve the appointment of Mr. Raymond W. Snyder, P.E., to the position of Senior Program Manager (Unit 9, Grade 30) in the Engineering Services Department, Deer Island Treatment Plant, at the annual salary of \$109,845.31, commencing on a date to be determined by the Executive Director.

DISCUSSION:

The position of Senior Program Manager in the Engineering Services Department at the Deer Island Treatment Plant became vacant upon the retirement of the previous incumbent. This position reports to the Manager of Engineering Services, and is responsible for managing all aspects of assigned Deer Island design and construction projects. The Senior Program Manager takes the lead role in all communication with consultants and contractors in negotiating and managing change order costs and determining the necessity for those changes, and, in general, ensures that MWRA's best interests are served during the design and construction of projects assigned. The position is also responsible for performing constructability reviews of design plans and specifications prior to bid. Additional responsibilities include, supervision of one program manager and the assignment of projects, evaluation of staff performance, staff development, and the provision of technical and administrative assistance to staff assigned to design and construction projects, as required.

Selection Process

This position was posted both internally and externally. A total of four candidates applied, one external and three internal, and it was determined that all applicants met the minimum qualifications for the available opening. Staff from the Deer Island Engineering Services Department and the Affirmative Action and Compliance Unit interviewed all four candidates and

determined that the most qualified individual to fill the position, based on his combination of education, experience, ability, and knowledge, was Mr. Raymond W. Snyder.

Mr. Snyder is a licensed professional engineer with more than 28 years of experience in the management, engineering, and construction oversight of various large water and wastewater treatment projects. He comes to MWRA leaving his current position of Senior Project Engineer for AECOM in Chelmsford, MA, a position he has held for the past 16 years. In that position, Mr. Snyder was responsible for the project oversight of the design and construction for several wastewater treatment plants including several projects for the Deer Island Treatment Plant. He was also responsible for the oversight of various non-MWRA projects, including the construction phases on the Cheshire, Connecticut WPCP upgrades, Water Pollution Control Facility Upgrade for the City of Meriden, Connecticut and a several other projects for municipal treatment plants.

Mr. Snyder has successfully demonstrated the ability to manage multiple large engineering and construction projects, has excellent leadership skills, and is currently serving as the Project Manager for AECOM on the oversight of the North Main Pump Station and Winthrop Terminal Facility Valve Replacement project in which his performance has exceeded all expectations.

Mr. Snyder earned a Bachelor of Science Degree in Civil Engineering from Pennsylvania State University. Mr. Snyder is a Maine registered professional engineer.

BUDGET/FISCAL IMPACT:

There are sufficient funds in the FY16 Current Expense Budget to fund this position.

ATTACHMENTS:

Resume of Raymond W. Snyder
Position Description
Engineering Services Organizational Chart

Raymond W. Snyder

Mr. Snyder is currently a senior project engineer at AECOM with experience in water, wastewater and CSO Facility detail design. He is skilled at shop drawing review, change estimate reviews, construction inspection, change authorization and change order preparation, resolution of design issues raised during construction, and overall job execution and closeout.

Experience

South Essex Sewerage District, Salem, Massachusetts.

Combined Heat and Power Facility Feasibility Study & Design. October 2010 - Present
Senior Project Engineer for the preparation of detailed construction plans and specifications for a \$4.5 million combined heat and power (CHP) facility at SESD's regional 30-mgd wastewater treatment plant. The project included a 1.5-megawatt (MW) "lean burn" natural gas fired CHP unit based on reciprocating ("I/C") engine technology. The project also included an integrated oxidation catalyst (OXICAT) with selective catalytic reduction (SCR) system to reduce emissions. Additional components of this project included a 50-foot high stack, a urea chemical feed system, 3,000 feet of hot water supply and return piping, modifications to the plant's existing 13.8-kV electrical switchgear, and a sound barrier wall.

Switchgear Automation Project.

November 2011 – November 2013

Senior project engineer for the design, permitting, bidding, and construction associated with a medium voltage switchgear automation project at SESD's regional 30-mgd wastewater treatment plant. The project included automating the switching operation of the plant's three existing 13.8-kV switchgear lineups. The purpose of the automation was to minimize the duration of power outages caused by the loss of one or two of the three utility sources currently providing the plant with electricity.

Massachusetts Water Resources Authority.

William A. Brutsch Water Treatment Facility. Ware, Massachusetts.

January 2013 – December 2015

Served as the Senior project engineer for the \$5.5 million dollar upgrade to the existing water treatment facility originally constructed in 1999. The upgrade included a new building, generator, security system and 3 new state of the art 24-inch diameter ultraviolet disinfection units (total capacity 16.2 mgd) and associated electrical gear, site piping and site work. Responsibilities included handling all day to day activities; resolving construction issues, shop drawing reviews and processing, change order negotiation for both cost and merit and ultimate processing.

**John J. Carroll Water Treatment Plant Ultraviolet Disinfection Facilities,
Marlborough, Massachusetts.**

December 2011 – January 2012

Served as the Senior Project Engineer for the \$29.5 million dollar upgrade to the existing water treatment plant. The upgrades included the addition of 12 48-inch diameter new state of the art ultraviolet disinfection units (total capacity 405 mgd) and associated electrical gear, new electrical building, HVAC and Plumbing upgrades and associated site piping and site work. Responsibilities included the resolution of major construction issues, change order negotiation for both cost and merit and ultimate processing.

**Union Park Combined Sewer Overflow Detention and Treatment Facility Design,
Permitting, and Construction.**

Boston, Massachusetts.

March 2000 – January 2011

Senior project engineer for the design of the Union Park detention and treatment facility in the south end of the city, which involved the construction of buried detention basins of approximately two million gallons. The project also included the rehabilitation of the 330-mgd Union Park pump station, one of Boston Water and Sewer Commission's pump stations for flood control during CSO events. Also participated in the rehabilitation of two electrical pumps and a turbine-driven pump matching the existing three to increase the station's redundancy and reliability. Due to staffing changes as the project was nearing completion, served as resident representative for a year until this complex and controversial project was completed.

**Chelsea Relief Trunk and Outfall Permits and Wetlands,
Chelsea, Massachusetts.**

May 2000 – January 2002

Resident representative of construction including pipe jacking operations and later as project manager on the Chelsea trunk sewer relief project which involved the installation of 2,300 feet of 30-inch-diameter combined sewer and outfall pipe using cut-and-cover and pipe jacking construction methods in a congested urban environment. Performed services for CSO regulator construction, repairs, and rehabilitation.

**North Dorchester Bay Combined Sewer Overflow Tunnel and Reserved Channel
Combined Sewer Overflow Facility,**

Boston, Massachusetts.

October 1998 – December 1999

Project engineer for the Reserved Channel CSO project. Coordinating the design of two 13-foot-diameter, soft-ground consolidation conduits totaling more than 15,000 feet in length and a CSO facility with five 150-mgd pumps and chemical treatment, odor control, and screening facilities. Preparing hydraulic computations, writing specifications, and conducting general design reviews.

**Caruso Pump Station, Construction,
Boston, Massachusetts.**

October 1988 – April 1990

Resident representative and engineer for the Winthrop terminal facilities, Caruso pumping station, and Chelsea screen house. Resolved design issues raised during construction, conducted inspections, reviewed shop drawings, processed change orders and pay estimates, and provided project support during start-up.

**Massachusetts Water Resources Authority,
Deer Island Treatment Plant
Boston, Massachusetts.**

Task Order Contract.

July 2003 – June 2009

Provided services as part of AECOM's engineering task order contract for design of specific task orders both on and off of Deer Island. Assisting with the resolution task orders including reports on the evaluation of roof leaks, sewerage overflows and equipment replacement.

Boston Harbor Cleanup Program Lead Design Services.

1993 - 1995

Provided construction services as a project engineer for the Authority's cleanup project, including reviewing shop drawings, coordinating and reviewing design revisions, and assisting with the design of new projects. Assisted with the digester gas headloss calculations and preparation of construction cost estimates for the concrete lining project.

Detailed Design, Boston, Massachusetts.

1990 - 1993

Provided services as part of AECOM's detailed design engineering contract for design of the wastewater treatment plant. Assisted with the production of specifications, and drawings for the design of primary sedimentation tanks, odor control and grit facilities (Contract Packages 103, 104, 105, 130, 204 and 241). Following design, served as construction liaison between Metcalf & Eddy (AECOM) and the Construction Manager.

**City of Cheshire,
Cheshire Connecticut.**

Cheshire WPCP Upgrade.

August 2014 – Present

Serving as Senior Project Engineer for the \$34 million dollar upgrade to the Cheshire WPCP. Upgrade components to include installation of phosphorus removal at technology limits, UV disinfection, new screening and grit removal systems, complete mechanical replacement of a two stage digester system, new sludge thickening equipment and dewatering system upgrades, a new Administration Building, replacement of sludge/scum collection and pumping systems for four primary settling tanks and two final settling tanks, and complete WPCP wide electrical, SCADA and HVAC equipment upgrades and replacements.

**City of Gloucester,
Gloucester Massachusetts.**

"The Fort" Public Infrastructure Replacement Project.

March 2015 - June 2015

Served as the evening Resident Inspector for the project which included both pressure and gravity sewer, water main and drain replacement. Evening work was required to accommodate the truck traffic during the day.

**City of Meriden,
Meriden, Connecticut.**

Water Pollution Control Facility Upgrade.

June 2007 – December 2011

Senior project engineer for the \$37 million upgrade of the 11.6-mgd water pollution control facility upgrade. Provided change order authorization, processing and tracking. The change order percentage was less than five percent at the project's completion on the original scope of work.

**Springfield Water and Sewer Commission,
Springfield, Massachusetts.**

**Mill River Combined Sewer Overflow Relief Study
Design, and Construction.**

August 2001 – January 2004

Senior project engineer during design and construction of the Mill River CSO relief project which involved replacing combined sewers and installing flow control devices (vortex valves and one bending weir) on regulator structures to limit flow entering the main interceptor, thereby reducing CSO overflows. To reduce floatables entering the receiving waters, more than 20 underflow baffles were installed in regulator structures.

**District Water and Sewer Authority, Blue Plains Wastewater Treatment Plant
Construction Management, Washington, District of Columbia.**

1990

Provided project support as Engineer II for the dual-purpose sedimentation basin project at the 370-mgd advanced wastewater treatment plant. Reviewed shop drawings, resolved design issues raised during construction, and conducted a groundwater and foundation study for the entire facility.

Education

BS, Civil Engineering, Pennsylvania State University, 1988

Registrations

Professional Engineer (Civil), Maine

Certifications

OSHA 10

Publications and Presentations

"Challenges Associated with Design of the MWRA Union Park Detention Treatment Facility." New England Water Environment Association Annual Meeting 2002, and WEF/CWEA Collection Systems 2002 Conference, Wet Weather and O&M Water Quality Issues, Water Environment Federation, June 2002 (with D. Kubiak, G. Heath, and J. Jancaitis).

"The North Metropolitan Trunk Sewer Rehabilitation." New England Water Environment Association, 1995 National No-Dig Conference, 1994 (with R. Lubker).

"A new spin on CSO Control: Optimizing Regulator Control with Vortex Valves" WEFTEC, Los Angeles, CA October 2003 (with M.T. Formica, T. Curto, J. Schimmel).

**MWRA
POSITION DESCRIPTION**

POSITION: Senior Program Manager (DI)

DIVISION: Operations

DEPARTMENT: Engineering Services

BASIC PURPOSE:

Manages all projects assigned for the Engineering Services Department from conceptual design through the construction phase.

SUPERVISION RECEIVED:

Works under the general supervision of the Manager, Engineering Services.

SUPERVISION EXERCISED:

Exercises close supervision of Program Managers, Senior Staff, and Staff Engineers, and Design Engineers.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Develops and manages plant engineering projects that support the operations staff for engineering resolution. Recommends solutions to the problems, which arise during normal plant operations.
- Provides plant engineering support to the maintenance staff with complex work orders and contract maintenance projects, and provides appropriate design services. Provides support services for the economical operation of plant wide compressed air, water, HVAC, process pumping and electrical systems.
- Supervises design, engineering, drafting, and finalization of in-house projects involving repair/replace/modification activities, renovation and layout changes for offices, laboratories, shops and warehouses.
- Oversees project management of concept designs, detailed designs and the preparation of plans and specifications for proposed plant engineering modifications. Identifies, prioritizes, and establishes milestones for the completion of projects within the department.
- Manages blanket maintenance/construction contracts.
- Oversees the preparation of plans and specifications for vendor contracts for proposed plant

engineering modifications.

- Oversees reviews of, and modifications to all operations and maintenance documentation. Ensures that all operations and maintenance documentation conforms to MWRA standards.
- Oversees and manages construction projects generated by the Engineering Services department, and outside consultants. Performs project management on construction projects.
- Oversees and directs consulting engineering services and contracts during construction including all work for quality of work, budgets, schedule, and compliance with contractual terms and MWRA objectives and policies.
- Oversees the updating of engineering drawings and records and the subsequent forwarding (in accordance with established procedures) to the Technical Services Center.
- Provides oral and written reports to the Manager, Engineering Services detailing results of problem investigations, proposed resolution, and economic justification for the proposed changes.
- Evaluates assigned employees performance according to MWRA procedures.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A Bachelor's degree in mechanical, electrical or controls engineering; and
- (B) Understanding of facilities design and plant engineering, and construction project management techniques to include the preparation of plans, specifications, and biddable project documents as normally acquired through eight (8) to ten (10) years of related experience, of which three (3) years at least must be in a supervisory or managerial capacity; and
- (C) Experience in wastewater treatment operations, utilities and large facility start-up procedures desirable; and
- (D) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Ability to plan, organize, direct, train and assign duties to subordinates as obtained

through the successful completion of an MWRA supervisory training program or an approved substitute.

- (B) Extensive experience in the development and oversight of MGL chapter 30 and 149 contracts.
- (C) Personal computer skills including spreadsheet, database, word processing, project management and Auto CADD desired.
- (D) Demonstrated verbal and written communication skills.

SPECIAL REQUIREMENTS:

Massachusetts Registered Professional Engineer preferred.

TOOLS AND EQUIPMENT USED:

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

PHYSICAL DEMANDS:

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

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

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

WORK ENVIRONMENT:

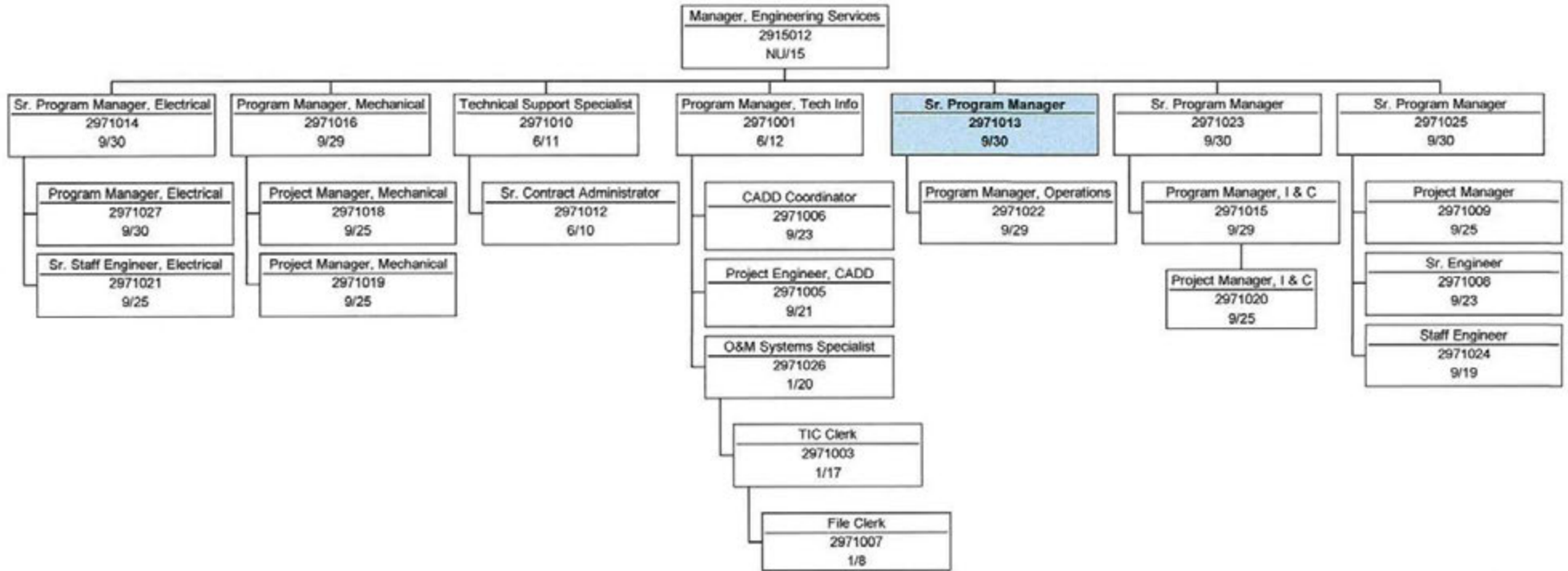
The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job.

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


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

November 2015

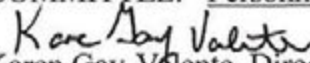
Operations-Wastewater Treatment
 Deer Island - Capital Engineering
 Through April 2016




STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: April 13, 2016
SUBJECT: Appointment of Assistant Finance Manager, Finance Division

COMMITTEE: Personnel & Compensation


Karen Gay-Valente, Director HR
Kathy Soni, Budget Director
Preparer/Title

VOTE
 INFORMATION


Thomas J. Durkin
Director of Finance

RECOMMENDATION:

That the Board approve the appointment of Mr. Christopher Lam to the position of Assistant Finance Manager, Finance Division (Unit 6, Grade 11) at an annual salary of \$95,195.15 commencing on a date to be determined by the Executive Director.

DISCUSSION:

The position of Assistant Finance Manager in the Rates and Budgets Department of the Finance Division is a new position which was created and approved by the Board at the March 2016 meeting. This position reports to the Budget Manager and takes a lead role in the process of developing, monitoring and reviewing the direct expenses of the Current Expense Budget, coordinating the writing of monthly staff summaries and bi-annual presentations to the Board of Directors, and acting as liaison between the Authority and DCR's Office of Watershed Management. Additional responsibilities include providing detailed variance explanations of actual spending versus the budget, assisting in the development of year-end projections and performing a wide-range of analysis on an as needed basis.

Selection Process

This position was posted internally. Two qualified candidates applied and were referred to be interviewed. The Budget Director, the Treasurer and a representative of the Affirmative Action and Compliance Unit interviewed both candidates and determined that Christopher Lam was the most qualified to fill this position based on a combination of experience, knowledge and education.

Mr. Lam has over 24 years of experience with MWRA in positions of increasing responsibility. Mr. Lam began work as an Intern in the Internal Audit Department. He was hired as a Staff Auditor and held positions as Retirement Accountant, Sr. Capital Program Analyst, and Sr. Financial Analyst in the Field Operations Department. In 2011 he was promoted to a Senior CSO Analyst in Engineering Department where he provided budget support for all community managed and MWRA projects. In May 2015, he was promoted to a Sr. Financial Analyst in the

Rates and Budget Department. Mr. Lam's experience, skills, proven work performance, and professional demeanor make him the best candidate for the position. He is a hard working individual who is well respected by his peers and management.

Mr. Lam holds a Bachelor of Science Degree in Management with a concentration in Accounting from the University of Massachusetts at Boston.

BUDGET/FISCAL IMPACT:

There are sufficient funds in the FY16 CEB for this position.

ATTACHMENTS:

Mr. Christopher Lam's Resume
Position Description
Rates and Budgets Department Organization Chart

CHRISTOPHER LAM

PROFESSIONAL EXPERIENCE:

Senior Financial Analyst

May 2015 – Present

Massachusetts Water Resources Authority

Boston, Massachusetts

- Assist with the coordination and development of a \$702 million expense budget, performance objectives, and measurement tools as part of the Current Expense Budget Process.
- Review budget submittals and make recommendations for appropriate funding levels for the various divisions.
- Analyze budget and program performance data and prepare monthly financial staff summary on budgetary performance and variances.
- Review and track Division of Watershed Management Trust budget, which the Massachusetts Water Resources Authority funds.
- Perform ad-hoc analysis on various components of the budget.

Senior Analyst, CSO

January 2011 – May 2015

Massachusetts Water Resources Authority

Boston, Massachusetts

- Ongoing and historical review and reconciliation of over \$400 million of MWRA funds transferred to three combined sewer overflow (CSO) member communities to fund eligible sewer separation work.
- Review and processing of semi-annual community requests for financial assistance transfers, including preparation of staff summaries and coordination of payments.
- Preparation and processing of community Memorandum of Understanding/Financial Assistance Agreement amendments.
- Support of Internal Audit reviews, coordination with Internal Audit staff, and response to audit recommendations.
- Preparation of Capital Improvement Budget, variance explanations, and related analysis of funds for the three CSO communities.
- Preparations of quarterly CSO court reports and quarterly management tracking reports.
- Preparations and coordination of Annual CSO Report.

Senior Financial Analyst

May 1998 – December 2010

Massachusetts Water Resources Authority

Boston, Massachusetts

- Assisted with the development of a \$67 million expense budget, performance objectives, and measurement tools for assigned program as part of the Current Expense Budget Process.
- Developed recommendations for appropriate funding levels and performance objectives for assigned programs.
- Analyzed budget and program performance data and prepare reports on budgetary performance and variance, progress toward achieving objectives, and other special financial and performance areas.
- Reviewed, processed and tracked invoices against two electricity supply contracts.
- Prepared monthly accruals.

Senior Capital Improvement Program Analyst

January 1998 – May 1998

Capital Improvement Program/Life Cycle Analysis Analyst

May 1994 – January 1998

Massachusetts Water Resources Authority

Boston, Massachusetts

- Assisted in the development of the Waterworks Division's Capital Improvement Program Budget and Planning Department's Current Expense Budget.
- Tracked the schedules, budget, and expenditures for over 50 Waterworks capital projects.
- Prepared various budgetary and status reports for the division.
- Performed liaison functions to the Budget Department and the divisional staff.

Retirement Accountant

February 1994 - May 1994

Massachusetts Water Resources Authority

Boston, Massachusetts

- Performed general accounting duties per the Public Employee Retirement Administration Accounting Manual.
- Reconciled various bank statements, accounts, and reports.
- Posted transactions to the General Journal, General Ledger, and Cash Disbursements and Receipts.
- Assisted in the preparation of the annual report.

Staff Auditor

June 1993 - May 1994

Massachusetts Water Resources Authority

Boston, Massachusetts

- Prepared formal written reports of audit results, recommendations, and responses.
- Reviewed consultant's payments to assure compliance with contractual terms and conditions.
- Conducted audit work in accordance with audit program.
- Field Supervisor of three interns for a special quality control program.
- Prepared and maintained summary spreadsheets of field data collected for the quality control program.

Internal Audit Intern

March 1992 - June 1993

Massachusetts Water Resources Authority

Boston, Massachusetts

- Performed desk reviews of documentation related to the audit of contract payments.
- Reviewed CPA consultant billings to assure compliance with contractual terms and conditions, and initiated appropriate adjustments.
- Maintained and prepared weekly, monthly, and quarterly financial, budget, and performance reports.
- Participated in the design of a time tracking spreadsheet to ensure unit's objectives were achieved.

Shift Supervisor

November 1986 - June 2009

CVS Pharmacy

Melrose, Massachusetts

- Managed the store and staff when the manager and assistant manager were off duty.
- Counted down registers and prepare deposits for transfer to the bank.
- Provided customer services for merchandise exchange and returns.
- Supervised and assisted with deliveries and the stocking of merchandise.

EDUCATION:

UNIVERSITY OF MASSACHUSETTS AT BOSTON

College of Management

Bachelor of Science Degree in Management, September 1993

Concentration: Accounting

COMPUTER KNOWLEDGE: MS Excel, MS Word, MS Access, Hyperion Pillar, Lawson Financial System**VOLUNTEER WORK:** Board Member for Boston Chinatown Neighborhood Center (2007-2015)

**MWRA
POSITION DESCRIPTION**

POSITION: Assistant Finance Manager (CEB)

DIVISION: Finance

DEPARTMENT: Rates and Budget

BASIC PURPOSE:

Manages the Authority's direct expense, CEB development, control, and analysis process (over \$225 million CEB); also, coordinates the development of indirect expenses and oversees the Watershed Management budget.

SUPERVISION RECEIVED:

Works under the general supervision of the Budget Manager.

SUPERVISION EXERCISED:

Exercises close supervision of the Senior Financial Analysts.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Manages the process for developing, monitoring, reviewing, and justifying the direct expenses of the Current Expense Budget.
- Manages the writing of monthly staff summaries and biannual presentations to the Board.
- Manages the process for developing year-end expenditure projections and develops budget amendment worksheet.
- Responsible for the development of the CVA communities annual budgets and year-end true-up.
- Work closely with the Assistant Finance Manager (CIP) to coordinate CEB and CIP issues.
- Briefs Senior Management on CEB issues and recommends allocation of resources to program areas.
- Coordinate the development of Wages & Salaries budget.

- Coordinate special Authority-wide analyses and issues regarding the CEB.
- Acts as liaison between the Authority and Advisory Board in responding to Advisory Board requests for information on the Current Expense Budget.
- Acts as liaison between Divisions and the Budget Department on all matters relating to the CEB.
- Oversees the development and maintenance of division-wide utility and chemical databases for analyzing CEB requests and variances.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A four (4) year college program in accounting, business administration, finance, public administration, or related field. Advanced degree preferred; and
- (B) At least five (5) to seven (7) years directly related experience including at least one (1) year experience in managing financial processes in a complex organization. Quantitative analysis experience is required; or
- (C) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

- (A) Knowledge of management practices and budgetary, financial, and accounting principles and practices.
- (B) Demonstrated written, organizational, interpersonal, planning, and negotiation skills.
- (C) Knowledge of and extensive experience with spreadsheet and database software including design and use is required.
- (D) Awareness and sensitivity to financial, political, and legal constraints and issues faced by public sector organizations is preferred.

SPECIAL REQUIREMENTS:

None.

TOOLS AND EQUIPMENT USED:

Office machines as normally associated, with the use of telephone, personal computer including word processing, spreadsheets, and presentations 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:

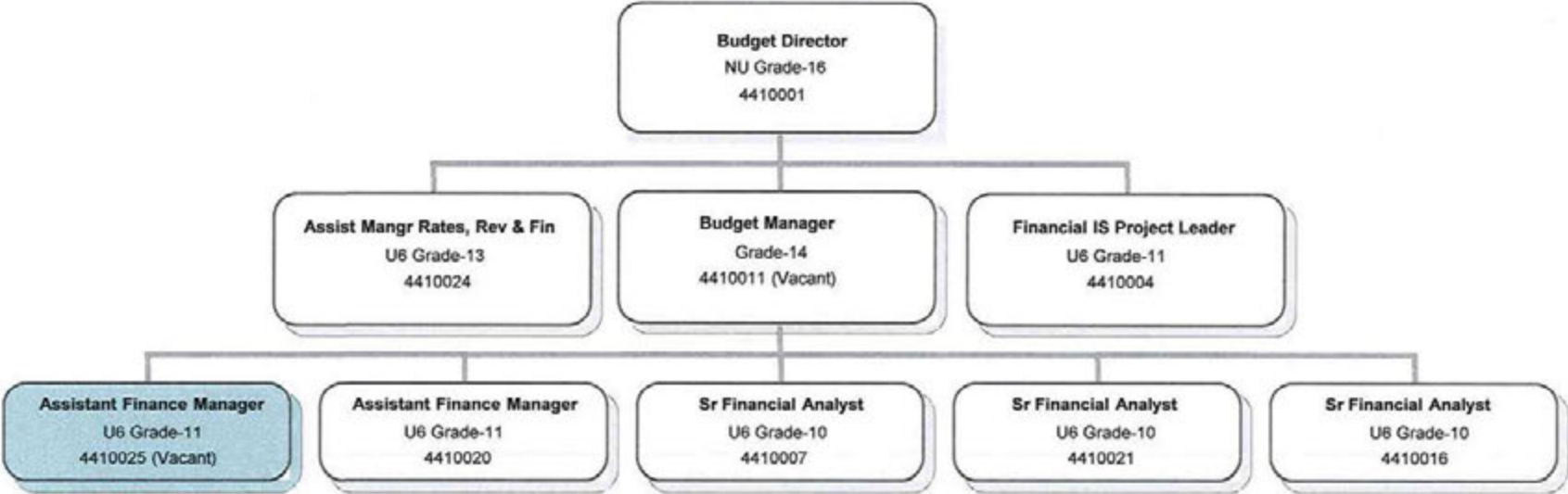
The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. While performing the duties of this job, the employee regularly works in an office environment.

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


February, 2016

Rates & Budget Department

April 2016




STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: April 13, 2016
SUBJECT: Appointment of Budget Manager, Finance Division

COMMITTEE: Personnel and Compensation

Karen Gay-Valente, Director HR
Kathy Soni, Budget Director
Preparer/Title

VOTE
 INFORMATION

Thomas J. Durkin
Director of Finance

RECOMMENDATION:

That the Board approve the appointment of Ms. Louise Miller to the position of Budget Manager, Finance Division (Non-Union, Grade 14) at an annual salary of \$117,200 commencing on a date to be determined by the Executive Director.

DISCUSSION:

The Budget Manager working closely with all Divisions and staff directs the development of the annual CEB and CIP budgets, including development and management of the budget process, formulation of recommendations for the allocation of resources to meet objectives, and production of budget documents. The Budget Manager reports directly to the Budget Director.

The Budget Manager plays a critical role in balancing the needs of the MWRA with its available resources and plays an integral part of the long-term assessment, review, and planning for MWRA system needs.

Selection Process

This position was posted internally and externally. One internal and seven external candidates applied for the position. Four qualified candidates, all external, were referred to be interviewed. The Director of Finance, Budget Director, Deputy Chief Operating Officer of Programs - Policy and Planning, and Special Assistant for Affirmative Action interviewed all four candidates and determined that Louise Miller was the most qualified candidate to fill this position based on her combination of experience, abilities, knowledge and education.

Ms. Miller currently serves as the Director of Budgets and Chief Procurement Officer for the City of Medford. In that capacity, Ms. Miller is responsible for the development of the City's budget as well as all procurements and contracts for the City. Prior to that, Ms. Miller worked for the Town of Needham where she was the Supervisor of Administrative Services. In this role, Ms. Miller prepared and managed capital and operating budgets for the Public Works Department and implemented procurement processes. In addition, Ms. Miller has volunteered

her time on numerous committees including the Needham Finance Committee, the Cultural Committee and Needham Public Schools.

Ms. Miller holds degrees of Bachelor of Science in Mathematics from MIT, a J. D. from Boston University and a M.L.A. concentration in Classical Civilization from Harvard University.

BUDGET/FISCAL IMPACT:

There are sufficient funds in the FY16 CEB for this position.

ATTACHMENTS:

Louise Miller Resume
Position Description
Rates and Budgets Department Organization Chart

Louise L.E. Miller

Experience: City of Medford (2012 to present)

Chief Budget Officer and Chief Procurement Officer (January 2016 to present)

- Prepare all City budgets (General Fund, Enterprise Funds and Capital Projects) and represent the Mayor at budget hearings before City Council.
- Review budgets and expenditures with all City departments and City committee and commissions
- Maintain budget history, participate in budget forecasts, and prepare capital budgets.
- Responsible for implementation of See Click Fix.
- Perform all functions of Chief Procurement Officer.

Interim Director of Budget and Personnel (April 2015 to January 2016)

- Successfully negotiated union contracts. Represented the City in employment arbitrations and resolved other employee and union disputes for all City departments.
- Drafted job descriptions, interviewed and recommended hiring of City employees.
- Prepared budget documents and represented the Mayor at budget hearings before City Council.
- Represented the Mayor with regard to Council papers.
- Implemented process and procedures for overtime requests by Department of Public Works employees.
- Reviewed and recommended water and sewer rate adjustments.

Chief Procurement Office (April 2012 to present)

- Responsible for all procurements and contracts for the City, including the operations of all municipal departments, the School Department, and all Medford Committees.
- Responsible for all phases of the procurement of all capital projects, including selection and negotiation of fees with engineers and architects and all construction bidding phases.
- Responsible for change order implementation and contract dispute resolution.

Town of Needham, Public Works Department (2009 to 2012)

Supervisor Administrative Services, Public Works Department/ Assistant Purchasing Agent

- Implemented procurement processes from project proposal through project closeout.
- Developed scheduling plan and system for tracking, creating contract specifications, and bidding or quoting over 150 annual contracts.
- Prepared and managed capital and operating budgets for Public Works Department.
- Created procedures for abatements for Town's Enterprise Funds.
- Managed administrative staff and administrative duties including utilities billing, purchasing, payroll, and permitting.

Town of Needham, Finance Committee (2006 to 2009)

Financial Analyst (part-time)

- Provided financial analysis to Finance Committee in preparation of the Town's annual operating and capital budget and facilities financing plan.
- Prepared Town's annual operating and capital budgets.
- Maintained the accounts of the Reserve Fund.

- Represented the Finance Committee in its official relations with local and regional bodies, state and federal agencies, media representatives, and the public.

Self Employed (1998 to 2008)

Attorney (part-time)

- Drafted contracts, non-competition agreement, and non-disclosure agreements for Manta Design, a products development engineering and design firm in Kendall Square in Cambridge.

American Institute for Creative Education (1998 to 2004)

Teacher, Regional Coordinator for Dover and Sherborn, Teacher Trainer (part-time)

- Taught French to children in grades K to 5. Developed advanced curriculum.
- Scheduled classes. Hired teachers. Developed program for training new teachers. Responsible for payroll and teacher evaluations.

Hare & Chaffin (1990-1998)

Attorney

- Managed nationwide commercial, employment and environmental litigation.
- Led defense in environmental litigation, including mediation among 17 parties.
- Trials included employment discrimination, breach of contract and fraud actions in state and federal court as well as in arbitration.

Gaston & Snow (1988-1990)

Attorney

- Experience in all phases of commercial litigation and employment discrimination.
- Drafted a manual for Shawmut Bank on handling of special accounts.
- Drafted probate documents, and administered estates, including completion of tax returns.

Professional Licenses

MCPPO: MCPPO Supplies and Services, and Design and Construction Contracting.
Bar Admissions: Massachusetts, Federal District of Massachusetts, First Circuit Appeals.

**Volunteer/
Civic Work**

Needham Finance Committee (2013 to present)
Currently Chair of 9-member Committee responsible for developing the Town's budget recommendation to Town Meeting and for recommending approval or non-approval of Town Meeting Warrant Articles.

Needham Cultural Council (2005 to 2011)

Chair of 15-member Council (2006-2010)

- Activities include re-granting of State funds and promotion of culture in Needham.
- Launched and chaired the Needham Spring Arts Festival from 2007 to 2009.
- Launched and chaired New Year's Needham from 2007 to 2010, a New Year's Eve celebration showcasing over 70 events at 10 different venues for groups of all ages, including fundraising, artist selection, scheduling and event supervision.
- Developed templates for planning the Spring Arts Festival and New Year's Needham that resulted in financially and operationally self-sustaining events.

Needham Public Schools (1999 to 2005)

Math Enrichment Volunteer Program Coordinator for all elementary schools

- Developed lesson plans to teach math topics using manipulatives for all grades in line with NCTM and Needham School Committee math requirements.
- Trained and coordinated all volunteers.
- Taught math lessons in all the elementary schools in Needham.

- Received the Needham Superintendent's Award in Fall 2001 for outstanding work in town-wide mathematics program.

Other Needham Boards and Committees: Commissioner of Trust Funds (2011 to 2013), School Committee (2005-2007); Open Space Committee (2005-2006); member of various task forces and committees charged with reviewing and evaluating the space needs of the Needham schools (2005-2010), Town Meeting member (2008 to present), Tercentennial Committee (2010 to 2011 - *Board Member and Chair of the Arts*), various PTC board positions (Newman Elementary, Pollard Middle School, and Needham High School).

Education: Harvard University

- M.L.A. concentration in Classical Civilizations, May 2005.
- Thesis entitled "The Immortality of the Written Word: A Critique of Reading and Writing in Plato's *Phaedrus*."
- Selected as Class Marshall for outstanding academic achievement.

Boston University

- J.D. cum laude, May 1988.
- Paul J. Liacos Distinguished Scholar (Class Rank = 10/406).
- Edward F. Henessey Scholar (Class Rank = top 25%).

Massachusetts Institute of Technology

- S.B. in Mathematics, May 1985.
- Additional coursework in German, Spanish, economics and management.
- Undergraduate research: drafted a chapter for "Varieties of Informal Dispute Processing in American Neighborhoods: A Lesson for Judicial Reform," by Professors Leonard Buckle and Suzanne Thomas-Buckle.
- Founder MIT Women's Track Club.

**MWRA
POSITION DESCRIPTION**

POSITION: Budget Manager

DIVISION: Finance

DEPARTMENT: Rates and Budget

BASIC PURPOSE:

Directs development and monitoring of the MWRA's Current Expense Budget (CEB) and Capital Improvement Program and Budget (CIP).

SUPERVISION RECEIVED:

Works under the general supervision of the Budget Director.

SUPERVISION EXERCISED:

Supervises assigned budget staff.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Directs development of annual MWRA Current Expense Budget and Capital Improvement Program and Budget (CIP), including development and management of budget processes, formulation of recommendations for the allocation of resources to meet objectives, and production of proposed and final budget documents.
- As part of the CEB, coordinates development of annual performance measures and targets based on measures included in the monthly Yellow Notebook and the quarterly Orange Notebook.
- Directs CEB variance reporting and analysis, CIP project performance monitoring and reporting, and preparation of expense and revenue projections. Participates in the development of monitoring systems.
- Prepares reports on CEB and CIP performance and variances for MWRA management and the Board of Directors.
- Manages computerized, multi-module budget entry and reporting database systems (Hyperion).

- Manages relationships with external constituencies as they review MWRA's CEB and CIP.
- Manages relationships with division directors and staff in the development and monitoring of the CEB and CIP.
- Directs and supervises financial analyses on various aspects of MWRA operations.
- Participates in preparing for collective bargaining and hears Step One grievances.
- Other duties and tasks as required.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A four (4) year college degree in planning, accounting, business administration, or a related field. Graduate degree in related field preferred; and
- (B) Seven (7) to nine (9) years of experience in budgeting, program analysis, and management analysis, preferably in the public sector, of which at least three (3) years is in a supervisory capacity; or
- (C) Any equivalent combination of education and experience.

Necessary Knowledge, Skills, and Abilities:

- (A) Extensive knowledge of and experience with PC spreadsheet programs, word processing programs, model function and design, graphics applications, database development and queries, use of the Internet as a resource/research tool, and interface with other computer applications.
- (B) Knowledge of budgetary and accounting principles.
- (C) Demonstrated skills in planning, analysis, budgeting and problem solving.
- (D) Excellent oral and written communications skills are required.

SPECIAL REQUIREMENTS:

None.

TOOLS AND EQUIPMENT USED:

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

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 and controls, and reach with hands and arms. The employee is occasionally required to stand and walk.

There are no requirements that weight be lifted or force be exerted in performing the duties of this job. Specific vision abilities required by this job include close vision and the ability to adjust focus.

WORK ENVIRONMENT:

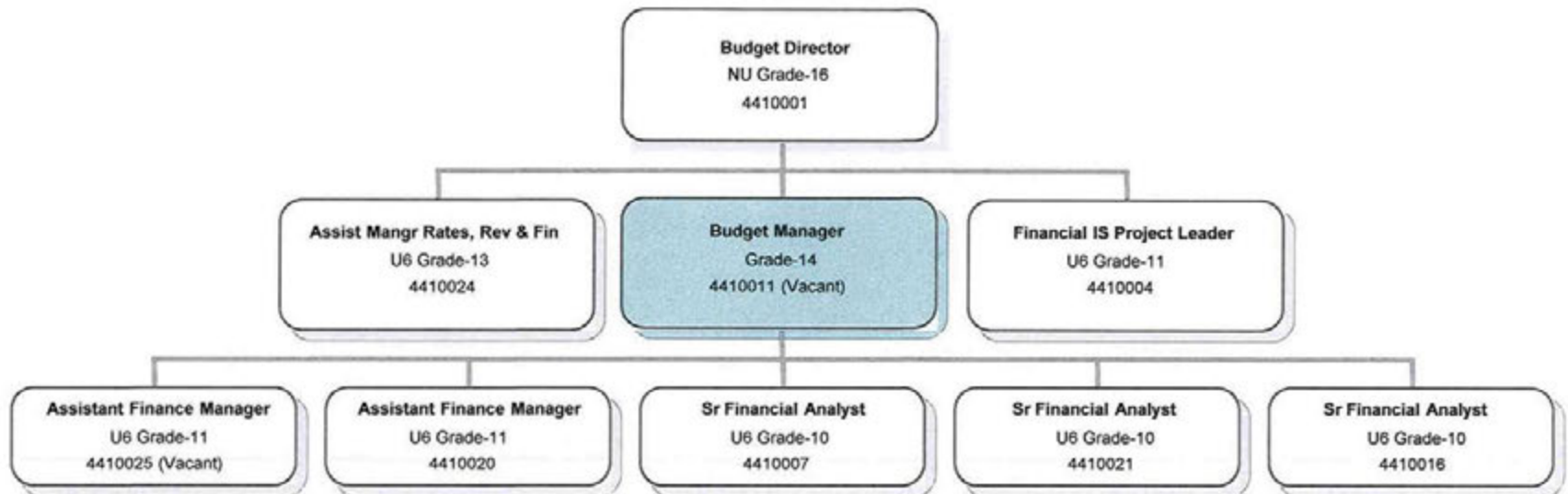
The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. While performing the duties of this job the employee regularly works in an office environment.

The noise level in the work environment is moderately quiet.

June 2004

Rates & Budget Department

April 2016





MASSACHUSETTS WATER RESOURCES AUTHORITY

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

Frederick A. Laskey
Executive Director

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

REVISED (2)

BOARD OF DIRECTORS' MEETING

to be held on

Wednesday, April 13, 2016

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: J. Foti
Board Members:
A. Blackmon
K. Cotter
P. Flanagan
A. Pappastergion
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. BOARD ACTIONS
 - A. Approvals
 1. Amendment to the Seventy-Second Supplemental Resolution (ref. AF&A B.1)
 2. PCR Amendments – April 2016 (ref. P&C A.1)
 3. Appointment of Manager, Process Control, DITP (ref. P&C A.2)
 4. Appointment of Senior Program Manager, Engineering Services Dept., DITP (ref. P&C A.3)
 5. Appointment of Assistant Financial Manager (ref. P&C A.4)
 6. Appointment of Budget Manager (ref. P&C A.5)

B. Contract Awards

1. Accounts Payable and Payroll Depository Services: Century Bank, Contract F239 (ref. AF&A C.1)
2. Groundskeeping Services – Metropolitan Boston: C&W Facility Services, Inc., Contract OP-315 (ref. AF&A C.2)
3. Preferred Service Agreement for the Combustion Turbine Generators at the Deer Island Treatment Plant: PW Power Systems, Inc. (ref. WW B.1)
4. Thermal and Hydro Power Plant Maintenance, Deer Island Treatment Plant: IPC Lydon, LLC, Contract S551 (ref. WW B.2)
5. Winthrop Terminal VFD and Synchronous Motor Replacement: Deer Island Treatment Plant: J. F. White Contracting Co., Contract 6875 (ref. WW B.3)

C. Contract Amendments/Change Orders

1. Southborough Water Quality Laboratory Upgrades: Paul J. Rogan Co., Inc., Contract 6650A, Change Order 3 (ref. W A.1)

V. CORRESPONDENCE TO THE BOARD

VI. OTHER BUSINESS

VII. EXECUTIVE SESSION

VIII. ADJOURNMENT

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the Board of Directors

March 16, 2016

A meeting of the Board of Directors of the Massachusetts Water Resources Authority was held on March 16, 2016 at the Authority headquarters in Charlestown. Chairman Beaton presided. Present from the Board were Ms. Wolowicz and Messrs. Blackmon, Carroll, Pappastergion, Peña, Vitale and Walsh. Messrs. Cotter, Foti and Flanagan were absent. Among those present from the Authority staff were Frederick Laskey, Executive Director, Steven Remsberg, General Counsel, Michael Hornbrook, Chief Operating Officer, Thomas Durkin, Director of Finance, Michele Gillen, Director of Administration, Stephen Estes-Smargiassi, Director of Planning and Sustainability, and Bonnie Hale, Assistant Secretary. The meeting was called to order at 1:10 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 February 10, 2016, as presented and filed with the records of the meeting.

REPORT OF THE CHAIR

Chairman Beaton noted that it was hoped that a groundbreaking ceremony for the new fish hatchery pipeline would be scheduled in the near future. He also discussed some scientific facts regarding the unique and specific habitat required by rattlesnakes in relation to allaying public concerns about the planned species' introduction onto an island in the Quabbin reservoir.

REPORT OF THE EXECUTIVE DIRECTOR

Mr. Laskey reported on several items, including Moody's reaffirmation of MWRA's AA rating, a planned event at the Federal courthouse for the submission of the final CSO report, a community forum on lead in drinking water scheduled to be held at the Chelsea facility, and the circulation of a draft schedule of FY17 Board meetings.

The following three items from the Water Policy and Oversight Committee agenda were referred to the Board for consideration.

Metropolitan Water Transmission Tunnel Redundancy: Decision Making Process

The sense of the Board was that the magnitude of the decisions to be made regarding Metropolitan Water Transmission Tunnel Redundancy warranted a dedicated off-site meeting and that perhaps consideration should be given to obtaining outside analysis of the alternatives. Mr. Laskey indicated that staff would begin preparation for an off-site meeting to be held in the coming months.

Update on Lead

Staff discussed increased nation-wide concerns about lead in drinking water subsequent to events in Flint, MI. The primary concern for many MWRA member communities and their residents are the risks represented by lead service lines. The discussion on this information item overlapped into consideration of the following proposed approval item.

BOARD ACTIONS

APPROVALS

Proposed Community Loan Program for Lead Service Line Replacement

Staff reported that the Board of the American Water Works Association recently unanimously voted to take the position that as long as there are lead service lines, there is a risk of lead being present in drinking water. The proposal for MWRA to provide an

additional \$100 million zero-interest loans to communities solely for efforts to fully replace lead service lines was described and discussed. Staff stated that since 2006, MWRA has funded the replacement of over 6,000 lead service line replacements through its Local Pipeline and Water System Assistance Program. However, many communities have thus far only partially reduced their lead service lines. Some Board members questioned the proposal, due not only to the cost, but also because lead levels measured at MWRA communities' residents' taps, which are consistently below EPA limits, did not warrant it. Mr. Favalaro of the MWRA Advisory Board voiced support for the proposal, stating that the Federal government would eventually order the removal of all lead service lines, and Mr. Laskey characterized it as a moral obligation and something that the MWRA should do to increase public confidence in its water supply. After detailed discussion, question and answer, two withdrawn motions, and an amendment to the main motion, the matter was put to a vote, as follows:

Upon a motion duly made, seconded, and amended, it was

Voted to approve a revision of the Local Water System Assistance Program to provide an additional \$100 million in zero-interest loans to communities solely for efforts to fully replace lead service lines, with Program guidelines subject to Board approval at a later date.

Amendments to Capital Finance Management Policy

Upon a motion duly made and seconded, it was

In compliance with the State Finance and Governance Board's regulations (976 CMR 2.04), voted to adopt the amendments to the Capital Finance Management Policy, including the revised refunding analysis criteria, substantially in the form presented and filed with the records of the meeting.

Appointment of Proxy for Fore River Railroad Corporation

Upon a motion duly made and seconded, it was

Voted that the MWRA Board of Directors, as holder of all voting rights of all the issued and outstanding shares of stock of the Fore River Railroad Corporation, appoint Kathy Soni, with the power of substitution, to vote as proxy at the next annual meeting and any special meeting of the stockholders for the Fore River Railroad Corporation in accordance with the form of proxy presented and filed with the records of this meeting. In addition, the MWRA Board of Directors directs the proxy to elect the following board members: Thomas J. Durkin, Godfrey O. Ezeigwe, Michele S. Gillen, Lisa R. Grollman, Michael J. Hornbrook, Frederick A. Laskey, Brian Peña, Steven A. Remsberg, John P. Vetere, and John J. Walsh.

PCR Amendments – March 2016

Upon a motion duly made and seconded, it was

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

Appointment of Systems Analyst Programmer III (GIS)

Upon a motion duly made and seconded, it was

Voted to approve the Executive Director's recommendation to appoint Mr. Gordon Hamilton to the position of Systems Analyst Programmer III (GIS) in the MIS Department (Union 6, Grade 11), at an annual salary of \$87,944.67 to be effective on the date designated by the Executive Director.

Appointment of Construction Coordinator

Upon a motion duly made and seconded, it was

Voted to approve the Executive Director's recommendation to appoint Ms. Jami Walsh, P.E. to the position of Construction Coordinator in the Engineering &

Construction Department (Unit 9, Grade 30), at an annual salary of \$109,845.31 to be effective on the date designated by the Executive Director.

CONTRACT AWARDS

Managed Security Services: NWN Corporation, Contract 7499

Upon a motion duly made and seconded, it was

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

Integrated Financial, Procurement and Human Resources/Payroll Management System Maintenance and Support: Infor Global Solutions

Upon a motion duly made and seconded, it was

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

Employee Assistance Program Services: AllOne Health, Contract A605

Upon a motion duly made and seconded, it was

Voted to approve the recommendation of the Selection Committee to select AllOne Health Resources, Inc., d/b/a AllOne Health, to provide Employee Assistance Program services including Substance Abuse professional referrals, training, and facilitation services as needed, and to authorize the Executive Director, on behalf of

the Authority, to execute Contract A605 with AllOne Health for an amount not to exceed \$28,675.20 for a one-year period commencing April 1, 2016; and to further authorize the Executive Director to exercise a single three-year option to renew the contract if recommended by staff, in an amount not to exceed \$92,439.35. Actual annual cost is based on an established per employee unit rate and the total employee count as of January 1 of each year, as well as the number of mandatory substance abuse professional referrals, and training and facilitation hours utilized.

Groundskeeping Services – Metropolitan Boston: C&W Facility Services, Contract OP-315

Consideration of this item was postponed.

CORRESPONDENCE TO THE BOARD: Letter from NAGE

In response to the request of Local 168 to come before the Board, the Board directed MWRA staff to prepare and submit an analysis on the subject of the letter, legislation regarding accelerated and increased pension benefits for non-clerical MWRA workers proposed under House Bill 2249.

EXECUTIVE SESSION

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

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

<u>Yes</u>	<u>No</u>	<u>Abstain</u>
Blackmon		
Carroll		
Pappastergion		
Peña		
Vitale		
Walsh		
Wolowicz		
Beaton		

Voted to enter executive session for the purpose of discussing strategy with respect to litigation and to consider the purchase, exchange, lease or value of real

property, in that such discussion in open session may have a detrimental effect on the litigating and negotiating positions of the Authority.

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

* * * *

EXECUTIVE SESSION

* * * *

The meeting returned to open session at 2:50 p.m.

DRAFT