



MASSACHUSETTS WATER RESOURCES AUTHORITY

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

Frederick A. Laskey
Executive Director

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ADMINISTRATION, FINANCE & AUDIT COMMITTEE MEETING

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

to be held on

Wednesday, June 29, 2016

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

Time: 10:00 a.m.

AGENDA

A. Information

1. Fiscal Year 2016 Contract Amendment and Change Order Report
2. Delegated Authority Report – May 2016
3. FY16 Financial Update and Summary as of May 2016

B. Approvals

1. Final FY17 Capital Improvement Program
2. Final FY17 Current Expense Budget
3. Final FY17 Water and Sewer Assessments

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the
Administration, Finance and Audit Committee

June 8, 2016

A meeting of the Administration, Finance and Audit Committee was held on June 8, 2016 at the Authority headquarters in Charlestown. Chairman Vitale presided. Present from the Board were Ms. Wolowicz and Messrs. Flanagan, Foti, Pappastergion, Peña, and Walsh. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Tom Durkin, Matt Horan, Paul Whelan, and Bonnie Hale. The meeting was called to order at 11:45 a.m.

Approvals

***Memorandum of Agreement between the Commonwealth of Massachusetts and the Massachusetts Water Resources Authority**

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

***Bond Defeasance of Future Debt Service**

The Committee recommended approval of the bond defeasance of future debt service (ref. agenda item A.2).

Contract Awards

***Disclosure Counsel: Greenberg Traurig, LLP, Contract F241**

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

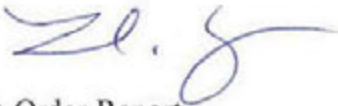
***MWRA FY17 Insurance Program Renewal**

The Committee recommended approval of the FY17 insurance program renewal (ref. agenda item B.2).

The meeting adjourned at 11:50 a.m.

* Approved as recommended at June 8, 2016 Board of Directors meeting.

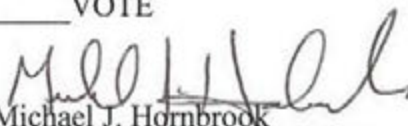
STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: June 29, 2016
SUBJECT: Fiscal Year 2016 Amendment and Change Order Report

COMMITTEE: Administration, Finance & Audit

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

INFORMATION
 VOTE


Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

For information only.

DISCUSSION:

Below is the annual report on contract amendments and construction contract change orders issued in Fiscal Year 2016.

Table 1, Design Amendments FY 2016 (attached) provides detailed information for each professional design contract amendment that was issued in FY16. A summary of the amendment activities is provided below:

- 19 contracts active in 2016 where no amendments were issued;
- 10 design contracts had amendments in FY16;
- 9 contracts had a single amendment;
- 1 contract had two amendments; and
- 3 of the amendments were for time extensions only with no increase in contract costs.

The detailed information includes amendments approved by the Board and approved by the Executive Director under delegated authority. The table provides the initial contract value, the value of any amendment(s) issued before FY16, the value of each amendment issued during FY16, the revised total contract value, the percent value of amendment(s) issued in FY16 compared to the initial contract value, and a brief description of the reason for each amendment.

The largest amendment in FY16 was for the Wachusett Aqueduct Pumping Station Design, Construction Administration and Resident Inspection Services, Contract 7156, Amendment 2 for \$1,768,344. This amendment was for additional design and construction services. Additional design services included energy efficiencies, security gates and communication upgrades, and demolition of

Westborough State Hospital Plumbing Station and Northborough Pumping Station. Additional construction services included additional construction administration, resident inspection, and resident engineering due to a one year longer construction period, increase in budgets for review of additional submittals, updated plans and record drawing preparation, PLC program development for new systems, facility handbooks and standard operating procedures, and additional discipline design leader services.

Table 2, Construction Change Orders FY2016 (attached) provides detailed information for each construction change order that was issued in FY16. A summary of change orders issued in FY16 is below:

- 14 construction contracts were active in FY16 where no change orders were issued;
- 23 construction contracts had change orders in FY16
- 13 contracts had a single change order;
- 10 contracts had more than one change order (range of 2 to 5 per contract)
- 13 of the change orders did not result in any increase in contract costs.

The detailed information in the table includes change orders approved by the Board and approved under delegated authority. The table provides the initial contract value, the value of any change order(s) issued before FY16, the value of each change order issued in FY16 compared to the contract value as of July 1, 2015, and a brief description of the reason for each change order over \$100,000 or single large item over \$50,000.

The three largest percent of changes in contract value due to change orders issued in FY16 were:

- Contract 7335, Section 4 Webster Avenue Pipe Bridge, 122.2%, due to pipe failures during initial pressure testing. A new design was developed by the original designer, Dewberry, and a negotiated change order with the contractor, NEL, to replace the entire pipeline was executed. The MWRA has reserved its rights for cost recovery from the designer and contractor.
- Contract OP-320, Emergency Demolition, Nut Island, 17.8%, due to changes in scope to install an access hatch above the scrubber area, repair of damaged HVAC ductwork, and installation of new dampers and ductwork to allow additional odor control operational redundancy.
- Contract 6650A, Southborough Water Quality Lab Upgrades, 8.3%, due to asbestos abatement work, plumbing changes to meet code requirements, removal of underground propane storage tank, and replacement of four doors.

ATTACHMENTS:

Table 1, Design Amendments FY2016

Table 2, Construction Change Orders FY2016

Table 1 Design Amendments FY2016

Contract	Contract Name	Firm	Amendment No.	Approved By	Date	Initial Contract Value	Amendments Prior to 7/1/2015	Contract Value 7/1/15	FY16 Amendments	% Amendments in FY16 to Initial Contract Value	FY16 Reasons	Revised Total	% Amendments of Revised Total to Initial Contract Value
7352	Sudbury Aqueduct Pressurization & Connections	CDM Smith, Inc.	1	B	7/15/2015	\$3,405,107	\$0	\$3,405,107	\$0 and 420 days	0.0%	Additional field testing, inspection, scope changes and time extension	\$3,405,107	0.0%
7156	Wachusett Aqueduct Pumping Station	Stantec/FST	2	B	7/15/2015	\$4,542,283	\$231,613	\$4,773,896	\$1,768,344	38.9%	Design changes identified after execution, increased construction duration	\$6,542,240	44.0%
7017A	Hatchery Pipeline & Hydroelectric	Stantec/FST	1	D	7/1/2015	\$749,409	\$0	\$749,409	\$64,699	8.6%	Above rather than below ground vault structure design	\$814,108	8.6%
7111	HVAC Automation & Replacement DITP	Arcadis	1	D	9/1/2015	\$1,857,522	\$0	\$1,857,522	\$98,775	5.3%	Additional AHUs and temperature control equipment & more efficient evaporators for existing cooling units	\$1,956,297	5.3%
7034	Alewife Brook Pump Station Rehabilitation	Stantec/FST	2	B	12/16/2015	\$1,558,446	\$181,274	\$1,739,721	\$73,305	4.7%	Additional time & related administrative & design services	\$1,813,026	16.3%
7233	Spot Pond Storage Facility - Prelim Design & Owners Rep	CDM Smith Inc.	3	D	12/18/2015	\$2,892,096	\$142,000	\$3,034,096	\$125,000	4.3%	Extended contract term to cover warranty period	\$3,159,096	9.2%
7437	Agency Wide Technical Assistance	Stantec/FST	2	D	2/18/2016	\$550,000	\$550,000 & 1 year	\$1,100,000	\$0 & 6 months	0.0%	To continue services to complete task orders	\$1,100,000	100.0%
7456	Agency Wide Technical Assistance	Hazen & Sawyer	2	D	2/25/2016	\$550,000	\$550,000 & 1 year	\$1,100,000	\$0 & 6 months	0.0%	To continue services to complete task orders	\$1,100,000	100.0%
OP-207	Energy Advisory Services	LaCapra Associates	2	B	7/15/2015	\$90,000	\$22,500	\$112,500	\$90,000	100.0%	Higher level of effort - Internal accounts, forward capacity, HEEC, gas procurement	\$202,500	125.0%
OP-228	Dam Safety Compliance & Consulting Services	GZA Geoenvironmental	1	D	1/11/2016	\$166,500	\$0	\$166,500	\$40,000	24.0%	Additional level of effort, extended term	\$206,500	24.0%

B = Board approval
D = Delegated

Table 1 Design Amendments FY2016

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7352	Sudbury Aqueduct Pressurization & Connections	CDM Smith, Inc.	1	B	7/15/2015	\$3,405,107	\$0	\$3,405,107	\$0 and 420 days	0.0%	Additional field testing, inspection, scope changes and time extension	\$3,405,107	0.0%
7156	Wachusett Aqueduct Pumping Station	Stantec/FST	2	B	7/15/2015	\$4,542,283	\$231,613	\$4,773,896	\$1,768,344	38.9%	Design changes identified after execution, increased construction duration	\$6,542,240	44.0%
7017A	Hatchery Pipeline & Hydroelectric	Stantec/FST	1	D	7/1/2015	\$749,409	\$0	\$749,409	\$64,699	8.6%	Above rather than below ground vault structure design	\$814,108	8.6%
7111	HVAC Automation & Replacement DITP	Arcadis	1	D	9/1/2015	\$1,857,522	\$0	\$1,857,522	\$98,775	5.3%	Additional AHUs and temperature control equipment & more efficient evaporators for existing cooling units	\$1,956,297	5.3%
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OP-207	Energy Advisory Services	LaCapra Associates	2	B	7/15/2015	\$90,000	\$22,500	\$112,500	\$90,000	100.0%	Higher level of effort - Internal accounts, forward capacity, HEEC, gas procurement	\$202,500	125.0%
OP-228	Dam Safety Compliance & Consulting Services	GZA Geoenvironmental	1	D	1/11/2016	\$166,500	\$0	\$166,500	\$40,000	24.0%	Additional level of effort, extended term	\$206,500	24.0%

B = Board approval
D = Delegated

Table 2 Construction Change Orders FY2016

Contract	Contract Name	Firm	Change Order No.	Approved By	Date	Initial Contract Value	COs Prior to 7/1/15	Contract Value 7/1/15	FY16 Change Orders	% Change Orders in FY16 to Initial Contract Value	FY16 Reasons	Revised Total	% Change Orders of Revised Total to Initial Contract Value
6457	Spot Pond Storage Facility, D/B	Walsh Construction Co.	15	D	4/13/2016	\$49,361,000	\$1,950,353	\$51,311,353	\$227,838	0.5%	Furnish and install steel microwave radio communication tower at a height of 160 feet above grade line in lieu of the specified 92-foot tower. Extend the Contract Time by 127 calendar days.	\$51,539,191	4.4%
6760V	Miscellaneous Fencing Installations and Repairs	Premier Fence LLC	1	D	10/26/2015	\$473,528	\$0	\$473,528	\$52,877	11.2%	Increase bid items and extend the contract by 60 days	\$526,405	11.2%
			2	D	6/2/2016	\$473,528	\$0	\$473,528	(\$101,520)	-21.4%	Decrease of unused bid items and allowances	\$424,885	-10.3%
6877	VFD Additions Secondary Batteries A, B, & C, DITP	Daigle Electrical Construction Corp.	1	D	6/3/2016	\$2,243,243	\$0	\$2,243,243	\$31,699	1.4%	Removal of existing deteriorated load side motor feeder conductors & installation of new conductors	\$2,274,912	1.4%
6903	North Main Pump Variable Frequency Drive	J. F. White	10	D	10/1/2015	\$24,079,200	\$185,320	\$24,264,520	\$37,526	0.2%	Increase depth of beams, programming to temp override of vibration during start-up	\$24,302,046	0.9%
			11	B	10/16/2015	\$24,079,200	\$185,320	\$24,264,520	\$16,323	0.1%	Temp control wiring systems, damper to new fan coil	\$24,318,369	1.0%
			12	DD	2/3/2016	\$24,079,200	\$185,320	\$24,264,520	\$64,864	0.3%	Maintenance, slab removal, skids & energy monitoring reprogram	\$24,383,233	1.3%
			13	DD	3/23/2016	\$24,079,200	\$185,320	\$24,264,520	\$39,035	0.2%	Weld and bore shaft coupling and spare	\$24,422,268	1.4%
6924	Ultraviolet Disinfection Facilities, JJCWTP	Daniel O'Connell's Sons	30	D	2/29/2016	\$29,413,382	\$2,685,060	\$32,098,442	(\$83,850)	-0.3%	Decrease of unused bid items and allowances	\$32,014,392	8.8%
7066	NIH West St. Transmission Main-Reading	P. Caliocco Corp.	6	DD	8/21/2015	\$1,565,357.00	\$372,646.17	\$1,938,003	(\$16,050.91)	-1.0%	Decrease of unused bid items and allowances. Delete the requirement to install buried traffic loops at South Street.	\$1,921,952	22.8%
7275	NMPS/WTF Valve Replacements	Carlin	2	D	7/13/2015	\$16,960,425	\$7,612	\$16,968,037	\$18,694	0.1%	Demolish, furnish and install 199 Clevis hangers for Primary Gallery A/B/C/D sludge/scum piping	\$16,986,731	0.2%
			3	D	6/3/2016	\$16,960,425	\$7,612	\$16,968,037	\$74,303	0.4%	Demolish, furnish and install four 4-inch pipe spools on the Pretreatment Gallery Primary Sludge Line piping. Furnish and install four offset elbows on the 10-inch secondary scum header in the Residuals Gallery. Demolish, furnish and install eight 6-inch elbows connected to the 14-inch Primary Sludge Line in the Primary Residuals Galleries. Demolish, furnish and install 72 6-inch grooved spools in the Primary Clarifier Galleries. Furnish and install one 12-inch offset in the Residuals Galleries.	\$17,061,034	0.6%
7313	Nut Island Headworks Electrical & Conveyor Improvements	J. F. White	11	D	7/1/2015	\$4,740,000	\$421,185	\$5,161,185	\$69,155	1.5%	Additional work on conveyor screens, replace hoppers, edging on new drip pans	\$5,230,340	10.3%
			12	D	8/21/2015	\$4,740,000	\$421,185	\$5,161,185	(\$41,813)	-0.9%	Decrease quantity of time and materials for CO 6.	\$5,188,527	9.5%

Table 2 Construction Change Orders FY2016

Contract	Contract Name	Firm	Change Order No.	Approved By	Date	Initial Contract Value	COs Prior to 7/1/15	Contract Value 7/1/15	FY16 Change Orders	% Change Orders in FY16 to Initial Contract Value	FY16 Reasons	Revised Total	% Change Orders of Revised Total to Initial Contract Value
			13	DD	10/21/2015	\$4,740,000	\$421,185	\$5,161,185	\$3,716	0.1%	Increase in fire allowance.	\$5,192,243	9.5%
7335	Section 4 Webster Ave. Pipe Bridge	NEL Corporation	1	DD	7/28/2015	\$1,759,000	\$0	\$1,759,000	\$18,914	1.1%	Increase in Keolis allowance for flaggers.	\$1,777,914	1.1%
			2	D	8/21/2015	1,759,000	\$0	\$1,759,000	\$50,000	2.8%	Additional costs for approved road closure	\$1,827,914	3.9%
			3	DD	12/16/2015	1,759,000	\$0	\$1,759,000	\$0	0.0%	Time extension	\$1,827,914	3.9%
			4	D	3/15/2016	1,759,000	\$0	\$1,759,000	\$128,813	7.3%	Pressure test joints & repair, caps, glands, couplings, fencing	\$1,956,727	11.2%
			5	B	5/11/2016	1,759,000	\$0	\$1,759,000	\$2,150,000	122.2%	Internal pressure test failure & corrective action. Redesign of restraints.	\$4,106,727	133.5%
7401	Thermal Power Plant Boiler Controls Upgrade	O'Connor Corp.	1	D	3/23/2016	1,591,952	\$0	\$1,591,952	\$36,679	2.3%	Furnish and install on 2 boilers: 2 pressure transmitters, 2 isolation ball valves and instrumentation sensing tubing	\$1,628,631	2.3%
7409	Gate, Siphon and Floatables Control at MWR003	P. Gioloso & Sons, Inc.	1	D	3/15/2016	\$2,674,835	\$0	\$2,674,835	(\$107,518.44)	-4.0%	Decrease in unused bid items and allowances.	\$2,567,317	-4.0%
7431	Upgrades to Chelsea Screen House	WES Construction Corp.	1	DD	3/14/2016	\$4,885,180	\$0	\$4,885,180	\$15,860.78	0.3%	Removal of lead contaminated materials.	\$4,901,041	0.3%
7448	Construction of Water Mains-Section 36, W11C & S9A	RJV Construction Corp.	1	DD	9/17/2015	\$11,235,500	\$0	\$11,235,500	\$14,568	0.1%	Remove and relocate the 8-inch and 12-inch water mains at the intersection of Hawthorne Avenue and Cedar Avenue	\$11,250,068	0.1%
			2	D	10/29/2015	\$11,235,500	\$0	\$11,235,500	\$36,682	0.3%	Remove existing drain pipe and replace with 2 new drain manholes and 260 feet of 12-inch ductile iron drain pipe.	\$11,286,750	0.5%
			3	DD	12/24/2015	\$11,235,500	\$0	\$11,235,500	\$10,662	0.1%	Furnish and install a one-inch Pressure Reducing Valve (PRV) and a four foot manhole at the bottom of Brunswick Road	\$11,297,412	0.6%
			4	D	3/8/2016	\$11,235,500	\$0	\$11,235,500	\$95,355	0.8%	Furnish a new 48" butterfly control valve with motorized actuator.	\$11,392,767	1.4%
			5	B	6/8/2016	\$11,235,500	\$0	\$11,235,500	\$550,000	4.9%	Install a new 48" butterfly control valve with motorized actuator, furnish and install a new 10' by 6' concrete vault, two 48" couplings and spool pieces, a 6" bypass and valve, SCADA equipment, new electrical and communication ductwork and cabinet, handle, transport and dispose of contaminated soil and groundwater, and relocation of the City's existing 16" water main.	\$11,942,767	6.3%
7452	Upgrades at Prison Point & Cottage Farm	IPC Lydon	9	DD	7/20/2015	\$6,126,126	\$384,005	\$6,510,131	\$0	0.0%	Extend the Contract Time by 45 calendar days	\$6,510,131	6.3%
			10	D	9/2/2015	\$6,126,126	\$384,005	\$6,510,131	\$85,000	1.4%	Addition of 4 lube oil pumps	\$6,595,131	7.7%
			11	DD	10/28/2015	\$6,126,126	\$384,005	\$6,510,131	\$0	0.0%	Extend the Contract Time by 30 calendar days	\$6,595,131	7.7%
			12	D	3/15/2016	\$6,126,126	\$384,005	\$6,510,131	(\$155,693)	-2.5%	Decrease in unused bid items, allowances and not to exceed change orders.	\$4,600,122	5.1%

Table 2 Construction Change Orders FY2016

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7471	Northern High Intermediate Sect. 110 Reading/Woburn	Albanese D&S	1	DD	3/9/2016	\$9,888,000	\$0	\$9,888,000	\$0	0.0%	Correct commodity rates	\$9,888,000	0.0%
			2	DD	3/16/2016	\$9,888,000	\$0	\$9,888,000	\$0	0.0%	Add the License Agreement between Town of Reading and MWRA	\$9,888,000	0.0%
6650A	Southborough Water Quality Lab Upgrades	Paul J. Rogan	1	D	10/29/2015	\$3,125,840	\$0	\$3,125,840	\$175,000	5.6%	Asbestos abatement plan and extend contract time by 90 days.	\$3,300,840	5.6%
			2	D	3/30/2016	\$3,125,840	\$0	\$3,125,840	\$57,243	1.8%	Plumbing changes to meet code requirements.	\$3,358,083	7.4%
			3	B	4/13/2016	\$3,125,840	\$0	\$3,125,840	\$27,000	0.9%	Remove and dispose of the existing 1,000 gallon underground propane storage tank. Remove and replace 2 exterior doors, a glass enclosure and 2 interior doors.	\$3,385,083	8.3%
7277A	Rehabilitation of Anaerobic Digesters, Clinton WWTP	R. H. White	7	DD	9/3/2015	\$4,347,571	\$124,484	\$4,472,055	\$5,278	0.1%	Furnish and install controlled density fill at the east wall of Clarifiers 1 and 2.	\$4,477,333	3.0%
		R. H. White	8	D	10/13/2015	\$4,347,571	\$124,484	\$4,472,055	\$90,763	2.1%	Modify the existing safety rails by extending the rails on the Clarifier platforms. Dewater sludge and grit and haul to MWRA landfill in lieu of hauling wet sludge and grit to an outside landfill. Remove 16 existing digester sample line valves and furnish and install 16 digester sample line valves. Relocate the existing wear tracks in Clarifier 1 A and install a spare set of flights. Furnish and install 2 new gas regulator valves in the digester building basement in lieu of refurbishing the 2 existing gas regulator valves.	\$4,568,096	5.1%
			9	B	11/18/2015	\$4,347,571	\$124,484	\$4,472,055	\$12,086	0.3%	Furnish and install new curbing and alter new flashing at the abutment of the Fixed Cover Digester Roof and Digester Building Roof.	\$4,580,182	5.4%
			10	DD	1/5/2016	\$4,347,571	\$124,484	\$4,472,055	\$19,941	0.5%	Furnish and install a new concrete wall within the Lancaster Influent Channel	\$4,600,123	5.8%
QP-267	Ward St. Headworks Radio Tower	J R Vinagro Corp.	1	DD	12/8/2015	\$66,500.00	\$0	\$66,500.00	(\$500)	-0.8%	Decrease in unused allowance.	\$66,000	-0.8%

Table 2 Construction Change Orders FY2016

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OP-271	Chelsea Facility Lightning Protection System	Systems Contracting Inc.	1	DD	1/29/2016	\$53,700	\$0	\$53,700.00	(\$2,500)	-4.7%	Decrease in unused allowance.	\$51,200	-4.7%
OP-287	Repair of Sodium Hypochlorite Storage Tank	American Fiberglass Tank Repair	1	DD	3/17/2016	\$41,900	\$0	\$41,900.00	\$1,800	4.3%	Remove and replace an additional, existing 2-inch nozzle.	\$43,700	4.3%
OP-320	Emergency Demolition Nut Island	Daniel O'Connell's Sons	1	D	4/27/2016	\$723,400.00	\$0	\$723,400	\$128,723	17.8%	Remove and replace 40' of supply air ductwork and 60' of exhaust air ductwork. Repair damaged sheet metal and fiberglass reinforced plastic ductwork. Furnish and install a 6-foot high reinforced concrete knee wall. Furnish and install waterproofing to prevent leakage into the facility and reroute and reconnect the existing under drain and irrigation piping around the new opening. Extend the Contract Time by 33 calendar days.	\$852,123	17.8%
SS09	Centrifuge Service DITP	Alfa Laval, Inc.	1	D	1/29/2016	\$447,000.00	\$129,125.00	\$576,125.00	(\$112,374)	-25.1%	Decrease in unused bid items	\$463,751	3.7%
SS36	Grit and Screenings Hauling and Disposal	W. L. French Excavating Corporation	1	D	5/18/2016	\$2,549,544.00	\$0	\$2,549,544.00	\$69,300	2.7%	Increase in bid item	\$2,618,844	2.7%

B = Board approval
D = Delegated
DD = Lower level delegated

STAFF SUMMARY



TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: June 29, 2016
SUBJECT: Delegated Authority Report – May 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 May 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 MAY 1 - 31, 2016

NO.	DATE OF AWARD	TITLE AND EXPLANATION	CONTRACT	AMEND/CO	COMPANY	FINANCIAL IMPACT
C-1.	05/05/16	ALEWIFE BROOK CSO IMPROVEMENTS PROVIDE ADDITIONAL LEVEL OF EFFORT OF ENGINEERING SERVICES DURING CONSTRUCTION AND EXTEND CONTRACT TERM BY 2 MONTHS FROM AUGUST 26, 2016 TO OCTOBER 31, 2016.	6952	2	STANTEC CONSULTING SERVICES, INC.	\$35,000.00
C-2.	05/13/16	ENGINEERING SERVICES DURING CONSTRUCTION FOR PUMP, GEAR BOX AND DIESEL ENGINE UPGRADES AT COTTAGE FARM AND PRISON POINT PROVIDE ADDITIONAL LEVEL OF EFFORT OF ENGINEERING SERVICES DURING CONSTRUCTION AND EXTEND CONTRACT TERM BY 141 CALENDAR DAYS FROM JULY 14, 2016 TO DECEMBER 2, 2016.	7330	1	STANTEC CONSULTING SERVICES, INC.	\$32,693.61
C-3.	05/16/16	GRIT AND SCREENINGS HAULING AND DISPOSAL INCREASE THE ESTIMATED QUANTITIES OF BID ITEM NO. 2 FROM 30 TONS TO 210 TONS TO ALLOW FOR THE CONTINUED HAULING AND DISPOSAL OF SCUM SCREENINGS FROM THE DEER ISLAND GRAVITY THICKENER COMPLEX. THE RECENT REPLACEMENT OF THE SCUM SKIMMERS DRAMATICALLY INCREASED THE SCUM REMOVAL.	5536	1	W.L. FRENCH EXCAVATING CORPORATION	\$69,300.00
C-4.	05/19/16	PHASE 7 SEWER MANHOLE REHABILITATION AWARD OF CONTRACT TO LOWEST RESPONSIVE BIDDER FOR THE INTERNAL REHABILITATION OF 43 SEWER MANHOLES AT VARIOUS LOCATIONS IN ARLINGTON, CAMBRIDGE, MEDFORD, MILTON AND QUINCY FOR A TERM OF 150 CALENDAR DAYS.	OP-319	AWARD	GREEN MOUNTAIN PIPELINE SERVICES	\$189,350.00
C-5.	05/26/16	ELEVATOR MAINTENANCE AND REPAIR SERVICES AT DEER ISLAND TREATMENT PLANT DECREASE ESTIMATED QUANTITIES FOR SCHEDULED PREVENTIVE MAINTENANCE, NON-EMERGENCY AND EMERGENCY REPAIR SERVICES, REPLACEMENT PARTS AND MARK-UP ON REPLACEMENT PARTS.	5523	2	EMBREE ELEVATOR, INC.	(\$78,861.15)
C-6.	05/24/16	WIND TURBINE MAINTENANCE DECREASE ESTIMATED QUANTITIES FOR PREVENTIVE MAINTENANCE, AS-NEEDED MAINTENANCE AND REPAIR, REPLACEMENTS PARTS, FACTORY AUTHORIZED REPRESENTATIVE SERVICES AND FIRE DEPARTMENT SERVICES AS CONTRACT WAS MUTUALLY TERMINATED ON APRIL 7, 2016 BY MWRA AND THE CONTRACTOR.	5544	1	AERONAUTICA WINDPOWER, LLC	(\$275,455.30)

PURCHASING DELEGATED AUTHORITY ITEMS - May 1 - 31, 2016

NO.	TITLE AND EXPLANATION	CONTRACT #	AMENDMENT	COMPANY	FINANCIAL IMPACT
P-1.	5/5/16 MAINTENANCE AND SUPPORT OF SYMANTEC ENTERPRISE VAULT FILE SYSTEM ARCHIVING AND CLEARWELL IDENTIFICATION AND COLLECTION LICENSES APPROVAL OF A ONE YEAR PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE MAINTENANCE AND SUPPORT OF THE SYMANTEC ENTERPRISE VAULT FILE SYSTEM ARCHIVING AND CLEARWELL IDENTIFICATION AND COLLECTION LICENSES. IN 2014, THE MWRA PURCHASED SYMANTEC ENTERPRISE VAULT AND CLEARWELL IDENTIFICATION AND COLLECTION SOFTWARE LICENSES TO IMPLEMENT THE ARCHIVING AND DISCOVERY SOLUTION FOR THE AUTHORITY. THIS REQUEST IS FOR THE MAINTENANCE AND SUPPORT OF THESE LICENSES. CONTRACT IS FOR THE PERIOD OF MAY 22, 2016 THROUGH MAY 21, 2017.	WRA-4206Q IT558		SHI INTERNATIONAL CORP.	\$50,726.00
P-2.	5/5/16 MAINTENANCE AND SUPPORT FOR PROCESS INFORMATION SOFTWARE APPROVAL OF A ONE YEAR SOLE SOURCE PURCHASE ORDER FOR THE MAINTENANCE AND SUPPORT OF PROCESS INFORMATION SOFTWARE. PROCESS INFORMATION (PI) SOFTWARE WAS SELECTED THROUGH A COMPETITIVE BID PROCESS IN 1992 AS PART OF THE DEER ISLAND PROCESS CONTROL SYSTEM. THE PI SOFTWARE PRODUCT CONTAINS TWO APPLICATIONS. THE FIRST APPLICATION, CALLED PI, IS THE MWRA STANDARD FOR SCADA AND PROCESS CONTROL DATA MANAGEMENT. THE SECOND APPLICATION, CALLED PROCESS BOOK IS THE TOOL USED FOR GRAPHIC DISPLAY FLOW RATES, CHEMICAL CONCENTRATIONS, AND RESERVOIR ELEVATIONS ON A SECURED INTERNET APPLICATION FOR MWRA'S WATER COMMUNITIES AND FOR WASTEWATER COMMUNITIES, SEWER METER DATA INCLUDING FLOW, LEVEL, AND VELOCITY. CONTRACT IS FOR THE PERIOD OF JULY 1, 2016 THROUGH JUNE 30, 2017.			OSI SOFTWARE, INC.	\$75,772.50
P-3.	5/16/16 COMPONENTS FOR THE BUILDING MANAGEMENT SYSTEM CRITICAL NEED PURCHASE ORDER FOR COMPONENTS FOR THE BUILDING MANAGEMENT SYSTEM AT THE NUT ISLAND HEADWORKS FACILITY. NUT ISLAND HEADWORKS FACILITY IS EQUIPPED WITH AN AUTOMATED BUILDING MANAGEMENT SYSTEM (BMS) THAT PROVIDES OUTSIDE AIR INTO THE FACILITY THROUGH AIR HANDLING UNITS TO FACILITATE REQUIRED AIR CHANGES WITHIN THE FACILITY. THE JOHNSON CONTROL PANELS LOCATED IN THE ODOR CONTROL ROOM WERE DAMAGED BY WATER AND SMOKE DURING THE FIRE EVENT ON JANUARY 25, 2016. THE CONTROL SYSTEM WHEN OPERATING PROPERLY WILL SHUTDOWN ALL SUPPLY AIR IN THE EVENT OF A FIRE. PRESENTLY THE NUT ISLAND HEADWORKS FACILITY DOES NOT HAVE THAT CAPABILITY DUE TO THE DAMAGED COMPONENTS AND PANELS. THIS CRITICAL NEED IS TO PURCHASE REPLACEMENT PARTS FOR THE JOHNSON CONTROLS BMS SYSTEM.			JOHNSON CONTROLS, INC.	\$48,752.00
P-4.	5/16/16 REMOVAL OF HAZARDOUS WASTE AND OIL/WATER SEPARATOR MAINTENANCE AWARD OF A TWO-YEAR PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR HAZARDOUS WASTE REMOVAL AND OIL/WATER SEPARATOR MAINTENANCE SERVICES AT THE DEER ISLAND TREATMENT PLANT. THE DEER ISLAND TREATMENT PLANT REQUIRES REMOVAL AND DISPOSAL SERVICES FOR HAZARDOUS WASTE GENERATED FROM SEVERAL SOURCES, INCLUDING THE LABORATORY, THE ON-SITE THERMAL/POWER PLANT, AND ROUTINE MAINTENANCE OPERATIONS. IN ADDITION, STATE REGULATIONS REQUIRE THAT ALL OIL/WATER SEPARATORS BE SERVICED AND ANY WASTE OIL COLLECTED AT THE FACILITY BE DISPOSED OF ACCORDING TO APPLICABLE PERMITS. QUARTERLY SERVICE IS REQUIRED FOR THE 13 IN-GROUND OIL/WATER SEPARATORS LOCATED THROUGHOUT THE PLANT.	WRA-4199		TRADEBE ENVIRONMENTAL SERVICES, LLC	\$88,733.50
P-5.	5/16/16 SUPPLY AND DELIVERY OF GRAVEL BORROW AWARD OF A ONE-YEAR PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR THE SUPPLY AND DELIVERY OF GRAVEL BORROW FOR THE CLINTON ADVANCED WASTEWATER TREATMENT PLANT'S LANDFILL. THE CLINTON ADVANCED WASTEWATER TREATMENT PLANT'S LANDFILL IS DESIGNED TO ACCEPT ANAEROBICALLY DIGESTED SLUDGE, GRIT, AND SCREENINGS. THE SLUDGE, GRIT AND SCREENINGS ARE MIXED WITH FILL AND PLACED IN THE LANDFILL. COVER MATERIAL (CLEAN FILL - ALSO REFERRED TO AS "GRAVEL BORROW") IS THEN APPLIED AND COMPACTED OVER THE SLUDGE MIXTURE IN APPROXIMATELY SIX-INCH LAYERS. DELIVERIES WILL BE MADE ON A AS-NEEDED BASIS AND MWRA WILL ONLY PAY FOR PRODUCT DELIVERED AND RECEIVED AT THE LANDFILL.	WRA-4210		PLANET EARTH MATERIALS	\$158,840.00
P-6.	5/18/16 INDUCTIVELY COUPLED PLASMA/MASS SPECTROMETER AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR ONE INDUCTIVELY COUPLED PLASMA/MASS SPECTROMETER FOR THE DEPARTMENT OF LABORATORY SERVICES. THE DEPARTMENT OF LABORATORY SERVICES (DLS) SUPPORTS THE LABORATORY TESTING PROGRAMS OF SEVERAL CLIENT GROUPS THROUGHOUT THE OPERATIONS DIVISION. TESTING FOR TRACE CONCENTRATIONS OF METALS IS PERFORMED BY A VARIETY OF HIGHLY SENSITIVE INSTRUMENTAL ANALYSES, INCLUDING INDUCTIVELY COUPLED PLASMA/MASS SPECTROMETRY (ICP/MS). OVER THE PAST TWO DECADES ICP/MS HAS BECOME THE PREFERRED TECHNOLOGY WHEN MANY METALS MUST BE MEASURED IN THE SAME SAMPLE. TYPICAL LABORATORY INSTRUMENTATION OF THIS TYPE IS REPLACED EVERY 5-7 YEARS. THE EXISTING ICP/MS INSTRUMENT WAS PUT INTO SERVICE TEN YEARS AGO.	WRA-4160		AGILENT TECHNOLOGIES, INC.	\$127,437.64
P-7.	5/24/16 GAS CHROMATOGRAPH/MASS SPECTROMETER AWARD OF A PURCHASE ORDER TO THE LOWEST RESPONSIVE BIDDER FOR ONE GAS CHROMATOGRAPH/MASS SPECTROMETER (GC/MS) FOR THE DEPARTMENT OF LABORATORY SERVICES' MOBILE LABORATORY. SINCE 2003 THE MWRA HAS BEEN DEVELOPING AND EXPANDING ITS ABILITY TO RESPOND TO ACTUAL OR SUSPECTED CHEMICAL, BIOLOGICAL OR RADIOLOGICAL DRINKING WATER CONTAMINATION EVENTS IN A SAFE, RAPID AND EFFECTIVE MANNER. TYPICAL LABORATORY INSTRUMENTATION OF THIS TYPE IS REPLACED EVERY 5-7 YEARS. THIS ORIGINAL GC/MS INSTRUMENT WAS PUT INTO SERVICE MORE THAN EIGHT YEARS AGO. REPLACEMENT PARTS ARE BECOMING MORE DIFFICULT TO COME BY AS THE INSTRUMENT AGES AND THE ORIGINAL MANUFACTURER NO LONGER PRODUCES PARTS FOR THIS INSTRUMENT.	WRA-4156		SHIMADZU SCIENTIFIC INSTRUMENTS, INC.	\$68,238.00
P-8.	5/24/16 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 VARIOUS WASTEWATER LOCATIONS.	WRA-4209		UNIVAR USA, INC.	\$78,143.90

POSITION CONTROL REGISTER (PCR) LOCATION CHANGES MAY 2016

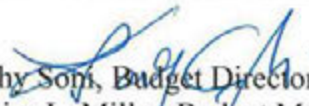
<u>DATE OF CHANGE</u>	<u>POSITION TITLE</u>	<u>CURRENT PCR#</u>	<u>CURRENT COST CENTER</u>	<u>NEW PCR #</u>	<u>NEW COST CENTER</u>	<u>REASON FOR CHANGE</u>
5/11/2016	Operations Liaison	24700132	WW Operations	2915017	DI Directors Office	To meet staffing needs at Deer Island WW Treatment Plant

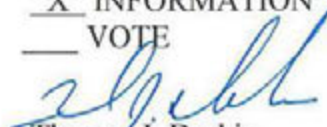
STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: June 29, 2016
SUBJECT: FY16 Financial Update and Summary



COMMITTEE: Administration, Finance & Audit


Kathy Sopi, Budget Director
Louise L. Miller, Budget Manager
Preparer/Title

INFORMATION
 VOTE

Thomas J. Durkin
Director, Finance

RECOMMENDATION:

For information only. This staff summary provides the financial update and variance highlights through May, 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 \$7.3 million or 1.1% due to lower direct expenses of \$5.7 million, indirect expenses of \$740,000, \$874,000 for the receipt of Debt Service Assistance in April, and higher revenues of \$3.3 million or 0.5% for a total variance of \$10.6 million.

In May, \$5.9 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 and favorable refunding, which brought the defeasance account balance to \$24.1 million. The defeasance account is projected at \$33.7 million by fiscal year-end. Without the transfer of the \$24.1 million in debt service savings to the Defeasance Account, the total year-to-date budget variance through May would have been \$34.7 million.

Beyond debt service savings, staff project a surplus of approximately \$11.0 million at year-end of which \$6.0 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, \$762,000 for Indirect expenses, \$874,000 for the receipt of Debt Service Assistance in April, and revenues of \$3.4 million.

The total surplus for FY16 is estimated at \$44.8 million. Per Board approval at the May meeting, \$32.0 million will be used to prepay debt obligation from FY17-FY22 for watershed land purchases to the Commonwealth and MWRA will defease an additional \$5 million for future rate

relief. For the approximately \$7.8 million estimated surplus remaining, staff will present proposals to the Board as to the use of these funds after the financial close for the year.

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

The major expense variances through April by major budget category were:

- Net Lower Direct Expenses of \$5.7 million for lower spending on Utilities, Wages and Salaries, Other Services, Chemicals, Workers' Compensation, and Fringe Benefits. This is offset by higher spending for Maintenance, Other Materials, Professional Services, and Overtime.
- Lower Indirect Expenses of \$740,000 for lower Watershed reimbursements; lower HEEC capacity charges; and lower insurance costs, mostly for premiums.
- Receipt of unbudgeted Debt Service Assistance of \$873,804.

FY16 Budget and FY16 Actual Year to Date Variance by Expenditure Category

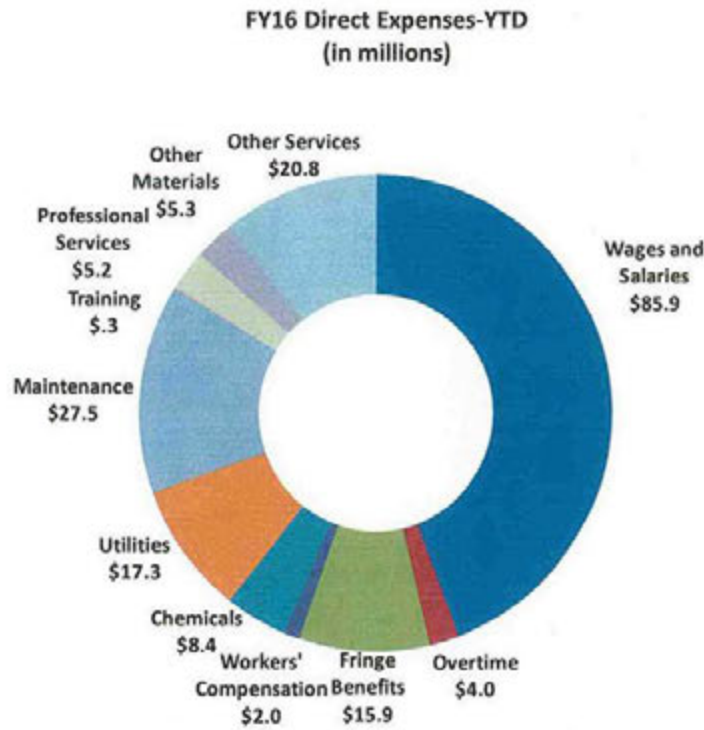
	FY16 Budget YTD	FY16 Actual YTD	\$ Variance	% Variance
Direct Expenses	\$199.8	\$194.2	-\$5.7	-2.8%
Indirect Expenses	\$38.8	\$38.1	-\$0.7	-1.9%
Debt Service	\$395.2	\$394.3	-\$0.9	-0.2%
Total	\$633.9	\$626.6	-\$7.3	-1.1%

In addition, revenues exceeded budget by \$3.3 million due to higher non-rate revenue related to higher than expected TRAC penalty fees, unbudgeted water revenues from the Cities of Lynn and Cambridge, US Treasury bond proceeds arbitrage rebate and energy rebates.

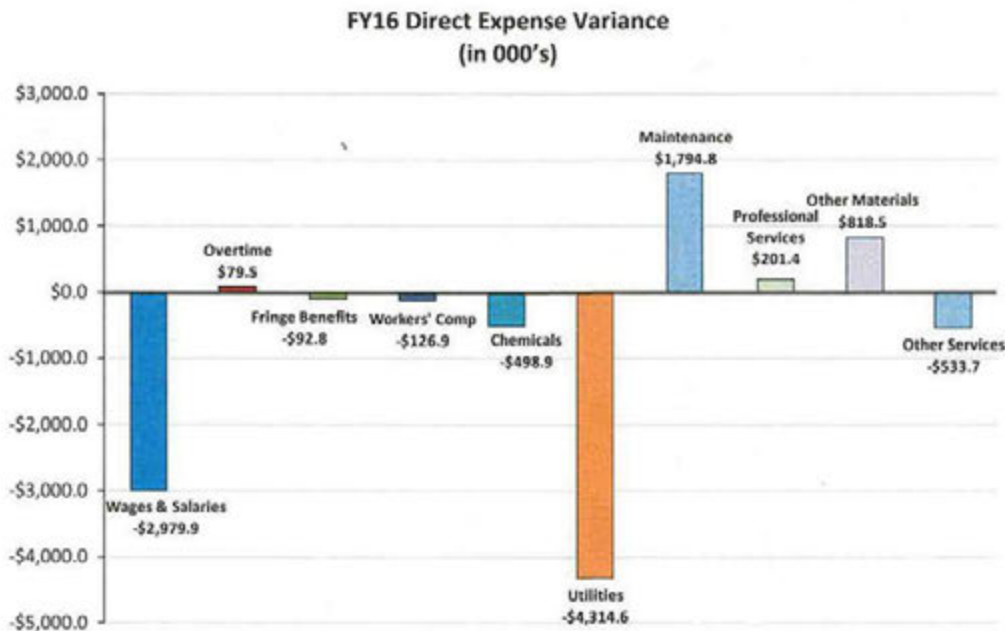
Please refer to Attachment 1 for a more detailed comparison by line item.

Direct Expenses

Year-to-date direct expenses totaled \$194.2 million, \$5.7 million or 2.8% less than budgeted.



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



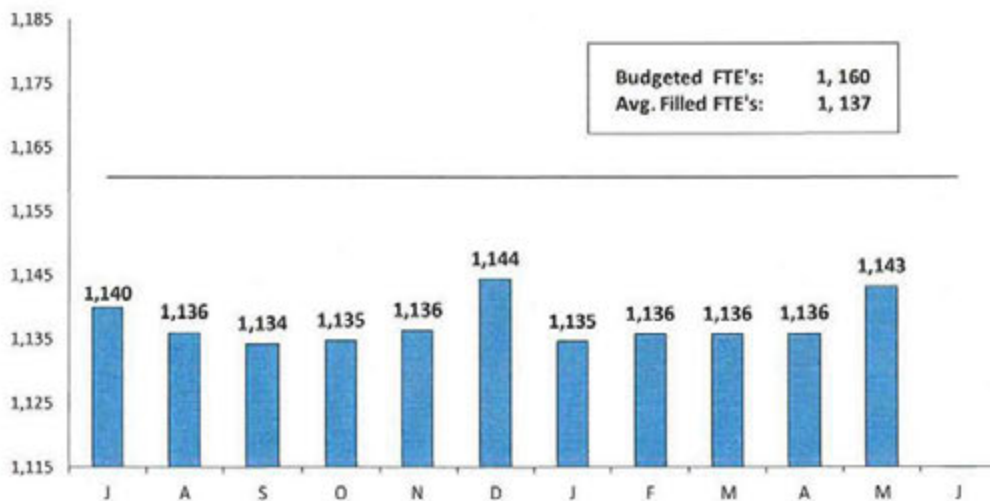
Utilities

Utilities were underspent \$4.3 million or 20% for lower electricity costs of \$2.3 million mainly due to underspending at Deer Island of \$1.8 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 \$1.9 million because of lower pricing and less usage due to the relatively mild winter.

Wages and Salaries

Wages and Salaries were underspent by \$3 million or 3.4% 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 May were 1,137, which was 23 positions lower than the 1,160 FTEs budgeted. Additionally, the Authority had three temporary employees.

FY16 MWRA Full Time Equivalent (FTE) Position Trend



Through May 2016, the Authority had 1,147 filled positions vs. 1,170 budgeted positions.

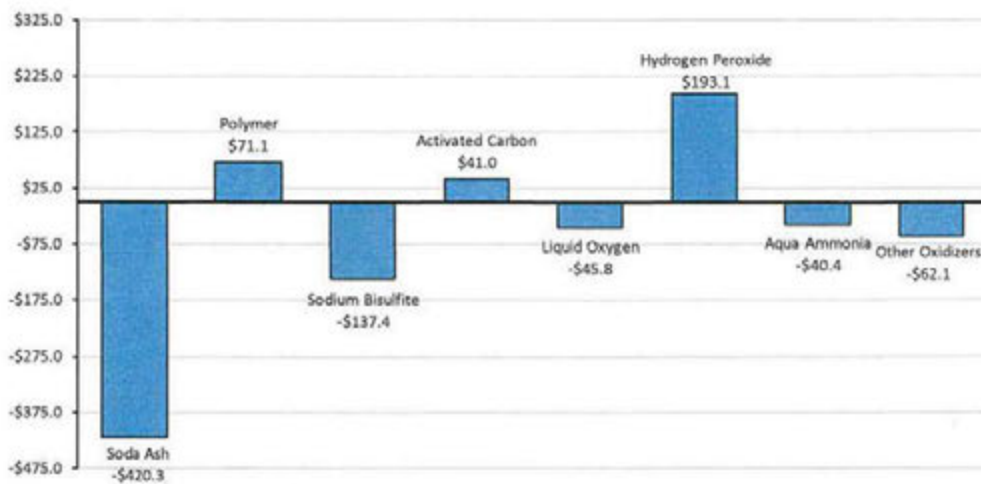
Other Services

Other Services spending was lower than budget by \$534,000 or 2.5% due to lower spending of \$372,000 for sludge pelletization services for lower year to date inflation; \$108,000 for Space Lease Rentals for the Chelsea facility lease due to the recovery of an overpayment of escrow for insurance; \$97,000 for Grit and Screenings disposal services primarily due to lower quantities; and \$70,000 for Other Rentals. The underspending is offset by higher spending on Telephone Services of \$89,000 associated with Field Operations SCADA lines for the water and wastewater facilities both for more lines and technology change; Other Services of \$64,000 for Ward Street Headworks radio tower demolition and Membership/Dues/Subscriptions of \$35,000 due to timing.

Chemicals

Chemical expenses were lower than budgeted by \$499,000 or 5.6% year-to-date mainly because of lower than budgeted spending on Soda Ash of \$420,000 due to lower usage to meet corrosion control targets and timing of deliveries for Soda Ash; Sodium Bisulfite of \$137,000 due to lower usage at the Carroll Water Treatment Plant due to UV disinfection and timing of deliveries at DITP and lower plant flows; Other Oxidizers of \$62,000 due to less usage than planned and lower pricing for the new contract; and Ozone of \$46,000 due to higher water quality and change in operating target resulting from UV disinfection. The underspending is offset by overspending on Hydrogen Peroxide of \$193,000 due to increased need for pretreatment of hydrogen sulfide gas due to plant flows; and Polymer of \$71,000.

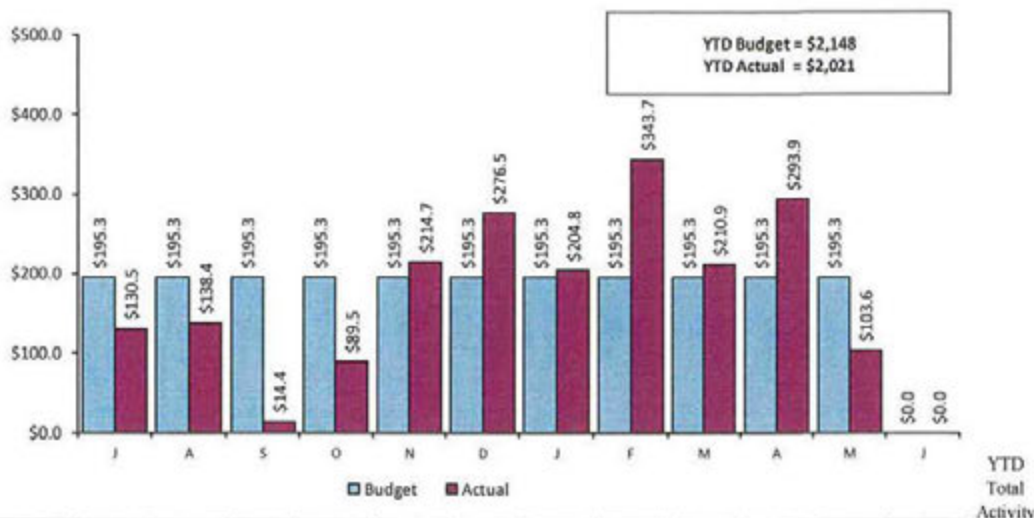
FY16 Chemical Expense Variances
(in 000's)



Workers' Compensation

Workers' Compensation expenses were lower than budget by \$127,000 or 5.9% based on lower compensation payments of \$168,000 and medical expenses of \$39,000. This is offset by higher spending for other expenses of \$81,000. In May, actual spending was \$92,000 under budget. 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)**



	J	A	S	O	N	D	J	F	M	A	M	J	YTD Total Activity
# of Open Claims-Lost Time	62	61	62	62	63	58	64	68	62	61	56		
# of New Claims-Lost Time	1	2	2	1	1	1	6	5	0	1	1		21
# of Closed Claims-Lost Time	1	4	3	1	0	6	0	5	2	2	0		24
Beginning # of Open Claims-Medical Only	22	17	23	23	23	21	26	21	16	18	16		
# of New Claims-Medical Only	7	7	6	4	4	6	7	8	11	0	4		64
# of Closed Claims-Medical Only	7	11	3	10	0	10	6	10	10	0	1		68

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

Fringe Benefits

Fringe Benefits spending was lower than budgeted by \$93,000 or 0.5% for Health Insurance of \$165,000 and Dental Insurance of \$27,000 due to fewer than budgeted filled positions. This was offset by higher spending in Medicare costs of \$37,000 and Tuition Reimbursement of \$27,000.

Maintenance

Maintenance expenses were higher than budgeted by \$1.8 million or 7% year-to-date due to \$2.5 million associated with the remediation effort for the Nut Island fire incident.

Other Materials

Other Materials were higher than budget by \$819,000 or 18.3% mainly due to the timing of Vehicle Purchases of \$508,000; Equipment/Furniture of \$206,000 for spectrometers for lead analysis; Postage of \$148,000 due to timing of mailing CCR; Computer Hardware of \$102,000; Lab and Testing Supplies of \$93,000 mainly due to receipt of equipment ordered in FY15 and received in the first Quarter of FY16; and Health and Safety of \$73,000. The overspending is offset by lower spending for Vehicle Expenses of \$351,000 mostly due to lower fuel prices.

Professional Services

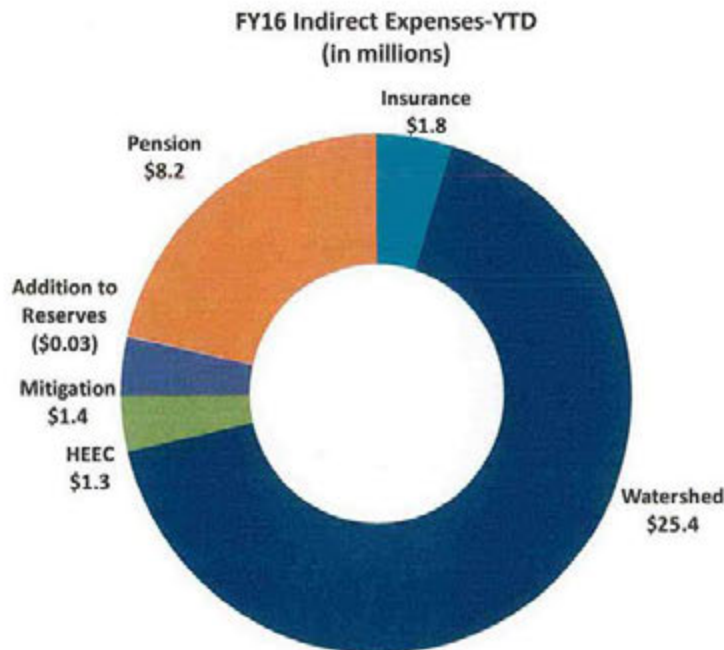
Professional Services were higher than budget by \$201,000 or 4% due to overspending for Other Services of \$193,000 in Law, HR and Treasury; Legal Services of \$138,000 in Law; and Engineering Services of \$38,000 for NI fire remediation. This is offset by underspending in Lab & Testing Analysis of \$157,000 in Operations.

Overtime

Overtime was higher than budget by \$80,000 or 2% for greater spending in Water Valve Maintenance to reconfigure system flows associated with providing Lynn water, responding to a Cambridge water main break, start-up at Spot Pond, Treatment and Transmission Operation for half plant maintenance at Carroll Water Treatment Plant, in Field Operations in response to the Nut Island fire, and MIS. This is offset by fewer wet weather events and shutdowns related to the North Main Pump Station valve replacement project.

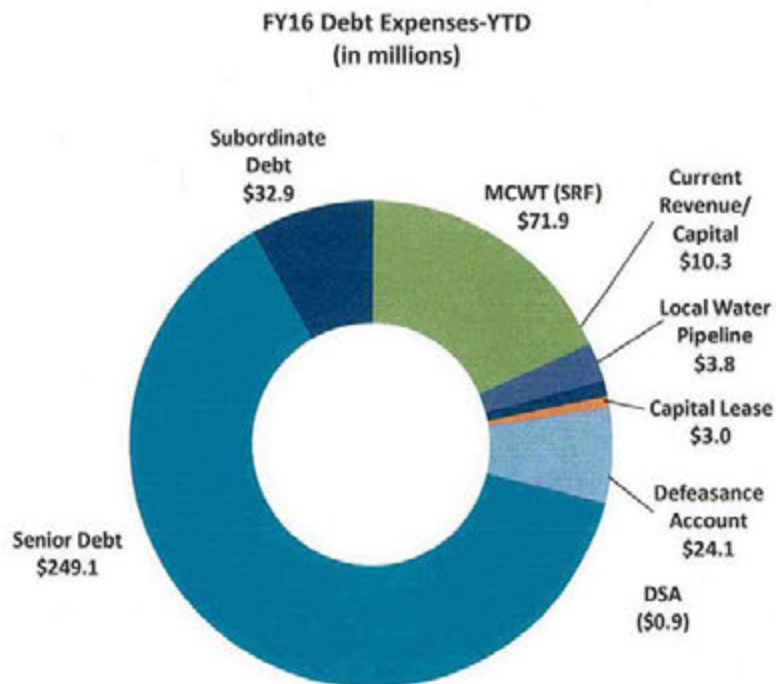
Indirect Expenses

Through May Indirect expenses totaled \$38.1 million, \$740,000 or 1.9% lower than budget. The majority of the FY16 underspending is related to lower Watershed Reimbursement of \$545,000 for FY15 over accrual and projected FY16 underspending; lower HEEC Agreement cost of \$159,000 due to timing of payments versus budget; and lower Insurance costs of \$147,000 mostly related to premiums. This is offset by higher spending of \$111,000 for Winthrop and Quincy mitigation agreements which were finalized after the budget was developed.



Debt Service Expenses

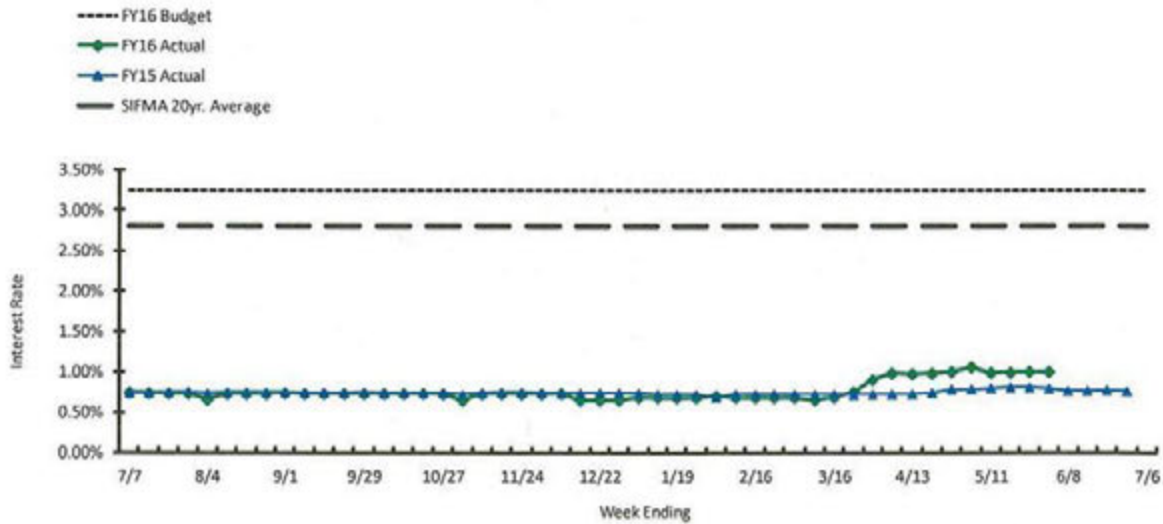
Debt Service expenses include the principal and interest payment for fixed debt, the variable subordinate debt, and the Massachusetts Clean Water Trust (MCWT) obligation, the commercial paper program for the local water pipeline projects, current revenue for capital, and the Chelsea facility lease payment.



Debt Service expenses through May totaled \$394.3 million, \$874,000 or 0.2% lower than budget because of Debt Service Assistance received in April after the transfer of \$24.1 million of a favorable year-to-date variance to the Defeasance Account. The short-term rates related variance is \$12.1 million year-to-date. Additionally, the Authority recognized \$10.2 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 until May, and the impact of favorable refunding.

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 April totaled \$651.7 million which was \$3.3 million or 0.5% higher than budget.

The higher non-rate Revenue is due to Other Revenue of \$2.5 million of which, \$593,000 is for City of Lynn MWRA water use while they completed maintenance work on their water system, \$612,000 for TRAC Penalties mainly attributed to a large settlement with a company that had a series of discharge violations to the MWRA sewer, which since then have been addressed and corrective measures implemented; energy rebates of \$379,000; Cambridge water use of \$325,000 related to maintenance work on their water system and electricity peak shaving; US Treasury rebate of \$296,000; higher surplus equipment sales of \$259,000, and greater Investment Income of \$769,000.

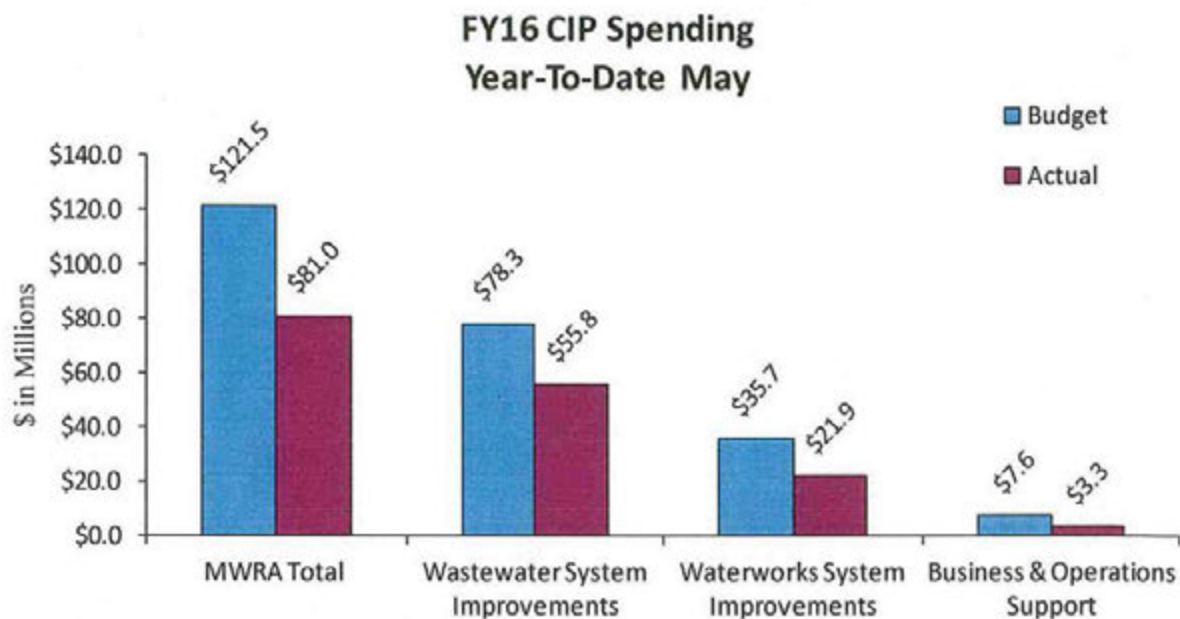
Investment Income is over budget by \$769,000, due to higher than budgeted short-term interest rates.

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

FY16 Capital Improvement Program

Spending year-to-date in FY16 totals \$81.0 million, \$40.6 million or 33.4% 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 \$33.9 million or 35.6%. Underspending was reported across all three programs with Wastewater underspent by \$22.5 million, Waterworks posting underspending of \$13.8 million and Business and Operations Support and \$4.3 million, respectively.

Spending By Program:



\$ in Millions	Budget	Actuals	\$ Var.	% Var.
Wastewater System Improvements				
Interception & Pumping	16.2	5.7	-10.5	-64.8%
Treatment	32.5	23.4	-9.1	-28.1%
Residuals	0.0	0.0	0.0	N/A
CSO	12.3	16.7	4.4	35.9%
Other	17.2	9.9	-7.3	-42.2%
Total Wastewater System Improvements	\$78.3	\$55.8	-\$22.5	-28.8%
Waterworks System Improvements				
Drinking Water Quality Improvements	6.0	6.9	0.9	15.2%
Transmission	15.5	6.3	-9.2	-59.1%
Distribution & Pumping	14.5	13.8	-0.8	-5.2%
Other	-0.3	-5.1	-4.8	N/A
Total Waterworks System Improvements	\$35.7	\$21.9	-\$13.8	-38.6%
Business & Operations Support	\$7.6	\$3.3	-\$4.3	-56.4%
Total MWRA	\$121.5	\$81.0	-\$40.6	-33.4%

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

Interception & Pumping: Underspending of \$10.5 million reflecting underspending on Chelsea Creek Upgrades - Construction of \$6.1 million as contract not yet awarded, Caruso Pump Station Improvements Construction of \$1.0 million due to schedule changes, and Alewife Brook Pump Station Rehab Final Design/CA/REI and Construction of \$2.8 million due to timing.

Waterworks Transmission: Net underspending of \$9.2 million reflects the combination of underspending for Wachusett Aqueduct Pump Station of \$7.6 million due to lower than budgeted contract award, \$717,000 caused by a schedule change for the Sudbury/Weston Aqueduct Repairs, and Watershed Land of \$1.1 million due to the timing of land acquisitions.

Wastewater Treatment: Underspending of \$9.1 million reflects underspending on Electrical Equipment Upgrade – Construction 4 of \$3.3 million due to reduction in scope and timing of work, changes in project schedules and timing for the North Main Pump Station VFD Replacement of \$1.6 million, Winthrop Terminal Facility VFD Replacement of \$947,000, As-Needed Design 7-2 and 7-3 of \$934,000, Digester Sludge Pump Replacement Phase 2 of \$919,000, Gravity Thickening Rehabilitation of \$767,000, Barge Berth and Facility Replacement of \$675,000, and Combined Heat & Power Design of \$500,000. The underspending was partially offset by overspending on Butterfly Valve Replacement of \$1.7 million due to the progress of the construction.

Wastewater Other: Underspending of \$7.3 million primarily due to less than anticipated community requests for grants and loans under the Infiltration and Inflow (I/I) program.

Waterworks Other: Underspending of \$4.8 million due to lower community requests for Local Water System Loans of \$4.4 million, and Waterworks Facility Asset Protection of \$509,000 due to schedule shifts.

Combined Sewer Overflow: (CSO) Net overspending of \$4.4 million due to \$6.0 million in overspending at Cambridge Sewer Separation due to water use during construction and updated cost estimates for unforeseen utility locations and private utility coordination, subsurface conditions, and additional engineering services during construction, partially offset by underspending for Reserved Channel Sewer Separation of \$969,000 due to updated cost estimates and MWR003 Gate & Siphon of \$514,000 due to a change in the project schedule.

Business and Operations Support: Underspending of \$4.3 million due to lower than budgeted spending on multiple projects, including \$1.9 million due to timing of IT Strategic Plan implementation, \$1.1 million due to timing of vehicle purchases, \$739,000 due to lower than projected use of as-needed technical assistance contracts, and security equipment of \$645,000 due to delay in award of equipment contracts.

Drinking Water Quality Improvements: Overspending of \$0.9 million due primarily to construction progress on Existing Facilities CP-7 of \$709,000 and Spot Pond Storage Facility Design/Build of \$274,000, and Brutsch Treatment Facility of \$344,000 due to additional

construction administration services. Offset by Carroll Water Treatment Plant's Ultraviolet Disinfection Construction of \$952,000 due to litigation settlement.

Water Distribution and Pumping: Underspending of \$0.8 million due in part to NIH Redundancy & Storage of \$1.4 million due to lower than budgeted award and schedule change for Section 89/29 Redundancy Construction Phase 1B resulting in underspending of \$1.7 million offset by Sections 89 and 29 Redundancy - Design of \$411,000 due to consultant progress, WASM 3 - MEPA/Design/CA/RI of \$964,000 due to ongoing alternatives review for metropolitan redundancy, and Valve Replacement of \$557,000 due to timing. Underspending partially offset by overspending on Weston Aqueduct Supply Mains Section 36/C/S9-A11 Valve of \$1.8 million due to contractor progress, and Southern Extra High Redundancy Design of \$495,000 due to consultant progress.

Construction Fund Balance

The construction fund balance is \$126 million for May. Commercial Paper available for construction projects is \$201 million.

Attachment 1 – Variance Summary May 2016

Attachment 2 – Current Expense Variance Explanations

Attachment 3 – Capital Improvement Program Variance Explanations

Attachment 4 – FY16 Budget vs. FY16 Projections

ATTACHMENT 1

	May 2016 Year-to-Date					
	Period 11 YTD Budget	Period 11 YTD Actual	Period 11 YTD Variance	%	FY16 Approved	% Expended
EXPENSES						
WAGES AND SALARIES	\$ 88,831,031	\$ 85,851,122	\$ (2,979,909)	-3.4%	\$ 99,363,168	86.4%
OVERTIME	3,886,005	3,965,520	79,515	2.0%	4,219,293	94.0%
FRINGE BENEFITS	17,631,947	17,539,143	(92,804)	-0.5%	19,326,756	90.8%
WORKERS' COMPENSATION	2,147,750	2,020,841	(126,909)	-5.9%	2,343,000	86.3%
CHEMICALS	8,874,943	8,376,023	(498,920)	-5.6%	9,790,848	85.5%
ENERGY AND UTILITIES	21,608,880	17,294,288	(4,314,592)	-20.0%	23,164,822	74.7%
MAINTENANCE	25,699,301	27,494,112	1,794,811	7.0%	28,698,772	95.8%
TRAINING AND MEETINGS	326,541	309,626	(16,915)	-5.2%	413,714	74.8%
PROFESSIONAL SERVICES	5,036,912	5,238,288	201,376	4.0%	5,819,611	90.0%
OTHER MATERIALS	4,471,896	5,290,445	818,549	18.3%	6,164,589	85.8%
OTHER SERVICES	21,329,489	20,795,746	(533,743)	-2.5%	23,529,902	88.4%
TOTAL DIRECT EXPENSES	\$ 199,844,695	\$ 194,175,154	\$ (5,669,542)	-2.8%	\$ 222,834,475	87.1%
INSURANCE	\$ 1,994,582	\$ 1,848,081	\$ (146,501)	-7.3%	\$ 2,160,797	85.5%
WATERSHED/PILOT	25,934,984	25,389,739	(545,245)	-2.1%	28,096,233	90.4%
BEC _o PAYMENT	1,481,811	1,323,007	(158,804)	-10.7%	1,946,157	68.0%
MITIGATION	1,292,308	1,403,077	110,769	8.6%	1,400,000	100.2%
ADDITIONS TO RESERVES	(32,240)	(32,240)	-	0.0%	(34,927)	92.3%
RETIREMENT FUND	8,159,521	8,159,521	-	0.0%	8,159,521	100.0%
POST EMPLOYEE BENEFITS	-	-	-	---	5,224,848	0.0%
TOTAL INDIRECT EXPENSES	\$ 38,830,966	\$ 38,091,185	\$ (739,781)	-1.9%	\$ 46,952,629	81.1%
STATE REVOLVING FUND	\$ 73,772,693	\$ 71,943,270	\$ (1,829,423)	-2.5%	\$ 81,876,277	87.9%
SENIOR DEBT	259,348,738	249,115,660	(10,233,078)	-3.9%	283,024,431	88.0%
CORD FUND	-	-	-	---	-	---
DEBT SERVICE ASSISTANCE	-	(873,804)	(873,804)	---	-	0.0%
CURRENT REVENUE/CAPITAL	10,338,462	10,338,462	-	0.0%	11,200,000	92.3%
SUBORDINATE MWRA DEBT	44,948,823	44,948,823	-	0.0%	49,222,442	91.3%
LOCAL WATER PIPELINE CP	3,830,068	3,830,068	-	0.0%	4,149,240	92.3%
CAPITAL LEASE	2,969,594	2,969,594	-	0.0%	3,217,060	92.3%
VARIABLE DEBT	-	(12,055,534)	(12,055,534)	---	-	0.0%
BOND REDEMPTION SAVINGS	-	-	-	---	-	---
DEFEASANCE ACCOUNT	-	24,118,036	24,118,036	---	-	0.0%
TOTAL DEBT SERVICE	\$ 395,208,378	\$ 394,334,575	\$ (873,804)	-0.2%	\$ 432,689,450	91.1%
TOTAL EXPENSES	\$ 633,884,039	\$ 626,600,913	\$ (7,283,126)	-1.1%	\$ 702,476,554	89.2%
REVENUE & INCOME						
RATE REVENUE	\$ 620,713,846	\$ 620,713,846	\$ -	0.0%	\$ 672,440,000	92.3%
OTHER USER CHARGES	8,046,393	8,129,821	83,428	1.0%	8,683,898	93.6%
OTHER REVENUE	11,134,550	13,609,572	2,475,022	22.2%	12,000,066	113.4%
RATE STABILIZATION	-	-	-	---	-	---
INVESTMENT INCOME	8,512,469	9,281,528	769,059	9.0%	9,352,590	99.2%
TOTAL REVENUE & INCOME	\$ 648,407,258	\$ 651,734,767	\$ 3,327,509	0.5%	\$ 702,476,554	92.8%

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY16 Budget YTD May	FY16 Actuals YTD May	FY16 YTD Actual vs. FY16 Budget		Explanations
			\$	%	
Direct Expenses					
Wages & Salaries	88,831,031	85,851,122	(2,979,909)	-3.4%	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 May was 1,137, which was 23 positions lower than the 1,160 FTEs budgeted. Additionally, the Authority had three temporary employees.
Overtime	3,886,005	3,965,520	79,515	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, in FOD in response to the Nut Island fire and MIS. This is offset by fewer wet weather events and shutdowns related to the North Main Pump Station valve replacement project.
Fringe Benefits	17,631,947	17,539,143	(92,804)	-0.5%	Lower than budget mainly due to Health Insurance of \$165,000 and Dental Insurance of \$27,000 due to fewer than budgeted filled positions, offset by overspending for Medicare of \$37,000; Tuition Reimbursement of \$27,000; Unemployment Insurance of \$17,000.
Worker's Compensation	2,147,750	2,020,841	(126,909)	-5.9%	Underspending due to lower compensation payments of \$168,000 and medical expenses of \$39,000. This is offset by higher spending for other expenses of \$81,000. In May actual spending was \$92,000 under budget. It is important to note that spending on this line item can change significantly depending on future claims and severity of cases.
Chemicals	8,874,943	8,376,023	(498,920)	-5.6%	Lower year-to-date spending primarily due to lower than budgeted spending on Soda Ash of \$420,000 due to lower usage to meet corrosion control targets and timing of deliveries for Soda Ash; Sodium Bisulfite of \$137,000 due to lower usage at the Carroll Water Treatment Plant due to UV disinfection and timing of deliveries at DITP and lower plant flows; Other Oxidizers of 62,000 due to less usage than planned and lower pricing for the new contract; and Ozone of \$46,000 due to higher water quality and change in operating target resulting from UV disinfection. The underspending is offset by overspending on Hydrogen Peroxide of \$193,000 due to increased need for pretreatment of hydrogen sulfide gas due to plant flows; and Polymer of \$71,000.

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY16 Budget YTD May	FY16 Actuals YTD May	FY16 YTD Actual vs. FY16 Budget		Explanations
			\$	%	
Utilities	21,608,880	17,294,288	(4,314,592)	-20.0%	Underspending due to lower Electricity of \$2.3 million mainly due to underspending at Deer Island of \$1.8 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 is also underspending in Diesel Fuel of \$1.9 million primarily in FOD and DITP, Natural Gas of \$75,000, #2 Fuel Oil of \$54,000 and Propane of \$50,000. This is offset by higher water usage of \$86,000 at the Headworks, DITP, JCWTP, and Clinton.
Maintenance	25,699,301	27,494,112	1,794,811	7.0%	Materials were overspent by \$2.2 million. Higher spending for energy efficiency projects totaling \$637,000. Services were underspent by \$405,000. Nut Island maintenance repair costs have total \$2.5 million through May for both materials and services.
Training & Meetings	326,541	309,626	(16,915)	-5.2%	Underspending in Operations and Emergency Preparedness.
Professional Services	5,036,912	5,238,288	201,376	4.0%	Higher spending on Other Services of \$193,000 in Law, HR and Treasury; Legal Services of \$138,000 in Law; and Engineering Services in Operations; and Engineering of \$38,000 for NI fire remediation. This is offset by lower spending in Lab Testing & Analysis of \$157,000 in ENQUAL-Wastewater; Resident Inspection of \$24,000 for invasives control.
Other Materials	4,471,896	5,290,445	818,549	18.3%	Higher than budget mainly due to timing of Vehicle Purchase of \$508,000; Equipment/Furniture of \$208,000 for spectrometers for lead analysis; Postage of \$148,000 for timing of mailing CCR; Computer Hardware of \$102,000; Lab and Testing Supplies of \$93,000 mainly due to receipt of equipment ordered in FY15 and received in the first Quarter of FY16; Health and Safety of \$73,000; . The overspending is offset by lower spending for Vehicle Expenses of \$351,000 mostly due to lower fuel prices.
Other Services	21,329,489	20,795,746	(533,743)	-2.5%	Lower than budgeted spending of \$372,000 for sludge pelletization services for lower year to date inflation; \$108,000 for Space Lease Rentals for the Chelsea facility lease due to an overpayment of escrow for insurance; \$97,000 for Grit and Screenings disposal services primarily due to lower quantities; and \$70,000 for Other Rentals. The underspending is offset by higher spending on Telephone Services of \$89,000 associated with Field Operations SCADA lines for the water and wastewater facilities both for more lines and technology change; Other Services of \$64,000 for Ward Street Headworks radio tower demolition and Membership/Dues/Subscriptions of \$35,000 due to timing.
Total Direct Expenses	199,844,695	194,175,154	(5,669,540)	-2.8%	

ATTACHMENT 2
Current Expense Variance Explanations

Total MWRA	FY16 Budget YTD May	FY16 Actuals YTD May	FY16 YTD Actual vs. FY16 Budget		Explanations
			\$	%	
Indirect Expenses					
Insurance	1,994,582	1,848,081	(146,501)	-7.3%	Lower Premiums of \$117,000 and Claims of \$30,000.
Watershed/PILOT	25,934,984	25,389,739	(545,245)	-2.1%	Underspending due to lower Reimbursement expenses of \$405,000 due to FY15 overaccrual and projected lower spending in FY16, and lower PILOT payments of \$140,000.
HEEC Payment	1,481,811	1,323,007	(158,804)	-10.7%	Lower spending due to timing of actual billing.
Mitigation	1,292,308	1,403,077	110,769	8.6%	Higher cost due to current agreements being signed after the budget was established.
Addition to Reserves	(32,240)	(32,240)	-	0.0%	
Pension Expense	8,159,521	8,159,521	-	0.0%	
Post Employee Benefits	-	-	-		
Total Indirect Expenses	38,830,966	38,091,185	(739,781)	-1.9%	
Debt Service					
Debt Service	395,208,378	394,334,574	(873,804)	-0.2%	Through May staff have transferred \$24.1 million of a favorable YTD variance to the Defeasance Account. The short-term rates related variance is \$12.1 million YTD. Additionally, the Authority recognized \$10.2 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	-	(873,804)	(873,804)		Unbudgeted Debt Service Assistance received in April.
Total Debt Service Expenses	395,208,378	393,460,770	(1,747,608)	-0.4%	
Total Expenses	633,884,039	625,727,109	(8,156,929)	-1.3%	
Revenue & Income					
Rate Revenue	620,713,846	620,713,846	-	0.0%	
Other User Charges	8,046,393	8,129,821	83,428	1.0%	
Other Revenue	11,134,550	13,609,572	2,475,022	22.2%	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 \$612,000; energy rebates of \$379,000, Cambridge water use of \$325,000; US Treasury rebates of \$296,000, and sale of surplus equipment of \$259,000.
Rate Stabilization			-		
Investment Income	8,512,469	9,281,528	769,059	9.0%	Investment Income is over budget by \$769,000, due to higher than budgeted short-term interest rates.
Total Revenue	648,407,258	651,734,767	3,327,509	0.5%	
Net Revenue in Excess of Expenses	14,523,219	26,007,658	11,484,438		

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

	FY16 Budget YTD May	FY16 Actuals YTD May	YTD Actuals vs. Budget		Explanations
			\$	%	
Wastewater					
Interception & Pumping (I&P)	\$16,232	\$5,709	(\$10,523)	-64.8%	<u>Underspending</u> Chelsea Creek Upgrades - Construction: \$6.1M (not yet awarded) Caruso Pump Station Improvements Construction: \$1.0M (schedule change) Alewife Brook Pump Station Rehab Final Design/CA/REI and Construction: \$2.8M (schedule change) Chelsea Screenhouse Upgrades of \$282,000 (schedule change) Nut Island Fire Pump Building Study: \$213,000 (project cancelled) Other smaller projects totaling \$685,000 (schedule change) <u>Overspending Offset</u> Nut Island System-wide Odor Control - Evaluation: \$324,000 (budget increase and progress) Nut Island Headworks Electric, Grit & Screenings Conveyance Design and Construction: \$233,000 (timing of payments)
Residuals	\$0	\$0	\$0	-	
CSO	\$12,325	\$16,746	\$4,421	35.9%	<u>Overspending</u> Cambridge Sewer Separation: \$6.0M due to water use during construction activities and updated cost estimates as a result of unforeseen conditions <u>Underspending Offset</u> Reserved Channel Sewer Separation :\$969,000 (updated cost estimates), MWR003 Gate & Siphon : \$514,000 (project schedule) South Dorchester Bay Sewer Separation (Commercial Point): \$125,000 (project schedule).
Other Wastewater	\$17,213	\$9,943	(\$7,270)	-42.2%	<u>Underspending</u> Infiltration and Inflow (I/I) due to lower community requests for grants and loans.

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

	FY16 Budget YTD May	FY16 Actuals YTD May	YTD Actuals vs. Budget		Explanations
			\$	%	
Treatment	\$32,504	\$23,356	(\$9,147)	-28.1%	<u>Underspending</u> Electrical Equipment Upgrade - Construction 4: \$3.3M due to reduction in scope and accelerated timing of work (reduced scope will be included in a later project) North Main Pump Station VFD Replacements: \$1.6M (project schedule) As-Needed Design 7-2, 7-3: \$934,000 Digester Sludge Pump Replacement Phase 2: \$919,000 (project schedule timing) Thermal Power Plant Boiler Control Replacement: \$487,000 (project schedule timing) Power System Improvements - Construction: \$410,000 (NTP 11/19/16) Fire Alarm System Replacement - Design of \$251,000 (schedule change) Winthrop Terminal Facility VFD Replacements of \$947,000 (6/15/16 NTP) Gravity Thickener Rehabilitation of \$767,000 (not yet awarded) Barge Berth and Facility Replacement of \$675,000 (not yet awarded) Combined Heat & Power - Design of \$500,000 (schedule change) As-Needed Design 8-1, 8-2 and 8-3: \$375,000 Steam Turbine Generator System Modifications Construction: \$450,000 (energy efficiency rebate) Clinton Wastewater Treatment Plant multiple projects totaling \$256,000, and other smaller projects totaling \$243,000. <u>Overspending Offset</u> Butterfly Valve Replacement of \$1.7M (progress of construction) Secondary Reactor VFDs of \$458,000 (progress of construction) HVAC Equipment Replacement Construction Design/Engineering Services: \$314,000 (progress of construction)
Total Wastewater	\$78,274	\$55,754	(\$22,520)	-28.8%	

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

	FY16 Budget YTD May	FY16 Actuals YTD May	YTD Actuals vs. Budget		Explanations
			\$	%	
Waterworks					
Drinking Water Quality Improvements	\$5,993	\$6,905	\$912	15.2%	<u>Overspending</u> Existing Facilities CP-7: \$709,000 Spot Pond Storage Facility Design/Build: \$578,000 and Owners' Representative: \$274,000 (project progress) Carroll Water Treatment Plant's Ultraviolet Disinfection - Design/Engineering Services During Construction/ Resident Engineer Inspection: \$161,000 (project completion) Brutsch Treatment Facility: \$344,000 (additional construction administration and resident engineering services) <u>Underspending Offset</u> Carroll Water Treatment Plant's Ultraviolet Disinfection - Construction: \$952,000 (litigation settlement) As-Needed Technical Assistance 7 and 8: \$217,000 (less than projected need)
Transmission	\$15,507	\$6,343	(\$9,164)	-59.1%	<u>Underspending</u> Wachusett Aqueduct Pump Station: \$7.6M (bid award substantially under project budget, schedule change, and ongoing design review) Watershed Land: \$1.1M (timing of land acquisitions) Sudbury/Weston Aqueduct Repairs: \$717,000 (schedule change) <u>Overspending Offset</u> Hatchery Pipeline Design/Engineering Services During Construction/Resident Engineer Inspection of \$178,000 due to consultant progress and scope changes.

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

	FY16 Budget YTD May	FY16 Actuals YTD May	YTD Actuals vs. Budget		Explanations
			\$	%	
Distribution & Pumping	\$14,517	\$13,757	(\$760)	-5.2%	<u>Underspending</u> NIH Redundancy & Storage: \$1.4M (lower than budgeted award and schedule change for Sections 89 & 29 Redundancy Construction Phase 1B of \$1.7M offset by Sections 89 & 29 Redundancy - Design of \$411,000 due to consultant progress) WASM 3 - MEPA/Design/CA/RI: \$964,000 (ongoing alternatives review for metropolitan tunnels redundancy) Valve Replacement of \$557,000 (project schedule) Section 53 Connection Design/CA/RI : \$240,000 (schedule change), and other projects totaling \$106,000 <u>Offset Overspending</u> Weston Aqueduct Supply Mains Section 36/C/S9 - A11 Valve of \$1.8M (contractor progress) Southern Extra High Redundancy & Storage Final Design/CA/RI of \$495,000 due to consultant progress.
Other Waterworks	(\$301)	(\$5,063)	(\$4,762)	-	Underspending due to lower community requests for Local Water System Loans of \$4.4M, and Waterworks Facility Asset Protection of \$509,000 due to schedule shifts.
Total Waterworks	\$35,716	\$21,942	(\$13,774)	-38.6%	
Business & Operations Support					
Business & Operations Support	\$7,553	\$3,291	(\$4,262)	-56.4%	Underspending on MIS-related projects of \$1.9M due to timing of IT Strategic Plan implementation, Vehicle Purchases of \$1.1M due to timing, \$739,000 due to lower than projected use of as-needed technical assistance, and Security Equipment of \$645,000 due to delay in award of equipment contracts.
Total Business & Operations Support	\$7,553	\$3,291	(\$4,262)	-56.4%	
Total MWRA	\$121,543	\$80,987	(\$40,556)	-33.4%	

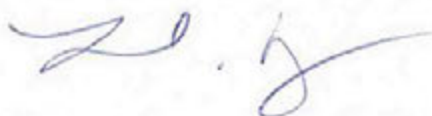
ATTACHMENT 4

FY16 Budget vs FY16 Projection

TOTAL MWRA	FY16 Budget	FY16 Projection	Change FY16 Budget vs FY16 Projection	
			\$	%
EXPENSES				
WAGES AND SALARIES	\$ 99,363,168	\$ 96,319,662	\$ (3,043,506)	-3.1%
OVERTIME	4,219,293	4,248,719	29,426	0.7%
FRINGE BENEFITS	19,326,756	19,264,831	(61,925)	-0.3%
WORKERS' COMPENSATION	2,343,000	2,407,780	64,780	2.8%
CHEMICALS	9,790,849	9,300,808	(490,041)	-5.0%
ENERGY AND UTILITIES	23,164,822	18,839,430	(4,325,392)	-18.7%
MAINTENANCE	28,698,772	30,786,045	2,087,273	7.3%
TRAINING AND MEETINGS	413,714	404,086	(9,628)	-2.3%
PROFESSIONAL SERVICES	5,819,611	6,038,611	219,000	3.8%
OTHER MATERIALS	6,164,588	6,164,588	-	0.0%
OTHER SERVICES	23,529,902	23,041,297	(488,605)	-2.1%
TOTAL DIRECT EXPENSES	\$ 222,834,475	\$ 216,815,857	\$ (6,018,618)	-2.7%
INSURANCE	\$ 2,160,797	\$ 2,014,296	(146,501)	-6.8%
WATERSHED/PILOT	28,096,233	27,519,959	(576,274)	-2.1%
PREPAYMENT OF WATERSHED DEBT		32,000,000	32,000,000	N/A
HEEC PAYMENT	1,946,157	1,787,353	(158,804)	-8.2%
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	\$ 78,191,050	\$ 31,238,421	66.5%
STATE REVOLVING FUND	\$ 81,876,277	\$ 78,131,558	(3,744,719)	-4.6%
SENIOR DEBT	283,024,431	269,626,855	(13,397,576)	-4.7%
SUBORDINATE DEBT	49,222,442	49,222,442	-	0.0%
LOCAL WATER PIPELINE CP	4,149,242	262,500	(3,886,742)	-93.7%
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	-	(12,686,885)	(12,686,885)	
DEFEASANCE ACCOUNT	-	-	-	
DEBT SERVICE ASSISTANCE	-	(873,804)	(873,804)	
TOTAL DEBT SERVICE	\$ 432,689,450	\$ 398,099,725	\$ (34,589,725)	-8.0%
TOTAL EXPENSES	\$ 702,476,554	\$ 693,106,632	\$ (9,369,922)	-1.3%
REVENUE & INCOME				
RATE REVENUE	\$ 672,440,000	\$ 672,440,000	-	0.0%
OTHER USER CHARGES	8,683,898	8,683,898	-	0.0%
OTHER REVENUE	12,000,066	14,725,088	2,725,022	22.7%
RATE STABILIZATION	-	-	-	
INVESTMENT INCOME	9,352,590	10,052,590	700,000	7.5%
TOTAL REVENUE & INCOME	\$ 702,476,554	\$ 705,901,576	\$ 3,425,022	0.5%
\$5 MILLION DEFEASANCE		\$ (5,000,000)	\$ (5,000,000)	
VARIANCE		\$ 7,794,944	\$ 7,794,944	


STAFF SUMMARY

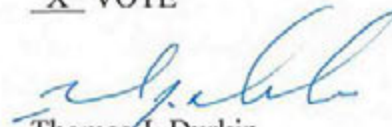
TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: June 29, 2016
SUBJECT: Final FY17 Capital Improvement Program



COMMITTEE: Administration, Finance & Audit

INFORMATION
 VOTE


Kathy Soni, Budget Director
Louise Miller, Budget Manager
Preparer/Title


Thomas J. Durkin
Director, Finance

The Final FY17 Capital Improvement Program represents an update to the Proposed FY17 program presented to the Board in December 2015. The Final FY17 Capital Improvement Program proposes \$155.7 million in spending for FY17, of which \$73.0 million funds Waterworks System Improvements, \$70.4 million funds Wastewater System Improvements, and \$12.3 million funds Business and Operations Support.

The Final FY17 Capital Program includes two very complex and critical projects which both present a variety of options. The decisions which will be made regarding these projects will shape the capital program for the next fifteen years.

The single largest project is the long-term water redundancy for the Metropolitan Tunnels, with options ranging from \$500,000 to \$2.2 billion. The FY 17 Capital Improvement Program includes a \$1.4 billion placeholder to fund this project.

The other significant project is the Combined Heat and Power at Deer Island which will address the long-term strategy for supplying and self-generating energy at the plant. The current estimate for this project is approximately \$89 million.

The FY17 Capital Program reaffirms MWRA's commitment to the community financing assistance programs on both the water and wastewater side. Furthermore, it includes a new \$100 million phase to the Water Pipeline Program dedicated specifically to lead service line removal in our member communities.

RECOMMENDATION:

To approve the Final FY17 Capital Improvement Program (CIP) with total budget of \$164.4 million for FY17 including \$155.7 million in project spending and \$8.7 million in contingency.

DISCUSSION:

The Final FY17 Capital Improvement Program represents an update to the Proposed FY17 program presented to the Board of Directors in December 2015.

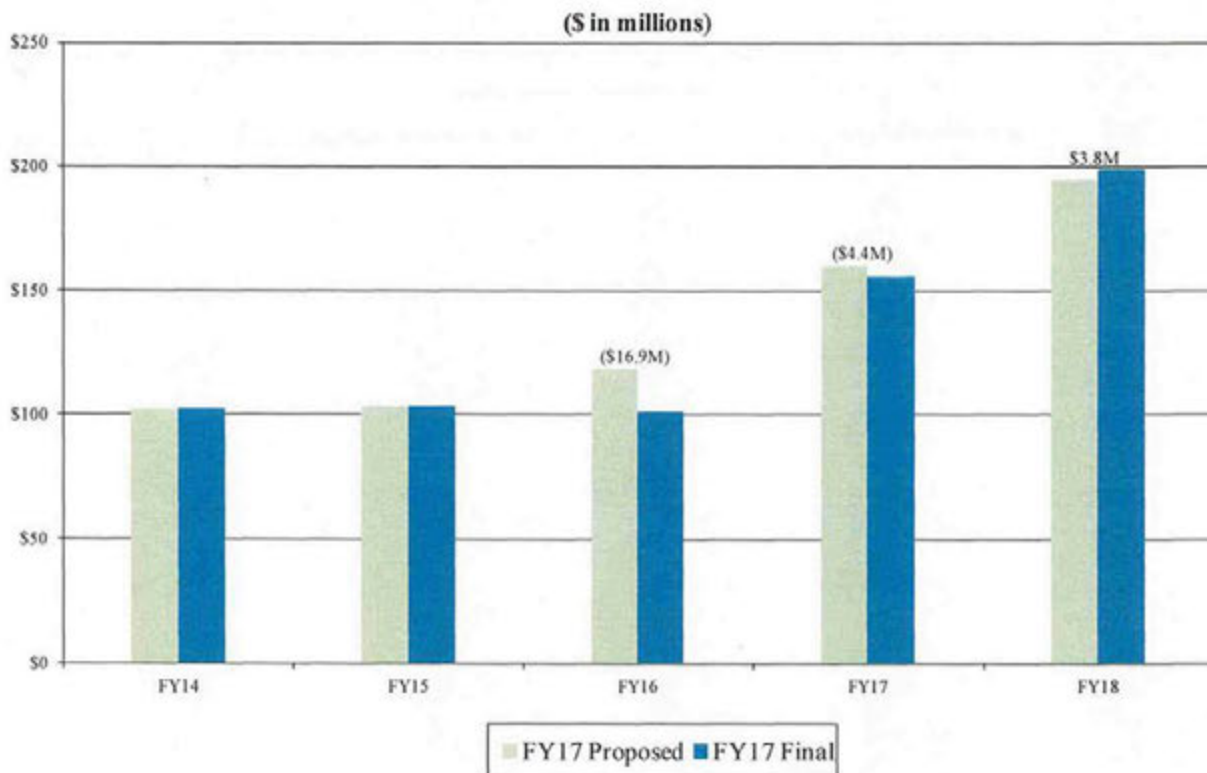
Spending projections are the result of prioritizing projects, establishing updated cashflows, and striking a balance between maintenance and infrastructure improvements, while ensuring there is adequate support for core operations and to meet all regulatory operating permit requirements.

In comparison with the Proposed FY17 CIP, the Final FY17 CIP increased at the overall program level by \$36.6 million, with a net \$17.5 million decrease in the FY14-18 Cap period.

	FY17 Proposed Remaining Balance	FY17 Final Remaining Balance	\$ Change	% Change	FY17 Proposed FY14-18	FY17 Final FY14-18	FY14-18 \$ Change	FY14-18 % Change
Total Wastewater	\$ 1,195.2	\$ 1,216.6	\$ 21.4	1.8%	\$ 397.5	\$ 363.8	\$ (33.8)	-8.5%
Total Waterworks	\$ 1,852.2	\$ 1,867.9	\$ 15.7	0.8%	\$ 239.4	\$ 258.4	\$ 19.0	8.0%
Business & Operations Support	\$ 46.2	\$ 45.6	\$ (0.5)	-1.2%	\$ 41.8	\$ 39.0	\$ (2.8)	-6.7%
Total MWRA	\$ 3,093.6	\$ 3,130.2	\$ 36.6	1.2%	\$ 678.7	\$ 661.2	\$ (17.5)	-2.6%

The following graph illustrates the incremental change by fiscal year between the Final FY17 and FY17 Proposed CIP for the Cap period.

Incremental Change FY17 Final and FY17 Proposed



The top 10 projects account for nearly 81% or \$126 million of projected FY17 spending.

Project	FY17 Expenditures
Facility Asset Protection	\$25.1
Wachusett P.S. and other projects	\$20.0
I/I Local Financial Assistance	\$18.8
NIH Redundancy & Storage	\$18.5
DI Treatment Plant Asset Protection	\$13.3
SEH Redundancy & Storage	\$11.6
Cambridge Sewer Separation	\$6.9
Clinton Wastewater Treatment Plant	\$4.8
Equipment Purchase	\$4.1
Central Monitoring System	\$3.0
Top 10 Project Projected Spending	\$126.0
Total FY17 Projected Spending	
	\$155.7

Major Planned Contract Awards for Fiscal Year 2017:

Contract awards are the principal driver of future cashflows. In FY16, contract awards totaled \$116.3 million. In FY17, 41 contracts totaling \$241.6 million are projected to be awarded. The largest ten projected contract awards are listed below and account for over 76% of the value of the expected awards:

Project	Subphase	NTP	Award
Facility Asset Protection	Chelsea Creek Upgrades - Construction	Jul-16	\$62.0
DI Treatment Plant Asset Protection	HVAC Equipment Replacement - Construction	Jan-17	\$29.5
Central Monitoring System	Waterworks SCADA/PLC Upgrades	Oct-16	\$18.5
NIH Redundancy & Storage	Section 89 & 29 Redundancy Construction Phase 2	Jul-16	\$18.2
DI Treatment Plant Asset Protection	Gravity Thickener Rehabilitation	Nov-16	\$14.1
SEH Redundancy & Storage	Redundancy Pipeline Sect III - Construction 2	Sep-16	\$10.8
Residuals Asset Protection	Residuals Facility Upgrades - Construction	Oct-16	\$10.0
DI Treatment Plant Asset Protection	Switchgear Replacement - Construction	Apr-17	\$8.0
SEH Redundancy & Storage	Redundancy Pipeline Section III - Construction 3	Dec-16	\$7.4
DI Treatment Plant Asset Protection	Combined Heat & Power - Design	Dec-16	\$6.0
Top Ten Awards for FY17			\$184.5
41 Contract Awards Planned for FY17			\$241.6

The FY14-18 Base-Line Cap

The Final FY14 CIP established the FY14-18 Base-Line Cap budget at \$791.7 million. This is the third five-year Cap established by the Authority since FY04 and is significantly lower than the prior two five-year Cap periods which each exceeded \$1.1 billion. The following is a breakdown of the FY14-18 Cap components:

FY14-18 Base-Line Cap		FY14	FY15	FY16	FY17	FY18	Total FY14-18
	Projected Expenditures	\$142.5	\$147.6	\$149.3	\$141.8	\$136.8	\$718.0
Contingency	7.6	9.5	10.1	9.8	9.3	46.1	
Inflation on Unawarded Construction	0.8	4.2	8.4	11.1	13.5	37.9	
Less: Chicopee Valley Aqueduct Projects	(5.0)	(2.2)	(1.4)	(1.3)	(0.4)	(10.3)	
FY14-18 Base-Line Cap	\$145.8	\$159.1	\$166.4	\$161.3	\$159.1	\$791.7	

FY 14-18 Cap Spending

The Final FY17 CIP budget anticipates total actual spending of \$618.7 million during the FY 14-18 Cap period: capital expenditures of \$661.2 million, contingency of \$26.0 million and inflation of \$5.1 million offset by \$65.8 million in Community Loan Program Support and \$7.8 million in Chicopee Valley Aqueduct adjustments. The total Final FY17 projected FY 14-18 Cap spending of \$618.7 million is \$173.0 million or 21.9% less than the Base-Line Cap.

Final FY17 Cap 3 Comparison

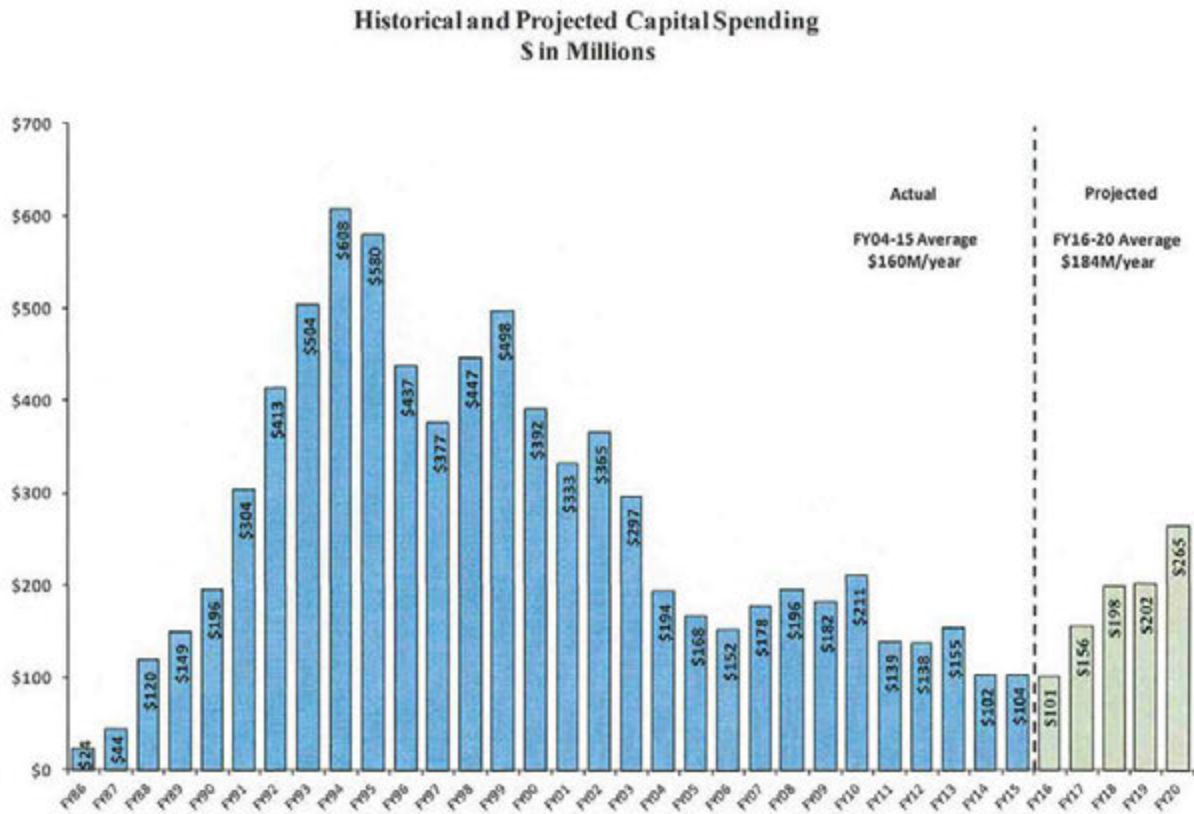
FY17 Final		FY14	FY15	FY16	FY17	FY18	Total FY14-18
	Projected Expenditures	\$102.2	\$103.6	\$101.3	\$155.7	\$198.4	\$661.2
Contingency	0.0	0.0	5.2	8.7	12.1	26.0	
Inflation on Unawarded Construction	0.0	0.0	0.0	1.1	4.0	5.1	
Less: I/I Program	0.0	(17.5)	(13.7)	(18.8)	(15.5)	(65.5)	
Less: Water Loan Program	0.0	1.4	5.3	(2.5)	(4.6)	(0.3)	
Less: Chicopee Valley Aqueduct Projects	(5.6)	(1.2)	(0.4)	(0.2)	(0.4)	(7.8)	
FY17 Proposed FY14-18 Spending	\$96.6	\$86.3	\$97.7	\$144.1	\$194.0	\$618.7	

FY17 Final vs. FY14-18 Base-Line Cap		FY14	FY15	FY16	FY17	FY18	Total FY14-18
	Projected Expenditures	(\$40.3)	(\$43.9)	(\$48.0)	\$13.9	\$61.6	(\$56.7)
Contingency	(7.6)	(9.5)	(4.9)	(1.0)	2.8	(20.1)	
Inflation on Unawarded Construction	(0.8)	(4.2)	(8.4)	(10.0)	(9.5)	(32.8)	
Less: I/I Program	0.0	(17.5)	(13.7)	(18.8)	(15.5)	(65.5)	
Less: Water Loan Program	0.0	1.4	5.3	(2.5)	(4.6)	(0.3)	
Less: Chicopee Valley Aqueduct Projects	(0.6)	0.9	1.0	1.1	0.0	2.5	
FY14-18 Cap (\$ Change)	(\$49.2)	(\$72.7)	(\$68.7)	(\$17.2)	\$34.9	(\$173.0)	
FY14-18 Cap (% Change)	-33.8%	-45.7%	-41.3%	-10.7%	21.9%	-21.9%	

The FY17 Final budget complies with the Base-Line Cap requirement.

Historical Capital Spending

The chart below captures the historical Capital Improvement Program spending through FY15 and projected spending to FY20 based on the Final FY17 CIP.



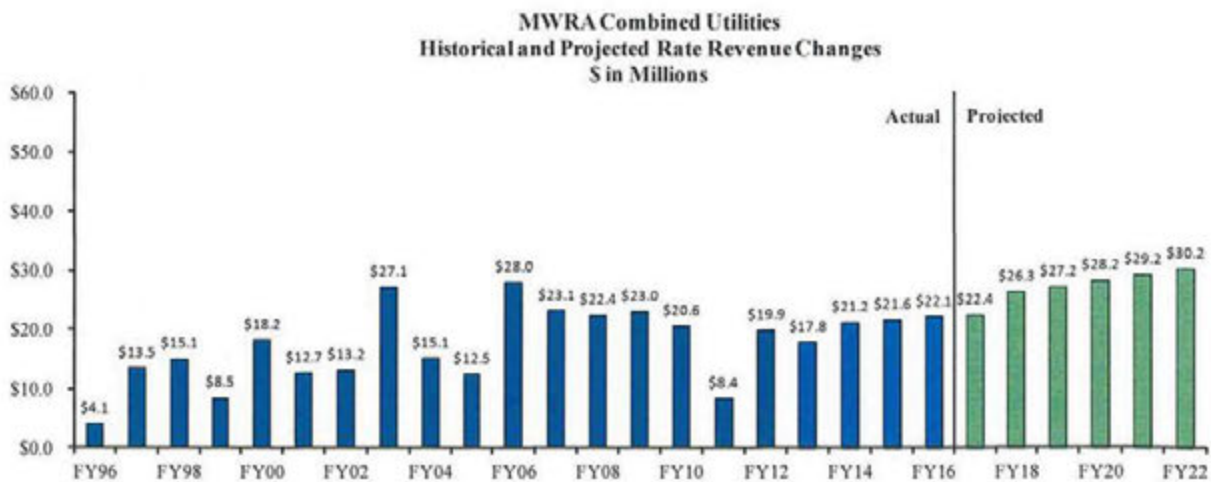
The average spending for FY05-15 timeframe was \$160 million per year. The FY17 Final CIP projects that average spending during the FY16-20 period will be \$184 million per year.

MWRA Capital Improvement Spending versus Debt Service

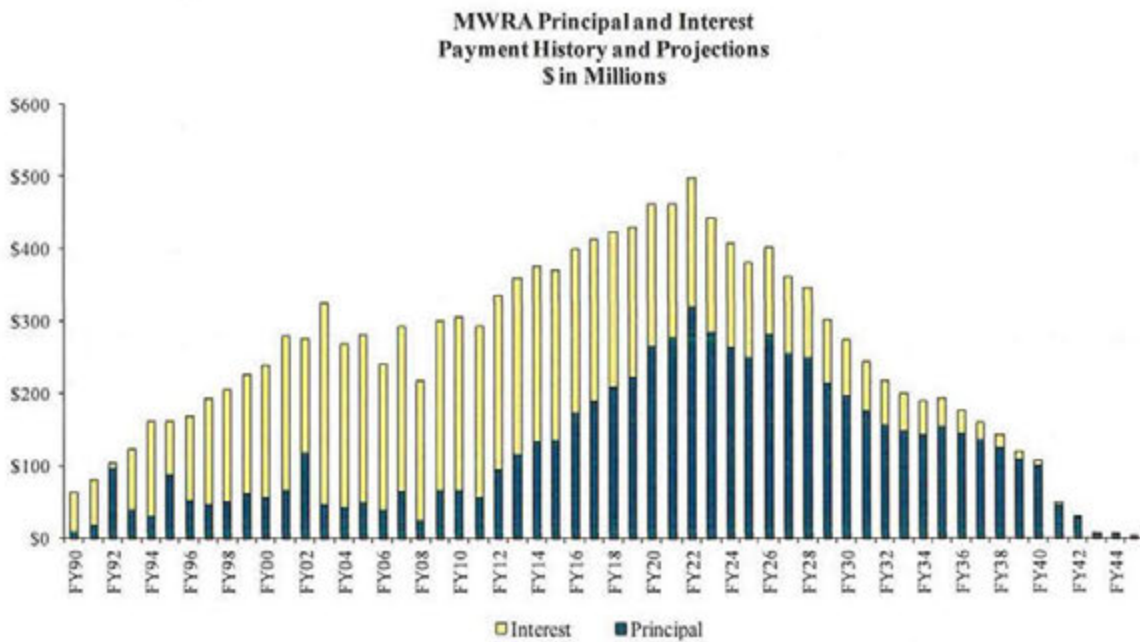
As of June 30th, MWRA's outstanding debt will be \$5.4 billion, \$211 million less than last year. However, debt service obligations are projected to increase in coming years peaking in 2022. The Authority's debt service as a percent of total expenses has increased from 36% in 1990 to 63% in the Final FY17 Current Expense Budget. Peak debt service is currently projected to be 66% of total expenses in FY22.

Through FY22, the Rate Revenue Requirement is projected to increase an average of \$27.3 million per year, mostly driven by Debt Service related expenses.

The graph below shows the projected Rate Revenue Requirement changes updated with the FY17 CIP spending and debt service projections.



MWRA continues to reduce its total bonded indebtedness, paying more principal than the current projected borrowings.



Changing Nature of the Capital Program

Since 1985, nearly 80% of the Authority’s spending had been on court mandated and regulatory required projects. Based on the Final FY17 CIP, mandated or regulatory related projects account for approximately 26% of contract spending - the majority of which will support Asset Protection, Water System Redundancy, Pipeline Replacement and Rehabilitation, and continued support for Community Assistance programs.

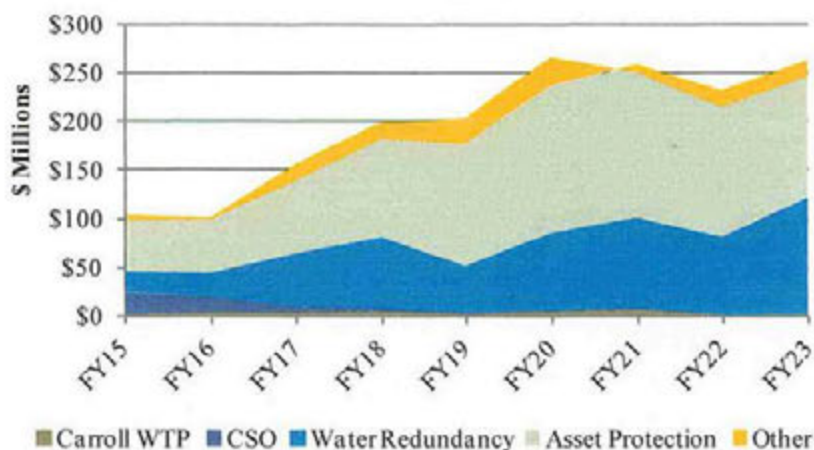
The table below highlights the changing nature of the Capital Improvement Program in the future:

	Total Contract	FY09-13	FY14-18	FY19-23
Asset Protection	\$2,359.1	\$248.0	\$326.1	\$725.3
Carroll WTP	436.9	38.5	13.6	11.5
Water Redundancy	2,785.9	134.7	201.7	423.5
CSO	882.0	315.5	66.0	3.0
Other	560.2	88.4	53.9	13.3
Total	\$7,024.1	\$825.1	\$661.2	\$1,176.6
Asset Protection	33.6%	30.1%	49.3%	61.6%
Carroll WTP	6.2%	4.7%	2.1%	1.0%
Water Redundancy	39.7%	16.3%	30.5%	36.0%
CSO	12.6%	38.2%	10.0%	0.3%
Other	8.0%	10.7%	8.2%	1.1%
Total	100.0%	100.0%	100.0%	100.0%

Asset Protection and Water Redundancy initiatives accounted for 30.1% and 16.3% of FY09-13 spending, respectively. Asset Protection and Water System Redundancy spending is projected to rise from past levels and currently accounts for 49.3% and 30.5% of Cap 3 capital expenditures respectively, a total of nearly \$527.8 million of the \$661.2 million, or nearly 80% projected to be spent over the 5-year period.

The graph below displays the projected trend of expenditures by major category for the FY14-23 time period.

FY 17 Final Expenditure Forecast by Major Category



Actual/Projected Spending By Major Categories for the FY14-18 Cap Period

The Final FY17 CIP contains future spending estimated at \$3.1 billion. The Final FY17 CIP (without contingency) includes planned expenditures of \$155.7 million for FY17 and total projected expenditures of \$661.2 million for the FY 14-18 Cap timeframe.

The table below represents the projected spending by major categories:

	Projected Spending After FY15	FY14	FY15	FY16	FY17	FY18	Total FY14-18
Wastewater System Improvements	\$1,216.6	\$55.7	\$75.4	\$65.1	\$70.4	\$97.2	\$363.8
Interception & Pumping	402.8	6.9	8.6	7.2	25.9	37.0	85.6
Treatment	588.2	29.1	25.7	27.3	18.1	39.1	139.4
Residuals	103.0	0.1	-	-	0.4	2.8	3.3
CSO	29.8	15.6	23.6	16.9	7.1	2.8	66.0
Other Wastewater	92.8	4.0	17.5	13.7	18.8	15.5	69.5
Waterworks System Improvements	\$1,867.9	\$41.0	\$22.7	\$30.1	\$73.0	\$91.7	\$258.4
Drinking Water Quality Improvements	26.5	30.2	12.4	6.9	3.0	4.2	56.7
Transmission	1,529.5	4.5	2.5	9.3	27.5	38.1	82.0
Distribution & Pumping	393.3	4.8	8.9	17.4	35.1	42.2	108.4
Other Waterworks	(81.4)	1.5	(1.1)	(3.5)	7.4	7.2	11.3
Business & Operations Support	45.6	5.5	5.5	6.1	12.3	9.5	39.0
Total MWRA	\$3,130.2	\$102.2	\$103.6	\$101.3	\$155.7	\$198.4	\$661.2

Please refer to Attachment B for a more detailed project listing and projected cash flows.

Top 5 Wastewater and Waterworks Projects – FY 14-18 Period

It is important to emphasize that the majority of spending within the Wastewater and Water Capital programs is concentrated in several large projects. These projects are either currently under construction or soon to be awarded.

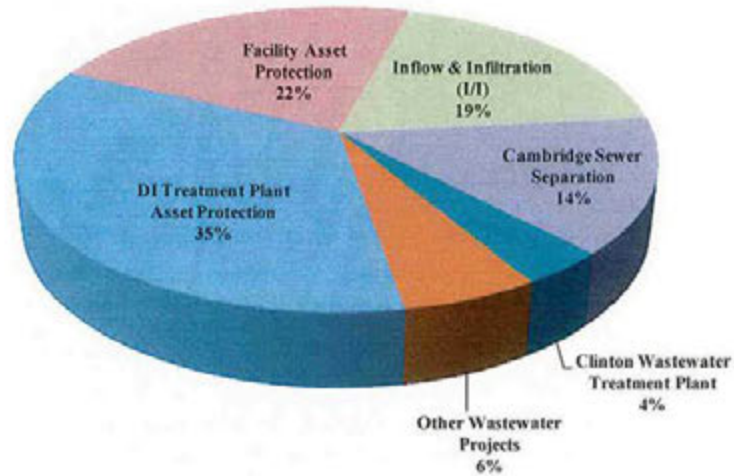
Top 5 Wastewater Projects for the FY 14-18 Cap Period:

Project	FY14-18 Spending	% of Program
DI Treatment Plant Asset Protection	\$126.3	34.7%
Facility Asset Protection	\$81.4	22.4%
Inflow & Infiltration (I/I)	\$69.5	19.1%
Cambridge Sewer Separation	\$52.3	14.4%
Clinton Wastewater Treatment Plant	\$13.2	3.6%
Total Top 5 Wastewater Projects	\$342.8	94.2%
Other Wastewater Projects	\$21.0	5.8%
Total Wastewater	\$363.8	100.0%

The top five projects for the Wastewater program total \$342.8 million for the FY14-18 Cap period and represent 94.2% of the \$363.8 million total program.

The breakdown of the \$363.8 million program by the major projects is illustrated below:

**Top 5 Wastewater Projects
FY14-18 Spending (\$ in millions)**

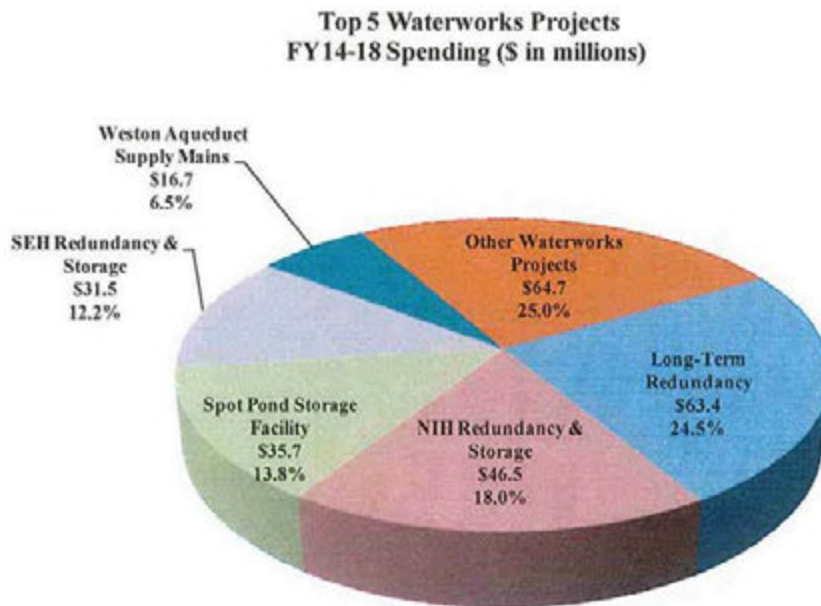


Similarly, the top five projects for the Waterworks program total \$193.7 million for the FY 14-18 Cap period and represent 75.0% of the \$258.4 million total program.

Top 5 Waterworks Projects for FY 14-18 Cap Period:

Project	FY14-18 Spending	% of Program
Long-Term Redundancy	\$63.4	24.5%
NIH Redundancy & Storage	\$46.5	18.0%
Spot Pond Storage Facility	\$35.7	13.8%
SEH Redundancy & Storage	\$31.5	12.2%
Weston Aqueduct Supply Mains	\$16.7	6.5%
Total Top 5 Waterworks Projects	\$193.7	75.0%
Other Waterworks Projects	\$64.7	25.0%
Total Waterworks	\$258.4	100.0%

The breakdown of the \$258.4 million program by the major projects is illustrated below:



Contingency

Contingency for each fiscal year is incorporated into the CIP to fund the uncertainties inherent to construction. The contingency budget is calculated as a percentage of budgeted expenditure outlays. Specifically, contingency is 7% for non-tunnel projects and 15% for tunnel projects. The contingency budget is \$8.7 million for FY17 and \$26.0 million for the FY14-18 timeframe.

Future Risks and Opportunities

Going forward, the largest decision that MWRA will have to make is pertaining to the long-term redundancy improvements to the Metropolitan Tunnels and design and replacement of Deer Island's Combined Heat and Power. These decisions will have a significant impact on the capital program and operating budget over the next 20 years.

CIP Review and Adoption Process

In December, the MWRA transmitted the FY17 Proposed Capital Improvement Program to the Advisory Board for its review and comment. The Advisory Board issued their Integrated Comments and Recommendations in June. MWRA responses to the Advisory Board Comments and Recommendations are included in the FY17 CEB Staff Summary as Attachment F.

ATTACHMENTS:

- A. New Capital Projects Added to the FY17 CIP
- B. Final FY17 Expenditure Forecast at Project Level
- C. Comparison of the Final FY17 CIP and the Final FY16 CIP

ATTACHMENT A
New Capital Projects Added to the FY17 CIP

Program	Project	Subphase	Contract Number	Total Contract Amount	FY17	FY18	FY14-18	FY19	FY19-23	Total Expenditures
Interception & Pumping	Facility Asset Protection	DeLauri Pump Station Screens, Gates, Valves and Security	7361	\$ 1,029,700		\$ 772,000	\$ 772,000	\$ 257,700	\$ 257,700	\$ 1,029,700
Interception & Pumping	Facility Asset Protection	Quincy/Hingham Pump Station Fuel Storage Upgrades Construction	7534	\$ 500,000	\$ 250,000	\$ 250,000	\$ 500,000		\$ -	\$ 500,000
Distribution and Pumping	Chestnut Hill Connecting Mains	Chestnut Hill Gatehouse No. 1 Repairs	7382	\$ 1,000,000	\$ 1,000,000	-	\$ 1,000,000		\$ -	\$ 1,000,000
SUMMARY:										
Total Wastewater Projects				\$ 1,529,700	\$ 250,000	\$ 1,022,000	\$ 1,272,000	\$ 257,700	\$ 257,700	\$ 1,529,700
Total Waterworks Projects				\$ 1,000,000	\$ 1,000,000	-	1,000,000	-	-	\$ 1,000,000
Total Projects				\$ 2,529,700	\$ 1,250,000	\$ 1,022,000	\$ 2,272,000	\$ 257,700	\$ 257,700	\$ 2,529,700

ATTACHMENT B
FY17 Final CIP
Expenditure Forecast at Project Level

Program / Project	Total Contract Amount	Payments through FY15	Remaining Balance	FY17	FY14 - FY18	FY19-FY23	Beyond FY23
Total MWRA	7,024,076,150	3,893,903,990	3,130,172,160	155,701,755	661,213,755	1,176,629,874	1,498,107,588
Wastewater	3,083,689,689	1,867,077,499	1,216,612,189	70,374,076	363,789,281	623,869,458	360,030,288
Interception & Pumping	938,786,055	535,991,369	402,794,685	25,927,610	85,595,931	186,827,735	145,822,327
102 Quincy Pump Facilities	25,907,202	25,907,203	-	-			
104 Braintree-Weymouth Relief Facilities	232,454,622	227,704,621	4,750,001	-	208,189	4,542,500	
105 New Neponset Valley Relief Sewer	30,300,303	30,300,303	-	-			
106 Wellesley Extension Replacement Sewer	64,358,543	64,358,543	-	-			
107 Framingham Extension Relief Sewer	47,855,986	47,855,986	-	-			
127 Cummingsville Replacement Sewer	8,998,768	8,998,767	-	-			
130 Siphon Structure Rehabilitation	6,669,019	939,770	5,729,249	-		5,729,249	
131 Upper Neponset Valley Sewer System	54,174,078	54,174,078	-	-			
132 Corrosion & Odor Control	26,116,829	3,001,406	23,115,423	539,785	2,139,116	20,976,307	
136 West Roxbury Tunnel	11,313,573	10,313,573	1,000,000	-		1,000,000	
137 Wastewater Central Monitoring	27,482,036	19,782,036	7,700,000	-	374,836	2,910,000	4,415,000
139 South System Relief Project	4,939,244	3,439,244	1,500,000	-		1,500,000	
141 Wastewater Process Optimization	10,389,283	1,463,147	8,926,136	-	296,588	5,168,493	3,719,023
142 Wastewater Meter System - Equipment Replacement	28,437,912	5,137,912	23,300,000	300,000	1,150,000	7,550,000	14,600,000
143 Regional I/I Management Planning	168,987	168,987	-	-			

ATTACHMENT B
FY17 Final CIP
Expenditure Forecast at Project Level

Program / Project	Total Contract Amount	Payments through FY15	Remaining Balance	FY17	FY14 - FY18	FY19-FY23	Beyond FY23
145 Facility Asset Protection	353,469,670	32,445,794	321,023,876	25,087,825	81,427,202	131,701,186	123,088,304
146 D.I. Cross Harbor Tunnel	5,000,000	-	5,000,000	-		5,000,000	
147 Randolph Trunk Sewer Relief	750,000	-	750,000	-		750,000	
Treatment	827,736,009	239,554,101	588,181,908	18,112,911	139,380,565	369,634,959	133,997,711
182 DI Primary and Secondary Treatment	(957,878)	(957,878)	-	-			
200 DI Plant Optimization	33,278,599	33,278,599	-	-	(148,080)		
206 DI Treatment Plant Asset Protection	772,632,702	200,289,871	572,342,831	13,345,607	126,319,341	365,172,600	133,640,183
210 Clinton Wastewater Treatment Plant	20,554,912	4,715,835	15,839,078	4,767,304	13,209,304	4,462,359	357,528
211 Laboratory Services	2,227,674	2,227,674	-	-			
Residuals	167,642,622	64,642,623	103,000,000	400,000	3,302,307	9,737,507	90,066,993
261 Residuals	63,810,848	63,810,848	-	-			
271 Residuals Asset Protection	103,831,775	831,775	103,000,000	400,000	3,302,307	9,737,507	90,066,993
CSO	906,659,141	876,839,220	29,819,921		65,972,595	2,980,216	
CSO MWRA Managed	433,644,871	433,198,984	445,887	6,000	3,766,392		
339 North Dorchester Bay	221,599,832	221,597,310	2,522	-	(20,774)		
347 East Boston Branch Sewer Relief	85,637,164	85,637,164	-	-	(8,831)		
348 BOS019 Storage Conduit	14,287,581	14,287,581	-	-			
349 Chelsea Trunk Sewer	29,779,319	29,779,319	-	-			

ATTACHMENT B
FY17 Final CIP
Expenditure Forecast at Project Level

Program / Project	Total Contract Amount	Payments through FY15	Remaining Balance	FY17	FY14 - FY18	FY19-FY23	Beyond FY23
350 Union Park Detention Treatment Facility	49,583,406	49,583,406	-	-			
353 Upgrade Existing CSO Facilities	22,385,200	22,385,200	-	-			
354 Hydraulic Relief Projects	2,294,549	2,294,549	-	-			
355 MWR003 Gate & Siphon	4,444,743	4,001,378	443,364	6,000	3,795,997		
357 Charles River CSO Controls	3,633,077	3,633,077	-	-			
CSO Community Managed	422,766,150	395,442,852	27,323,299	7,100,835	62,926,482	1,376,229	
340 Dorchester Bay Sewer Separation (Fox Point)	54,625,590	54,625,590	-	-	473,295		
341 Dorchester Bay Sewer Separation (Commercial Pt.)	64,173,625	60,542,452	3,631,173	(126,584)	1,650,246	1,376,229	
342 Neponset River Sewer Separation	2,549,086	2,549,086	-	-	104,692		
343 Constitution Beach Sewer Separation	3,731,315	3,731,315	-	-	(37,573)		
344 Stony Brook Sewer Separation	44,246,462	44,246,463	-	-	48,079		
346 Cambridge Sewer Separation	102,745,478	79,404,780	23,340,697	6,875,995	52,261,274		
351 BWSC Floatables Controls	945,936	945,936	-	-	12,957		
352 Cambridge Floatables Controls	1,126,708	1,126,708	-	-	39,783		
356 Fort Point Channel Sewer Separation	11,917,090	11,917,089	-	-	(89,619)		
358 Morrissey Boulevard Drain	32,185,790	32,188,262	(2,472)	(2,473)	(160,998)		
359 Reserved Channel Sewer Separation	70,749,374	70,395,476	353,897	353,897	10,709,472		
360 Brookline Sewer Separation	24,715,291	24,715,290	-	-	(1,282,073)		

ATTACHMENT B
FY17 Final CIP
Expenditure Forecast at Project Level

Program / Project	Total Contract Amount	Payments through FY15	Remaining Balance	FY17	FY14 - FY18	FY19-FY23	Beyond FY23
361 Bulfinch Triangle Sewer Separation	9,054,405	9,054,404	-	-	(803,052)		
CSO Planning & Support	50,248,120	48,197,384	2,050,737	9,250	(720,279)	1,603,987	
324 CSO Support	50,248,120	48,197,384	2,050,737	9,250	(720,279)	1,603,987	
Other Wastewater	242,865,861	150,050,187	92,815,674	18,817,470	69,537,883	54,689,041	(9,856,743)
128 I/I Local Financial Assistance	242,584,985	149,769,311	92,815,674	18,817,470	69,537,883	54,689,041	(9,856,743)
138 Sewerage System Mapping Upgrades	280,876	280,876	-	-			
Waterworks	3,806,268,442	1,938,353,455	1,867,914,987	73,009,460	258,414,018	535,094,716	1,138,077,301
Drinking Water Quality Improvements	664,361,952	637,824,481	26,537,472	2,990,774	56,660,526	11,856,864	637,009
542 Carroll Water Treatment Plant	436,904,490	416,046,024	20,858,466	2,194,193	13,598,956	11,460,000	637,009
543 Quabbin Water Treatment Plant	19,972,883	19,575,776	397,107	-	7,204,638		
544 Norumbega Covered Storage	106,674,146	106,674,146	-	-			
545 Blue Hills Covered Storage	40,557,301	40,082,837	474,464	-	197,600	396,864	
550 Spot Pond Storage Facility	60,253,133	55,445,699	4,807,434	796,581	35,659,332		
Transmission	2,291,471,802	762,009,981	1,529,461,821	27,540,118	81,968,700	364,994,003	1,089,470,942
597 Winsor Station Pipeline	31,177,372	1,954,234	29,223,137	2,510,914	5,521,660	24,260,122	
601 Sluice Gate Rehabilitation	9,158,411	9,158,411	-	-			
604 MetroWest Tunnel	707,446,791	696,805,021	10,641,769	207,822	2,007,178	9,922,884	118,221
615 Chicopee Valley Aqueduct Redundancy	8,666,292	8,666,292	-	-			
616 Quabbin Transmission System	15,956,914	7,456,913	8,500,000	1,000,000	1,254,449	7,500,000	
617 Sudbury/Weston Aqueduct Repairs	6,552,918	659,948	5,892,969	1,799,470	2,547,689	3,345,280	
620 Wachusett Reservoir Spillway Improvements	9,287,460	9,287,461	-	-			

ATTACHMENT B
FY17 Final CIP
Expenditure Forecast at Project Level

Program / Project	Total Contract Amount	Payments through FY15	Remaining Balance	FY17	FY14 - FY18	FY19-FY23	Beyond FY23
621 Watershed Land	24,000,000	18,248,400	5,751,600	2,000,000	6,657,600		
623 Dam Projects	4,538,205	3,092,761	1,445,444	-	545,528	907,495	
625 Long Term Redundancy	1,474,687,439	6,680,538	1,468,006,900	20,021,912	63,434,596	319,058,222	1,089,352,721
Distribution And Pumping	779,783,560	386,452,802	393,330,758	35,113,055	108,445,626	169,564,885	129,069,469
618 Northern High NW Transmission Section 70	1,000,000	-	1,000,000	-	474,000	526,000	
677 Valve Replacement	22,749,419	12,016,378	10,733,041	240,000	2,152,930	4,182,649	4,397,459
678 Boston Low Service - Pipe & Valve Rehabilitation	23,690,864	23,690,863	-	-			
683 Heath Hill Road Pipe Replacement	19,358,036	19,358,036	-	-			
689 James L. Gillis Pump Station	33,419,006	33,419,007	-	-			
692 Northern High Service - Section 27 Improvement	1,097,441	123,646	973,795	14,680	183,379	790,416	
693 NHS - Revere & Malden Pipeline Improvements	55,009,978	26,832,740	28,177,239	292,998	813,998	27,363,241	
702 New Connecting Mains - Shaft 7 to WASM 3	36,255,086	11,315,807	24,939,279	860,000	2,559,000	22,637,947	97,331
704 Rehab of Other Pump Stations	55,057,852	30,057,852	25,000,000	93,333	253,333	5,867,501	18,879,166
706 NHS - New Connecting Mains from Section 91	2,360,194	2,360,194	-	-			
708 Northern Extra High Service - New Pipelines	7,888,834	3,632,119	4,256,715	22,714	58,614	3,497,500	700,601

ATTACHMENT B
FY17 Final CIP
Expenditure Forecast at Project Level

Program / Project	Total Contract Amount	Payments through FY15	Remaining Balance	FY17	FY14 - FY18	FY19-FY23	Beyond FY23
712 Cathodic Protection of Distribution Mains	1,655,601	140,913	1,514,688	67,750	417,750	1,096,938	
713 Spot Pond Supply Mains Rehab	68,809,992	61,696,403	7,113,589	605,601	4,564,045	3,213,947	50,000
714 Southern Extra High - Sections 41 & 42	3,657,243	3,657,243	-	-			
719 Chestnut Hill Connecting Mains	24,449,658	17,486,675	6,962,983	1,000,000	1,000,000	102,000	5,860,983
720 Warren Cottage Line Rehab	1,204,822	1,204,821	-	-			
721 Southern Spine Distribution Mains	74,984,836	36,681,373	38,303,463	1,269	368,992	3,963,602	33,960,593
722 NIH Redundancy & Storage	92,641,070	11,149,175	81,491,895	18,474,000	46,522,507	40,144,200	
723 Northern Low Service Rehab - Section 8	23,441,424	2,320,986	21,120,437	15,000	43,588	20,036,171	1,040,679
725 Hydraulic Model Update	598,358	598,358	-	-			
727 SEH Redundancy & Storage	101,694,481	7,620,602	94,073,878	11,608,883	31,452,064	8,866,390	54,619,056
730 Weston Aqueduct Supply Mains	109,810,867	72,746,641	37,064,226	1,289,827	16,679,119	18,209,383	8,879,070
731 Lynnfield Pipeline	5,625,829	5,625,828	-	-	(51,693)		
732 Walnut St. & Fisher Hill Pipeline Rehab	2,717,140	2,717,141	-	-			
735 Section 80 Rehabilitation	10,605,531	-	10,605,531	527,000	954,000	9,067,000	584,531
Other Waterworks	70,651,129	152,066,192	(81,415,063)	7,365,513	11,339,166	(11,321,035)	(81,100,120)
753 Central Monitoring System	39,215,328	16,030,643	23,184,684	2,987,547	6,457,801	6,267,798	10,686,000
763 Distribution Systems Facilities Mapping	2,298,919	1,036,368	1,262,551	187,500	532,819	729,732	
764 Local Water Infrastructure Rehab	7,487,762	7,487,762	-	-			

ATTACHMENT B
FY17 Final CIP
Expenditure Forecast at Project Level

<i>Program / Project</i>	Total Contract Amount	Payments through FY15	Remaining Balance	FY17	FY14 - FY18	FY19-FY23	Beyond FY23
765 Local Water Pipeline Assistance Program	-	126,865,175	(126,865,175)	2,455,682	1,796,778	(34,143,899)	(94,512,120)
766 Waterworks Facility Asset Protection	21,649,119	646,243	21,002,876	1,734,784	2,551,767	15,825,334	2,726,000
Business & Operations Support	134,118,019	88,473,036	45,644,983	12,318,219	39,010,456	17,665,700	
881 Equipment Purchase	28,936,842	16,708,657	12,228,185	4,052,694	11,632,963	5,196,550	
925 Technical Assistance	1,125,000	-	1,125,000	375,000	775,000	350,000	
930 MWRA Facility - Chelsea	9,813,633	9,813,633	-	-			
931 Business Systems Plan	24,527,709	24,527,709	-	-	76,479		
932 Environmental Remediation	1,478,602	1,478,602	-	-	(200)		
933 Capital Maintenance Planning & Development	16,336,511	11,539,126	4,797,385	1,776,573	6,212,271		
934 MWRA Facilities Management	2,150,535	370,533	1,780,002	-	-	1,780,002	
935 Alternative Energy Initiatives	25,557,939	17,387,564	8,170,375	750,000	2,661,680	5,699,450	
940 Application Improvement Program	10,175,904	484,231	9,691,673	2,287,402	6,880,726	3,222,054	
942 Information Security Program (ISP)	2,821,703	819,825	2,001,878	44,000	1,884,546	401,967	
944 Information Technology Management Program	922,640	-	922,640	727,590	892,697	29,943	
946 IT Infrastructure Program	10,271,000	5,343,155	4,927,845	2,304,960	7,994,295	985,734	

Attachment C
Comparison of the FY17 Final CIP and the FY16 Final CIP

Program and Project	Final FY16				FY17 Final				Change from Final FY16			
	Total Budget Amount	FY14-18	FY19-23	Beyond 23	Total Budget Amount	FY14-18	FY19-23	Beyond 23	Total Budget Amount	FY14-18	FY19-23	Beyond 23
Total MWRA	6,012,395	711,532	1,223,762	388,976	7,024,072	661,210	1,176,629	1,498,106	1,011,677	(50,322)	(47,133)	1,109,130
Wastewater	2,974,567	419,344	634,899	184,324	3,083,688	363,785	623,868	360,028	109,121	(55,559)	(11,031)	175,704
Interception & Pumping	890,031	98,024	224,870	46,598	938,785	85,595	186,827	145,821	48,754	(12,429)	(38,043)	99,223
102 Quincy Pump Facilities	25,907	-	-	-	25,907	-	-	-	-	-	-	-
104 Braintree-Weymouth Relief Facilities	232,455	310	4,441	-	232,455	208	4,543	-	-	(102)	102	-
105 New Neponset Valley Relief Sewer	30,300	-	-	-	30,300	-	-	-	-	-	-	-
106 Wellesley Extension Replacement Sewer	64,359	-	-	-	64,359	-	-	-	-	-	-	-
107 Framingham Extension Relief Sewer	47,856	-	-	-	47,856	-	-	-	-	-	-	-
127 Cummingsville Replacement Sewer	8,999	-	-	-	8,999	-	-	-	-	-	-	-
130 Siphon Structure Rehabilitation	6,635	-	5,695	-	6,669	-	5,729	-	34	-	34	-
131 Upper Neponset Valley Sewer	54,174	-	-	-	54,174	-	-	-	-	-	-	-
132 Corrosion & Odor Control	19,782	543	16,238	-	26,117	2,139	20,976	-	6,335	1,596	4,738	-
136 West Roxbury Tunnel	11,314	-	1,000	-	11,314	-	1,000	-	-	-	-	-
137 Wastewater Central Monitoring	27,482	760	2,910	4,030	27,482	375	2,910	4,415	-	(385)	-	385
139 South System Relief Project	4,939	-	1,500	-	4,939	-	1,500	-	-	-	-	-
141 Wastewater Process Optimization	10,383	1,391	5,817	1,970	10,389	297	5,168	3,719	6	(1,094)	(649)	1,749
142 Wastewater Meter System-Equipment	27,738	6,436	1,564	14,600	28,438	1,150	7,550	14,600	700	(5,286)	5,986	-
143 Regional I/I Management Planning	169	-	-	-	169	-	-	-	-	-	-	-
145 Facility Asset Protection	311,791	88,585	179,955	25,999	353,470	81,427	131,701	123,088	41,679	(7,158)	(48,254)	97,089
146 D.I. Cross Harbor Tunnel Inspection	5,000	-	5,000	-	5,000	-	5,000	-	-	-	-	-
147 Randolph Trunk Sewer Relief	750	-	750	-	750	-	750	-	-	-	-	-
Treatment	775,573	183,994	352,083	54,773	827,737	139,380	369,635	133,997	52,164	(44,614)	17,552	79,224
182 DI Primary and Secondary	(958)	-	-	-	(958)	-	-	-	-	-	-	-
200 DI Plant Optimization	33,427	-	-	-	33,279	(148)	-	-	(148)	(148)	-	-
206 DI Treatment Plant Asset Protection	720,365	170,511	347,938	54,416	772,633	126,319	365,173	133,640	52,268	(44,192)	17,235	79,224
210 Clinton Wastewater Treat Plant	20,511	13,483	4,145	358	20,555	13,209	4,462	358	44	(274)	317	-
211 Laboratory Services	2,228	-	-	-	2,228	-	-	-	-	-	-	-
Residuals	167,643	4,570	8,470	90,067	167,643	3,302	9,738	90,067	-	(1,268)	1,268	-
261 Residuals	63,811	-	-	-	63,811	-	-	-	-	-	-	-
271 Residuals Asset Protection	103,832	4,570	8,470	90,067	103,832	3,302	9,738	90,067	-	(1,268)	1,268	-

Attachment C
Comparison of the FY17 Final CIP and the FY16 Final CIP

Program and Project	Final FY16				FY17 Final				Change from Final FY16			
	Total Budget Amount	FY14-18	FY19-23	Beyond 23	Total Budget Amount	FY14-18	FY19-23	Beyond 23	Total Budget Amount	FY14-18	FY19-23	Beyond 23
CSO	898,455	57,747	3,001	-	906,658	65,970	2,979	-	8,203	8,223	(22)	-
340 Dorchester Bay Sewer Separation (Fox Point)	54,626	473	-	-	54,626	473	-	-	-	-	-	-
341 Dorchester Bay Sewer Separation (Commercial Point)	64,174	1,287	1,740	-	64,174	1,650	1,376	-	-	363	(364)	-
342 Neponset River Sewer Separation	2,549	105	-	-	2,549	105	-	-	-	-	-	-
343 Constitution Beach Sewer Separation	3,731	(38)	-	-	3,731	(38)	-	-	-	-	-	-
344 Stony Brook Sewer Separation	44,246	48	-	-	44,246	48	-	-	-	-	-	-
346 Cambridge Sewer Separation	92,563	42,079	-	-	102,745	52,261	-	-	10,182	10,182	-	-
351 BWSC Floatables Controls	946	13	-	-	946	13	-	-	-	-	-	-
352 Cambridge Floatables Control	1,127	40	-	-	1,127	40	-	-	-	-	-	-
356 Fort Point Channel Sewer Separation	11,917	(90)	-	-	11,917	(90)	-	-	-	-	-	-
358 Morrissey Boulevard Drain	32,186	(161)	-	-	32,186	(161)	-	-	-	-	-	-
359 Reserved Channel Sewer Separation	72,613	12,573	-	-	70,749	10,709	-	-	(1,864)	(1,864)	-	-
360 Brookline Sewer Separation	24,716	(1,282)	-	-	24,715	(1,282)	-	-	(1)	-	-	-
361 Bulfinch Triangle Sewer Separation	9,054	(803)	-	-	9,054	(803)	-	-	-	-	-	-
339 North Dorchester Bay	221,597	(23)	-	-	221,600	(21)	-	-	3	2	-	-
347 East Boston Branch Sewer Relief	85,637	(9)	-	-	85,637	(9)	-	-	-	-	-	-
348 BOSO19 Storage Conduit	14,288	-	-	-	14,288	-	-	-	-	-	-	-
349 Chelsea Trunk Sewer	29,779	-	-	-	29,779	-	-	-	-	-	-	-
350 Union Park Detention Treatment Facility	49,583	-	-	-	49,583	-	-	-	-	-	-	-
353 Upgrade Existing CSO Facilities	22,385	-	-	-	22,385	-	-	-	-	-	-	-
354 Hydraulic Relief Projects	2,295	-	-	-	2,295	-	-	-	-	-	-	-
355 MWR003 Gate & Siphon	4,562	3,914	-	-	4,445	3,796	-	-	(117)	(118)	-	-
357 Charles River CSO Controls	3,633	-	-	-	3,633	-	-	-	-	-	-	-
324 CSO Support	50,248	(378)	1,262	-	50,248	(720)	1,604	-	-	(342)	342	-
Other Wastewater	242,866	75,009	46,475	(7,114)	242,866	69,538	54,689	(9,857)	-	(5,471)	8,214	(2,743)
128 I/I Local Financial Assistance	242,585	75,009	46,475	(7,114)	242,585	69,538	54,689	(9,857)	-	(5,471)	8,214	(2,743)
138 Sewerage System Mapping Upgrade	281	-	-	-	281	-	-	-	-	-	-	-
Total Waterworks	2,909,436	251,266	578,835	204,653	3,806,266	258,415	535,095	1,138,079	896,830	7,149	(43,740)	933,426
Drinking Water Quality	666,292	58,903	12,161	20	664,361	56,661	11,857	637	(1,931)	(2,242)	(304)	617
542 Carroll Water Treatment Plant	438,192	15,166	11,797	20	436,904	13,599	11,460	637	(1,288)	(1,567)	(337)	617
543 Quabbin Water Treatment Plant	19,719	6,951	-	-	19,973	7,205	-	-	254	254	-	-
544 Norumbega Covered Storage	106,674	-	-	-	106,674	-	-	-	-	-	-	-
545 Blue Hills Covered Storage	40,555	228	364	-	40,557	198	397	-	2	(30)	33	-
550 Spot Pond Storage Facility	61,152	36,558	-	-	60,253	35,659	-	-	(899)	(899)	-	-

Attachment C
Comparison of the FY17 Final CIP and the FY16 Final CIP

Program and Project	Final FY16			
	Total Budget Amount	FY14-18	FY19-23	Beyond 23
Transmission	1,224,185	78,812	275,900	114,434
597 Winsor Station Pipeline	27,883	9,661	16,827	-
601 Sluice Gate Rehabilitation	9,158	-	-	-
604 MetroWest Tunnel	708,664	3,260	9,888	118
615 Chicopee Valley Aqueduct Redundancy	8,666	-	-	-
616 Quabbin Transmission System	15,457	773	7,481	-
617 Sudbury/Weston Aqueduct Repairs	7,149	3,146	3,343	-
620 Wachusett Reservoir Spillway Improvement	9,287	-	-	-
621 Watershed Land	24,000	6,658	-	-
622 Cosgrove/Wachusett Redundancy	-	-	-	-
623 Dam Projects	4,538	978	475	-
625 Long Term Redundancy	409,381	54,336	237,886	114,317
Distribution & Pumping	949,123	105,791	324,977	145,651
618 Northern High NW Tran Sections 70 & 71	1,000	474	526	-
677 Valve Replacement	22,702	2,717	3,619	4,351
678 Boston Low Service-Pipe & Valve Rehabilitation	23,691	-	-	-
683 Heath Hill Road Pipe Replacement	19,358	-	-	-
689 James L. Gillis Pump Station Rehabilitation	33,419	-	-	-
692 NHS - Section 27 Improvements	1,092	178	790	-
693 NHS - Revere & Malden Pipeline Improvement	55,161	11,020	16,607	702
702 New Connect Mains-Shaft 7 to WASM 3	34,296	403	17,111	5,821
704 Rehabilitation of Other Pump Stations	55,058	-	18,750	6,250
706 NHS-Connecting Mains from Section 91	2,360	-	-	-
708 Northern Extra High Service New Pipelines	7,863	61	3,495	675
712 Cathodic Protection Of Distribution Mains	1,668	509	763	254
713 Spot Pond Supply Mains Rehabilitation	66,807	2,713	3,112	-
714 Southern Extra High Sections 41 & 42	3,657	-	-	-
719 Chestnut Hill Connecting Mains	32,035	316	10,156	4,076
720 Warren Cottage Line Rehabilitation	1,205	-	-	-
721 South Spine Distribution Mains	74,773	369	4,037	33,676
722 NIH Redundancy & Storage	90,187	43,327	40,885	-
723 Northern Low Service Rehabilitation Section 8	23,334	553	20,459	-
724 Northern High Service - Pipeline Rehabilitation	-	-	-	-
725 Hydraulic Model Update	598	-	-	-
727 Southern Extra High Redundancy & Storage	99,544	23,224	15,274	54,289
730 Weston Aqueduct Supply Mains	281,137	19,422	160,114	35,557
731 Lynnfield Pipeline	5,626	(52)	-	-
732 Walnut St. & Fisher Hill Pipeline Rehabilitation	2,717	-	-	-
733 NHS Pipeline Rehabilitation 13-18 & 48	-	-	-	-
734 Southern Extra High Pipelines-Sections 30, 39,40, & 44	-	-	-	-

Total Budget Amount	FY17 Final		
	FY14-18	FY19-23	Beyond 23
2,291,472	81,970	364,993	1,089,470
31,177	5,522	24,260	-
9,158	-	-	-
707,447	2,007	9,923	118
8,666	-	-	-
15,957	1,254	7,500	-
6,553	2,548	3,345	-
9,287	-	-	-
24,000	6,658	-	-
-	-	-	-
4,538	546	907	-
1,474,687	63,435	319,058	1,089,353
779,782	108,445	169,566	129,070
1,000	474	526	-
22,749	2,153	4,183	4,397
23,691	-	-	-
19,358	-	-	-
33,419	-	-	-
1,097	183	790	-
55,010	814	27,363	-
36,255	2,559	22,638	97
55,058	253	5,868	18,879
2,360	-	-	-
7,889	59	3,498	701
1,656	418	1,097	-
68,810	4,564	3,214	50
3,657	-	-	-
24,450	1,000	102	5,861
1,205	-	-	-
74,985	369	3,964	33,961
92,641	46,523	40,144	-
23,441	44	20,036	1,041
-	-	-	-
598	-	-	-
101,694	31,452	8,866	54,619
109,811	16,679	18,209	8,879
5,626	(52)	-	-
2,717	-	-	-
-	-	-	-
-	-	-	-

Total Budget Amount	Change from Final FY16		
	FY14-18	FY19-23	Beyond 23
1,067,287	3,158	89,093	975,036
3,294	(4,139)	7,433	-
-	-	-	-
(1,217)	(1,253)	35	-
-	-	-	-
500	481	19	-
(596)	(598)	2	-
-	-	-	-
-	-	-	-
-	-	-	-
-	(432)	432	-
1,065,306	9,099	81,172	975,036
(169,341)	2,654	(155,411)	(16,581)
-	-	-	-
47	(564)	564	46
-	-	-	-
-	-	-	-
5	5	-	-
(151)	(10,206)	10,756	(702)
1,959	2,156	5,527	(5,724)
-	253	(12,882)	12,629
-	-	-	-
26	(2)	3	26
(12)	(91)	334	(254)
2,003	1,851	102	50
-	-	-	-
(7,585)	684	(10,054)	1,785
-	-	-	-
212	-	(73)	285
2,454	3,196	(741)	-
107	(509)	(423)	1,041
-	-	-	-
-	-	-	-
2,150	8,228	(6,408)	330
(171,326)	(2,743)	(141,905)	(26,678)
-	-	-	-
-	-	-	-
-	-	-	-

Attachment C
Comparison of the FY17 Final CIP and the FY16 Final CIP


Program and Project	Final FY16				FY17 Final				Change from Final FY16			
	Total Budget Amount	FY14-18	FY19-23	Beyond 23	Total Budget Amount	FY14-18	FY19-23	Beyond 23	Total Budget Amount	FY14-18	FY19-23	Beyond 23
735 Section 80 Rehabilitation	9,836	558	9,278	-	10,606	954	9,067	585	770	396	(211)	585
Other	69,836	7,760	(34,203)	(55,454)	70,651	11,339	(11,321)	(81,100)	815	3,579	22,882	(25,646)
753 Central Monitoring System	39,006	6,297	6,220	10,686	39,215	6,458	6,268	10,686	209	161	48	-
763 Distribution Systems Facilities Mapping	2,299	914	348	-	2,299	533	730	-	-	(381)	382	-
764 Local Water Infrastructure Rehabilitation Assistance	7,488	-	-	-	7,488	-	-	-	-	-	-	-
765 Local Water Pipeline Improvement Loan Program	-	(4,508)	(53,490)	(68,861)	-	1,797	(34,144)	(94,512)	-	6,305	19,346	(25,651)
766 Waterworks Facility Asset Protection	21,043	5,058	12,719	2,721	21,649	2,552	15,825	2,726	606	(2,506)	3,106	5
Business & Operations Support	128,393	40,922	10,029	-	134,119	39,010	17,667	-	5,726	(1,912)	7,638	-
881 Equipment Purchase	23,168	10,063	997	-	28,937	11,633	5,197	-	5,769	1,570	4,200	-
925 Technical Assistance	1,125	1,125	-	-	1,125	775	350	-	-	(350)	350	-
930 MWRA Facility - Chelsea	9,814	-	-	-	9,814	-	-	-	-	-	-	-
931 Business Systems Plan	24,552	101	-	-	24,528	76	-	-	(24)	(25)	-	-
932 Environmental Remediation	1,479	-	-	-	1,479	-	-	-	-	-	-	-
933 Capital Maintenance Planning	16,721	6,597	-	-	16,337	6,212	-	-	(384)	(385)	-	-
934 MWRA Facilities Management	2,151	-	1,780	-	2,151	-	1,780	-	-	-	-	-
935 Alternative Energy Initiatives	25,630	3,576	4,857	-	25,558	2,662	5,699	-	(72)	(914)	842	-
940 Applicat Improv Program	10,176	8,437	1,666	-	10,176	6,881	3,222	-	-	(1,556)	1,556	-
942 Info Security Program ISP	2,385	1,595	255	-	2,822	1,885	402	-	437	290	147	-
944 Info Tech Mgmt Program	923	863	59	-	923	893	30	-	-	30	(29)	-
946 IT Infrastructure Program	10,271	8,566	414	-	10,271	7,994	986	-	-	(572)	572	-

STAFF SUMMARY


TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: June 29, 2016
SUBJECT: Final FY17 Current Expense Budget



COMMITTEE: Administration, Finance & Audit


Kathy Soni, Budget Director
Louise Miller, Budget Manager
Preparer/Title

 INFORMATION
 X VOTE


Thomas J. Durkin
Director, Finance

The Proposed FY17 Current Expense Budget (CEB) submitted to the Advisory Board at the February 2016 Board meeting included a 3.9% combined assessment increase. Based on the Board discussions during the June 8th budget hearings and the Advisory Board's recommendations, staff are now proposing a 3.34% combined assessment increase, which is significantly lower than the 3.9% increase projected for FY17 last year, and matches the Advisory Board's recommendation.

In comparison with the Proposed Budget, the Rate Revenue Requirement was reduced by a net of \$3.8 million as result of \$6.2 million in savings for indirect expenses, \$2.1 million in savings for direct expenses, offset by \$3.7 million increase to Capital Finance, and \$708,000 reduction in non-rate revenue.

Major line-item changes include:

- *Building into the budget a \$11.0 million Debt Prepayment;*
- *\$5.8 million reduction to Current Revenue for Capital based on the Advisory Board's recommendation;*
- *\$5.6 million reduction for the Watershed Debt obligation for the Commonwealth which was prepaid in FY16;*
- *Net reduction of \$2.1 million for Direct Expense updates; and*
- *Recognition of \$854,000 for the receipt of Debt Service Assistance*

As every year, the main focus is on next year's budget, but always with the goal of continuing to utilize MWRA's multi-year rate management strategy to provide sustainable, predictable and reasonable assessment increases to its member communities. To achieve this goal again this year, MWRA has continued to employ conservative budgeting and fiscal discipline which includes controlled spending and use of historical variable rate assumptions. The combination of these measures resulted in assessment increase projections at 3.8% for the next five years.

For the first time, the FY17 budget also addresses the smoothing of rate revenue changes at the water and sewer utility level.

RECOMMENDATION:

1. To adopt the Final FY17 Current Expense Budget (CEB) set forth in Attachment B and Attachment C with current revenue and expenses of \$719.6 million.
2. To adopt the Final FY17 Operating Budget (Trustee's Budget) set forth in Attachment D.

DISCUSSION:

This staff summary presents the Final FY17 CEB. On June 8th, the Board of Directors held a hearing on the Draft Final FY17 CEB. Discussions and materials provided at the hearing outlined changes to the budget since the transmittal of the Proposed FY17 CEB in February 2016. The additional changes made to the Final FY17 CEB are highlighted on the first page of this staff summary.

For a line item comparison between the Proposed FY17 CEB to the Final FY17 CEB, please refer to Attachment A.

Summary

The Final FY17 Budget recommends a combined increase in rates and charges of 3.34%. Capital financing costs remain the largest component of the CEB and account for 63.2% of total expenses. Total expenses are \$719.6 million, an increase of \$17.1 million or 2.4% over the FY16 Budget. A receipt of \$873,804 in April 2016 for Debt Service Assistance is a direct offset to capital financing costs in FY17.

Total expenses include \$455.1 million for Capital Financing costs and \$264.5 million for operating expenses, of which \$226.5 million is for Direct Expenses and \$38.0 million is for Indirect Expenses. The \$17.1 million increase is mainly due to higher Capital Finance expenses of \$22.4 million, higher Direct Expenses of \$3.7 million due to inclusion of Cost of Living Adjustments (COLA) for staff, higher healthcare costs, and higher projected maintenance expenses, offset by \$9.0 million of Indirect Expenses mostly for the Watershed Debt expenses and pension expenses. It is important to note that Direct Expenses increase of 1.7% was below the targeted 2.5% versus FY16, due to the reduction of 14 funded positions, on-going cost improvement initiatives, and favorable prices for utilities and chemicals.

The Final FY17 Budget for Revenues, excluding Rate Revenue, total \$24.7 million, a decrease of \$5.3 million or 17.6% from the FY16 Budget. The Final FY17 non-rate revenue budget includes \$15.3 million in Other User Charges and Other Revenue and \$9.5 million for Investment Income. The majority of the decrease is due to recognizing in FY16 a one-time water revenue for water provided to the City of Cambridge during an FY14 Combined Sewer Overflow (CSO) project.

The FY17 Rate Revenue Requirement is \$694.9 million, an increase of \$22.4 million or 3.34% over the FY16 Budget.

Table 1 on the following page provides a comparison of the Final FY17 CEB and FY16 Budget by major categories. Additional detail by line item and by Division is provided in Attachments B and C.

Table 1

**MWRA Current Expense Budget
Final FY17 Budget versus FY16 Budget**

(\$ in Millions)	FY16 Budget	Final FY17 Budget	\$ Change	% Change
Directs	\$ 222.8	\$ 226.5	\$ 3.7	1.7%
Indirects	47.0	38.0	(9.0)	-19.1%
Sub-Total Operating Expenses	\$ 269.8	\$ 264.5	\$ (5.3)	-2.0%
Capital Financing (before Offsets)	432.7	456.0	23.3	5.4%
<i>Offsets:</i> Bond Redemption ¹	-	-	-	
Variable Debt Savings	-	-	-	
Debt Service Assistance	-	(0.9)	(0.9)	0.0%
Sub-Total Capital Financing	\$ 432.7	\$ 455.1	\$ 22.4	5.2%
Total Expenses	\$ 702.5	\$ 719.6	\$ 17.1	2.4%
Investment Income	\$ 9.4	\$ 9.5	\$ 0.1	1.3%
Non-Rate Revenue	20.7	15.3	(5.4)	-26.2%
Rate Stabilization ¹	-	-	-	
Sub-Total Non-Rate Revenue	\$ 30.0	\$ 24.7	\$ (5.3)	-17.6%
Rate Revenue	672.4	694.9	22.4	3.3%
Total Revenue & Income	\$ 702.5	\$ 719.6	\$ 17.1	2.4%
FY17 Rate Revenue Increase		3.34%		
Combined Use of Reserves	\$ -	\$ -		

¹ MWRA has two reserve funds (Bond Redemption and Rate Stabilization) which can be used at the discretion of the Authority to manage the rate revenue requirement. Use of the Bond Redemption reduces total expenses and Rate Stabilization increases total revenue. Under the terms of the General Bond Resolution the annual use of Rate Stabilization funds cannot exceed 10% of the year's senior debt service. Bond Redemption funds can be used only to retire or prepay outstanding debt. There is no annual limit on the amount of Bond Redemption funds used in a year, however the use is tied to the bonds' maturity dates and it is utility specific.

EXPENSES:

Direct Expenses

FY17 Direct Expenses total \$226.5 million, an increase of \$3.7 million, or 1.7%, from the FY16 Budget.

- *Wages and Salaries* – The budget includes \$101.9 million for Wages and Salaries as compared to \$99.4 million in the FY16 Budget, an increase of \$2.5 million or 2.5%. Regular Pay which is 95.2% of total Wages and Salaries, increased \$2.4 million mostly for COLA increases. The Final FY17 Budget funds 1,156 positions, 14 fewer positions than FY16 Budget. On a Full-Time-Equivalent (FTEs) basis the budget is set for 1,150 FTEs. The Authority started to report FTEs in April of 2015. It is important to note that the Authority has achieved the 1,150 FTE goal recommended by Amawalk consultants' staffing study in 2012, to be reached in a five-year timeframe. As always, new hires and backfills of vacant positions are managed at the agency level and addressed on a case-by-case basis by senior management.
- *Overtime* – The budget includes \$4.2 million for Overtime, \$27,000 or 0.6% under the FY16 Budget. The main reason for the decrease in funding is associated with the reduction of planned overtime activities for the North Main Pump Station and Winthrop Terminal Facility Butterfly Valve Replacement project offset by COLA increases.
- *Fringe Benefits* – The budget includes \$20.2 million for Fringe Benefits, an increase of \$916,000 or 4.7% from the FY16 Budget. Health Insurance premiums total \$17.5 million, an increase of \$720,000 or 4.3% from the FY16 Budget largely due to cost increases.
- *Workers' Compensation* – The budget includes \$2.3 million for Workers' Compensation, an increase of \$1,000 or 0.1% from the FY16 Budget and is based on a three-year average of actual and projected spending.
- *Chemicals* – The budget includes \$9.1 million for Chemicals, a decrease of \$680,000 or 6.9% from the FY16 Budget mainly due to updated assumptions for usage and pricing based on the most recent information. The FY17 Budget does not include any funding for the new Deer Island National Pollutant Discharge Elimination System (NPDES) permit which is projected to have more stringent requirements for enterococcus treatment compliance.
- *Utilities* – The budget includes \$21.5 million for Utilities, which is a reduction of \$1.6 million or 7% from the FY16 Budget. The decrease reflects an ongoing decline in energy prices, most notably electricity and diesel fuel. Increased self-generation at Deer Island also contributed to a reduction in electricity demand. The budget funds \$16.1 million for Electricity, \$2.6 million for Diesel Fuel, \$2.1 million for Water, and \$577,000 for Natural Gas.
- *Maintenance* – The budget includes \$31.1 million for Maintenance projects, an increase of \$2.4 million or 8.3% from the FY16 budget. The FY17 Maintenance request is \$2.8 million above FY15 actuals, reflecting \$1.1 million increase in MIS for software license upgrades, additional funds for energy efficiency projects, and various one time maintenance projects. The increase also reflects the Authority's goal of funding the needs of core operations.

- *Training and Meetings* – The budget includes \$435,000 for Training and Meetings, an increase of \$22,000 or 5.3% from the FY16 Budget.
- *Professional Services* – The budget includes \$6.5 million for Professional Services, an increase of \$712,000 or 12.2% from the FY16 Budget. The budget reflects funding of \$1.8 million for Security, \$1.6 million for Regulatory Monitoring, and \$1.6 million for Other Professional Services to support items such as the professional staff development and as-needed professional services.
- *Other Materials* – The budget includes \$6.2 million for Other Materials, an increase of \$55,000 or 0.9% from the FY16 Budget. The budget includes funding of \$1.9 million for Vehicle Purchases, \$893,000 for Vehicle Expenses mostly for gasoline purchases, \$880,000 for Lab and Testing Supplies, \$544,000 for Computer Hardware needs, \$420,000 for Health and Safety, \$410,000 for Equipment/Furniture, and \$406,000 for Work Clothes.
- *Other Services* – The budget includes \$23 million for Other Services, a decrease of \$555,000 or 2.4% from the FY16 Budget. The budget includes funding of \$13.1 million for Sludge Pelletization, \$3.6 million for Space/Lease Rentals and related expenses for the CNY and Chelsea facilities, \$2 million for Voice and Data costs, \$1.3 million for Other Services, and \$1.2 million for Grit & Screenings. The largest decrease is for Sludge Pelletization of \$965,000 due to decreases in inflation indices. This is offset by increases for Telecommunications of \$281,000 for increased lines for security initiatives, and Other Services of \$181,000 for the addition of funds to assist the member communities with lead service analysis.

Indirect Expenses

Indirect Expenses for FY17 total \$38 million, a decrease of \$9 million or 19.1% from the FY16 Budget. Below are the highlights of major changes:

- The budget includes \$24.3 million for the Division of Water Supply Protection, a decrease of \$3.8 or 13.5% over the FY16 Budget. The budget is comprised of \$15.9 million for reimbursement of operating expenses net of revenues and \$8.3 million for Payment in Lieu of Taxes (PILOT). Decrease in Debt Service expenses of \$5.6 million due to the prepayment to the Commonwealth in FY16 of the remaining \$33.7 million of watershed land purchase debt service for FY17-FY22. This is offset by increases for operating expenses net of revenues of \$1.7 million mainly for additional funding for capital projects, healthcare costs, and contractual increases.
- The budget includes \$4.6 million for the Retirement Fund, a reduction of \$3.5 million or 61.6% over the FY16 required contribution. The minimum required contribution for FY16 is \$3.1 million based on the January 1, 2015 actuarial report. An additional pension deposit of \$1.5 million was also included in FY17 in recognition of lower than assumed returns on pension investments in Calendar Year 15.

- The budget includes \$774,000 for the Harbor Energy Electric Company (HEEC), a decrease of \$1.2 million or 60.2% from the FY16 Budget. This funding is for the repayment of the capital investment for the Deer Island electric cable and substation which provides electric power to the treatment plant. The significant decrease is due to contractual obligations which expired in May 2015, ending the amortization of the cable financing component of the capital investment.
- The budget includes \$2 million for Insurance, a reduction of \$163,000 or 7.5% from the FY16 Budget. The FY17 Budget for premiums was based on the bids approved at the June 8, 2016 Board meeting and the claims budget was based on projected FY16 actuals.
- In the FY17 Budget the Authority proposes funding its OPEB liability at \$4.9 million, continuing the Authority's long-term commitment to address its liabilities. The Authority has complied with the GASB 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other than Pensions (OPEB)*, by disclosing this liability in the year-end Financial Statements. As part of the multi-year strategy to address its unfunded liabilities for OPEB and pension holistically, the Board approved a plan to pay down the pension liability and upon reaching full funding, move to address the OPEB obligation. This strategy was employed in the FY08-16 budgets (although temporarily halted in FY11 to achieve a 1.5% rate increase). Based on the latest actuarial evaluation, MWRA's pension fund is at 98.3%. To maximize the benefits in terms of returns and accounting treatment, an irrevocable OPEB Trust was established after Board approval and funding started on April 23rd, 2015 with \$10,800,000 deposit. The source of the deposit was \$10 million cash reserves which became available due to the Amendments to the General Bond Resolution, and \$800,000 from funds appropriated in FY10 for funding OPEB. In FY16, \$5.2 million will be deposited into the Trust on June 30th, 2016. The \$4.9 million in FY17 is 50% of the Actuarial Required Contribution (ARC) after the reduction of the pay-as-you-go portion budgeted under the Fringe line item, based on the January 1, 2014 actuarial report.
- Funding for the Operating Reserve for FY17 is \$132,815 lower than the FY16 Budget. The Operating Reserve balance is in compliance with MWRA's General Bond Resolution which requires a balance of one-sixth of annual operating expenses. Based on the FY17 Final Budget the required balance is \$39.25 million versus the \$39.42 million required in FY16.

Capital Financing

As a result of the Authority's Capital Improvement Program, Capital Finance as a percent of total expenses (before offsets) has increased steadily from 36% in 1990 to over 63.4% in the FY17 Current Expense Budget. Most of this debt service is for completed projects, primarily the Boston Harbor Project and the Integrated Water Supply Improvement Program. The MWRA's capital spending, from its inception, had been dominated by projects mandated by court ordered or regulatory requirements, which in total have accounted for approximately 80% of capital

spending to date. Going forward, with the substantial completion of the Combined Sewer Overflow (CSO) program in December 2015, the majority of spending will be focused on asset protection and water redundancy initiatives. The projected capital spending scheduled for FY17 is less than scheduled principal payments which will continue to decrease MWRA's outstanding indebtedness.

The Authority has actively managed its debt structure to take advantage of favorable interest rates. Tools used by the MWRA to lower borrowing costs and manage rates include current and advanced refunding of outstanding debt, maximizing the use of the subsidized State Revolving Fund (SRF) debt, issuance of variable rate debt, swap agreements, and the use of surplus revenues to defease debt. The MWRA also uses tax exempt commercial paper to minimize the financing cost of construction in process.

The Final FY17 Budget capital financing costs total \$455.1 million and remain the largest portion of the MWRA's budget, accounting for 63.2% of total expenses.

The Final FY17 Budget includes a planned defeasance of \$5.4 million which will reduce debt service by approximately \$246,800 between FY17 and FY19, by \$2.7 million in FY20, \$2.0 million in FY21, and \$748,800 in FY22.

The Final FY17 Budget assumes a 3.25% interest rate for variable rate debt which is the same level as in FY16. The Authority's variable rate debt assumption is comprised of three separate elements: the interest rate for the daily and weekly series; liquidity fees for the Standby Bond Purchase Agreement, Letter of Credit, and Direct Purchase providers; and remarketing fees. While MWRA continues to experience unusually low interest rates, they are not reflective of historical averages and there is no guarantee that rates will remain as low as they are.

The Final FY17 Budget capital financing costs increased by \$22.4 million or 5.2% compared to the FY16 Budget. This increase in the MWRA's debt service is the result of projected FY17 borrowings and the structure of the debt, partially offset by the impact of the projected defeasance. The FY17 capital financing budget includes:

- \$268.5 million in principal and interest payments on MWRA's senior fixed rate bonds. This amount includes \$5.6 million to support the issuance of \$125 million of new money in January 2017, and also includes a reduction of \$246,800 for the effect of the planned FY16 defeasance;
- \$70.0 million in principal and interest payments on subordinate bonds;
- \$87.0 million in principal and interest payments on SRF loans. This amount includes \$7.5 million to support issuances of \$34.7 of replacement loans and \$50.0 million in regular loans during 2017;
- \$12.2 million to fund ongoing capital projects with current revenue;

- \$11.0 million debt prepayment to defease future debt payment reducing the Rate Revenue Requirement;
- \$4.1 million to fund the interest expense related to the Local Water Pipeline Assistance Program; and,
- \$3.2 million for the Chelsea Lease.

Revenue

FY17 non-rate revenue totals \$24.7 million, a reduction of \$5.3 million or 17.6% lower than the FY16 Budget. The FY17 non-rate revenue budget includes:

- \$6.5 million in Other Revenue \$3.2 million from the sale of the Authority's Renewable Portfolio Credits, sale of generated power, and revenue from the demand response program as well as \$2.2 million in permit fees and penalties. Other Revenue decreased \$5.0 million from the FY16 Budget, mostly due to one-time water revenue in FY16 related to water use by Cambridge during a CSO project.
- \$9.5 million in Investment Income, an increase of \$121,000 or 1.3% from the FY16 Budget reflecting higher interest rate assumptions. The short-term interest rate assumption is at 0.60% which is 40 basis points above the FY16 Budget level.
- \$8.8 million in Other User Charges, including \$4.9 million for Chicopee Valley Aqueduct (CVA) communities, \$1.6 million for Deer Island water usage, \$753,000 for entrance fees from member communities, and \$500,000 for the Commonwealth's partial reimbursement for Clinton Wastewater Treatment Plant expenses. Other User Charges are \$111,000 or 1.3% more than the FY16 Budget.

The Rate Revenue Requirement for FY17 is \$694.9 million, an increase of \$22.4 million or 3.34% over the FY16 Budget. The Rate Revenue Requirement is total expenses of \$719.6 million less non-rate revenue of \$24.7 million.

Planning Estimates and Future Rate Increases

MWRA's planning estimates are projections based on a series of assumptions about future spending (operating and capital), interest rates, inflation, and other factors. MWRA uses the planning estimates to model and project what future rate increases might be based upon these assumptions, as well as to test the impact of changes to assumptions on future rate increases. The planning estimates are not predictions of what rate increases will be but rather they provide the context and framework for guiding MWRA financial policies and management decision making that ultimately determine the level of actual rate increases on an annual basis.

Historically, the planning estimates were based on conservative financial assumptions. Conservative projections of future rate increases benefit the MWRA by providing assurance to the rating agencies that MWRA anticipates raising revenues sufficient to pay for its operations

and outstanding debt obligations now and over the long-term. Additionally, conservative forecasts of rate revenue increases enable member communities to adequately plan and budget for future payments to MWRA. In FY14 the Authority tightened certain planning estimate assumptions such as inflation on direct expenses and limiting the annual capital improvement spending.

Table 2 below presents the combined estimated annual rate revenue requirements and household charges based on the Draft Final FY17 Budget. The planning estimates assume no Debt Service Assistance from the Commonwealth beyond FY17. The projected use of Rate Stabilization and Bond Redemption reserves through FY26 to manage rate revenue increases is shown in the table below.

Table 2

Rates & Budget Projections											
Draft Final FY17 CEB	FY2014	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026
Total Rate Revenue (\$000)	\$672,440	\$694,879	\$721,192	\$748,409	\$776,656	\$805,868	\$836,118	\$837,443	\$832,068	\$834,379	\$859,760
Rate Revenue Change from Prior Year (\$000)	\$ 22,124	\$ 22,438	\$ 26,313	\$ 27,217	\$ 28,248	\$ 29,211	\$ 30,250	\$ 1,326	\$ (5,375)	\$ 2,311	\$ 25,381
Rate Revenue Increase	3.4%	3.3%	3.8%	3.8%	3.8%	3.8%	3.8%	0.2%	-0.6%	0.3%	3.0%
Use of Reserves (\$000)	\$ -	\$ -	\$ -	\$ -	\$ 6,873	\$ 10,338	\$ 26,697	\$ -	\$ -	\$ -	\$ 18,711
<i>Estimated Household Bill</i>											
Based on annual water usage of 61,000 gallons	\$1,051	\$1,096	\$1,145	\$1,196	\$1,250	\$1,307	\$1,366	\$1,410	\$1,453	\$1,503	\$1,568
Based on annual water usage of 90,000 gallons	\$1,551	\$1,617	\$1,689	\$1,765	\$1,845	\$1,928	\$2,015	\$2,081	\$2,144	\$2,217	\$2,314

CEB Review and Adoption Process

In February, the MWRA transmitted the Proposed FY17 Budget to the Advisory Board for its review and comment. In June, the Advisory Board submitted their *Integrated Comments and Recommendations*. Responses to the Advisory Board's review and comments are attached as Attachment F.

Attachments

- Attachment A - FY17 Final Budget vs. FY17 Proposed Budget
- Attachment B - FY17 Final Budget vs. FY16 Approved Budget
- Attachment C - FY17 Final Direct Expense Budget by Division
- Attachment D - FY17 Final Operating Budget (Trustee's Budget)
- Attachment E - FY17 Final Budget vs. FY16 Projection
- Attachment F - MWRA Responses to Advisory Board's FY17 Integrated CIP and CEB Comments and Recommendation

ATTACHMENT A

FY17 Final vs FY17 Proposed Budget

TOTAL MWRA	FY17 Proposed Budget	FY17 Final Budget	Change FY17 Final vs FY17 Proposed Budget	
			\$	%
EXPENSES				
WAGES AND SALARIES	\$ 102,229,030	\$ 101,858,897	\$ (370,133)	-0.4%
OVERTIME	4,192,676	4,192,676	-	0.0%
FRINGE BENEFITS	20,592,609	20,242,324	(350,286)	-1.7%
WORKERS' COMPENSATION	2,274,190	2,344,190	70,000	3.1%
CHEMICALS	9,985,755	9,110,407	(875,348)	-8.8%
ENERGY AND UTILITIES	22,418,027	21,541,078	(876,949)	-3.9%
MAINTENANCE	30,320,567	31,080,642	760,075	2.5%
TRAINING AND MEETINGS	435,481	435,481	-	0.0%
PROFESSIONAL SERVICES	6,316,156	6,531,939	215,783	3.4%
OTHER MATERIALS	6,172,140	6,219,630	47,490	0.8%
OTHER SERVICES	23,651,024	22,974,855	(676,169)	-2.9%
TOTAL DIRECT EXPENSES	\$ 228,587,653	\$ 226,532,117	\$ (2,055,536)	-0.9%
INSURANCE	\$ 2,123,297	\$ 1,997,898	\$ (125,399)	-5.9%
WATERSHED/PILOT	29,996,321	24,291,268	(5,705,053)	-19.0%
HEEC PAYMENT	773,859	773,859	-	0.0%
MITIGATION	1,558,000	1,558,000	-	0.0%
ADDITIONS TO RESERVES	195,747	(167,742)	(363,489)	-185.7%
RETIREMENT FUND	3,132,624	3,132,624	-	0.0%
ADDITIONAL PENSION DEPOSIT	1,500,000	1,500,000	-	0.0%
POSTEMPLOYMENT BENEFITS	4,876,050	4,876,050	-	0.0%
TOTAL INDIRECT EXPENSES	\$ 44,155,897	\$ 37,961,957	\$ (6,193,941)	-14.0%
STATE REVOLVING FUND	\$ 86,718,919	\$ 86,971,915	\$ 252,996	0.3%
SENIOR DEBT	269,326,256	268,472,557	(853,699)	-0.3%
SUBORDINATE DEBT	69,997,992	69,997,992	-	0.0%
LOCAL WATER PIPELINE CP	4,149,242	4,149,242	-	0.0%
CURRENT REVENUE/CAPITAL	18,000,000	12,200,000	(5,800,000)	-32.2%
CAPITAL LEASE	3,217,060	3,217,060	-	0.0%
DEBT PREPAYMENT		10,994,960	10,994,960	
BOND REDEMPTION			-	
VARIABLE RATE SAVINGS			-	
DEFEASANCE ACCOUNT			-	
DEBT SERVICE ASSISTANCE	-	(873,804)	(873,804)	
TOTAL DEBT SERVICE	\$ 451,409,470	\$ 455,129,921	\$ 3,720,453	0.8%
TOTAL EXPENSES	\$ 724,153,020	\$ 719,623,996	\$ (4,529,025)	-0.6%
REVENUE & INCOME				
RATE REVENUE	\$ 698,700,000	\$ 694,878,500	\$ (3,821,500)	-0.55%
OTHER USER CHARGES	8,795,741	8,752,834	(42,907)	-0.5%
OTHER REVENUE	6,956,430	6,519,171	(437,259)	-6.3%
RATE STABILIZATION			-	
INVESTMENT INCOME	9,700,849	9,473,490	(227,359)	-2.3%
TOTAL REVENUE & INCOME	\$ 724,153,020	\$ 719,623,995	\$ (4,529,026)	-0.6%

ATTACHMENT B

FY17 Final Budget vs FY16 Budget

TOTAL MWRA	FY16 Budget	FY17 Final Budget	Change FY17 Final vs FY16 Budget	
			\$	%
EXPENSES				
WAGES AND SALARIES	\$ 99,363,168	\$ 101,858,897	\$ 2,495,729	2.5%
OVERTIME	4,219,293	4,192,676	(26,617)	-0.6%
FRINGE BENEFITS	19,326,756	20,242,324	915,568	4.7%
WORKERS' COMPENSATION	2,343,000	2,344,190	1,190	0.1%
CHEMICALS	9,790,849	9,110,407	(680,442)	-6.9%
ENERGY AND UTILITIES	23,164,822	21,541,078	(1,623,744)	-7.0%
MAINTENANCE	28,698,772	31,080,642	2,381,870	8.3%
TRAINING AND MEETINGS	413,714	435,481	21,767	5.3%
PROFESSIONAL SERVICES	5,819,611	6,531,939	712,328	12.2%
OTHER MATERIALS	6,164,588	6,219,630	55,042	0.9%
OTHER SERVICES	23,529,902	22,974,855	(555,047)	-2.4%
TOTAL DIRECT EXPENSES	\$ 222,834,475	\$ 226,532,117	\$ 3,697,642	1.7%
INSURANCE	\$ 2,160,797	\$ 1,997,898	\$ (162,899)	-7.5%
WATERSHED/PILOT	28,096,233	24,291,268	(3,804,965)	-13.5%
HEEC PAYMENT	1,946,157	773,859	(1,172,298)	-60.2%
MITIGATION	1,400,000	1,558,000	158,000	11.3%
ADDITIONS TO RESERVES	(34,927)	(167,742)	(132,815)	380.3%
RETIREMENT FUND	8,159,521	3,132,624	(5,026,897)	-61.6%
ADDITIONAL PENSION DEPOSIT	-	1,500,000	1,500,000	
POSTEMPLOYMENT BENEFITS	5,224,848	4,876,050	(348,798)	-6.7%
TOTAL INDIRECT EXPENSES	\$ 46,952,628	\$ 37,961,957	\$ (8,990,672)	-19.1%
STATE REVOLVING FUND	\$ 81,876,276	\$ 86,971,915	\$ 5,095,639	6.2%
SENIOR DEBT	283,024,431	268,472,557	(14,551,874)	-5.1%
SUBORDINATE DEBT	49,222,442	69,997,992	20,775,550	42.2%
LOCAL WATER PIPELINE CP	4,149,242	4,149,242	-	0.0%
CURRENT REVENUE/CAPITAL	11,200,000	12,200,000	1,000,000	8.9%
CAPITAL LEASE	3,217,060	3,217,060	-	0.0%
DEBT PREPAYMENT		10,994,960	10,994,960	
CORE FUND DEPOSIT	-	-	-	
BOND REDEMPTION	-	-	-	
VARIABLE RATE SAVINGS	-	-	-	
DEFEASANCE ACCOUNT	-	-	-	
DEBT SERVICE ASSISTANCE	-	(873,804)	(873,804)	
TOTAL DEBT SERVICE	\$ 432,689,451	\$ 455,129,921	\$ 22,440,471	5.2%
TOTAL EXPENSES	\$ 702,476,554	\$ 719,623,995	\$ 17,147,442	2.4%
REVENUE & INCOME				
RATE REVENUE	\$ 672,440,000	\$ 694,878,500	\$ 22,438,500	3.34%
OTHER USER CHARGES	8,683,898	8,752,834	68,936	0.8%
OTHER REVENUE	12,000,066	6,519,171	(5,480,895)	-45.7%
RATE STABILIZATION	-	-	-	
INVESTMENT INCOME	9,352,590	9,473,490	120,900	1.3%
TOTAL REVENUE & INCOME	\$ 702,476,554	\$ 719,623,995	\$ 17,147,441	2.4%

ATTACHMENT C

FY17 Final Direct Expense Budget by Division

Division	FY16 Budget	FY17 Final Budget	Change FY17 Final Budget vs. FY16 Budget	
			\$	%
Executive	\$1,276,811	\$1,312,656	\$35,845	2.8%
Emergency Preparedness	3,125,380	3,180,757	\$55,377	1.8%
Administration	43,641,359	46,645,312	\$3,003,953	6.9%
Finance	4,183,063	4,272,307	\$89,243	2.1%
Law	1,900,589	1,970,820	\$70,231	3.7%
Affirmative Action	534,328	556,041	\$21,713	4.1%
Internal Audit	755,719	655,128	-\$100,591	-13.3%
Public Affairs	1,212,316	1,221,656	\$9,340	0.8%
Operations/Planning	166,204,909	166,717,440	\$512,530	0.3%
Total Authority	\$222,834,475	\$226,532,117	\$3,697,643	1.7%

ATTACHMENT D

**Massachusetts Water Resources Authority
Fiscal Year 2017 Operating Budget for Filing with the Trustee
Pursuant to Section 712 of General Bond Resolution Adopted January 24, 1990**

(S000s)

Projected Monthly Deposits:

Fund	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total
Operating	\$18,490	\$23,113	\$18,490	\$18,490	\$23,113	\$18,490	\$18,490	\$23,113	\$18,490	\$18,490	\$23,113	\$18,490	\$240,371
Debt Service & Coverage	35,010	43,762	35,010	35,010	43,762	35,010	35,010	43,762	35,010	35,010	43,762	35,010	455,130
Debt Service Reserve	---	---	---	---	---	---	---	---	---	---	---	---	0
CORE	---	---	---	---	---	---	---	---	---	---	---	---	0
Commonwealth Obligations	---	---	3,980	---	---	3,980	---	---	12,352	---	---	3,980	24,291
Operating Reserve	(13)	(16)	(13)	(13)	(16)	(13)	(13)	(16)	(13)	(13)	(16)	(13)	(168)
Insurance Reserve	---	---	---	---	---	---	---	---	---	---	---	---	0
Renewal & Replacement Reserve	---	---	---	---	---	---	---	---	---	---	---	---	0
Rate Stabilization Reserve	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	\$53,487	\$66,859	\$57,467	\$53,487	\$66,859	\$57,467	\$53,487	\$66,859	\$65,839	\$53,487	\$66,859	\$57,467	\$719,624

ATTACHMENT E
FY17 Final Budget vs FY16 Projection

TOTAL MWRA	FY16 Projection	FY17 Final Budget	Change FY17 Final Budget vs FY16 Projection	
			\$	%
EXPENSES				
WAGES AND SALARIES	\$ 96,319,662	\$ 101,858,897	\$ 5,539,235	5.8%
OVERTIME	4,248,719	4,192,676	(56,043)	-1.3%
FRINGE BENEFITS	19,264,831	20,242,324	977,493	5.1%
WORKERS' COMPENSATION	2,407,780	2,344,190	(63,590)	-2.6%
CHEMICALS	9,300,808	9,110,407	(190,401)	-2.0%
ENERGY AND UTILITIES	18,839,430	21,541,078	2,701,648	14.3%
MAINTENANCE	30,786,045	31,080,642	294,597	1.0%
TRAINING AND MEETINGS	404,086	435,481	31,395	7.8%
PROFESSIONAL SERVICES	6,038,611	6,531,939	493,328	8.2%
OTHER MATERIALS	6,164,588	6,219,630	55,042	0.9%
OTHER SERVICES	23,041,297	22,974,855	(66,442)	-0.3%
TOTAL DIRECT EXPENSES	\$ 216,815,857	\$ 226,532,117	\$ 9,716,261	4.3%
INSURANCE	\$ 2,014,296	\$ 1,997,898	\$ (16,398)	-0.8%
WATERSHED/PILOT	27,519,959	24,291,268	(3,228,691)	-11.7%
PREPAYMENT OF WATERSHED DEBT	32,000,000	-	(32,000,000)	N/A
HEEC PAYMENT	1,787,353	773,859	(1,013,494)	-56.7%
MITIGATION	1,520,000	1,558,000	38,000	2.5%
ADDITIONS TO RESERVES	(34,927)	(167,742)	(132,815)	380.3%
RETIREMENT FUND	8,159,521	3,132,624	(5,026,897)	-61.6%
ADDITIONAL PENSION DEPOSIT	-	1,500,000	1,500,000	N/A
POSTEMPLOYMENT BENEFITS	5,224,848	4,876,050	(348,798)	-6.7%
TOTAL INDIRECT EXPENSES	\$ 78,191,050	\$ 37,961,957	\$ (40,229,093)	-51.4%
STATE REVOLVING FUND	\$ 78,131,558	\$ 86,971,915	\$ 8,840,357	11.3%
SENIOR DEBT	269,626,855	268,472,557	(1,154,298)	-0.4%
SUBORDINATE DEBT	49,222,442	69,997,992	20,775,550	42.2%
LOCAL WATER PIPELINE CP	262,500	4,149,242	3,886,742	1480.7%
CURRENT REVENUE/CAPITAL	11,200,000	12,200,000	1,000,000	8.9%
CAPITAL LEASE	3,217,060	3,217,060	-	0.0%
DEBT PREPAYMENT	-	10,994,960	10,994,960	-
VARIABLE DEBT SAVINGS	(12,686,885)	-	12,686,885	-100.0%
DEFEASANCE ACCOUNT	-	-	-	N/A
DEBT SERVICE ASSISTANCE	(873,804)	(873,804)	-	0.0%
TOTAL DEBT SERVICE	\$ 398,099,725	\$ 455,129,921	\$ 57,030,196	14.3%
TOTAL EXPENSES	\$ 693,106,632	\$ 719,623,995	\$ 26,517,364	3.8%
REVENUE & INCOME				
RATE REVENUE	\$ 672,440,000	\$ 694,878,500	\$ 22,438,500	3.34%
OTHER USER CHARGES	8,683,898	8,752,834	68,936	0.8%
OTHER REVENUE	14,725,088	6,519,171	(8,205,917)	-55.7%
RATE STABILIZATION	-	-	-	N/A
INVESTMENT INCOME	10,052,590	9,473,490	(579,100)	-5.8%
TOTAL REVENUE & INCOME	\$ 705,901,576	\$ 719,623,995	\$ 13,722,420	1.9%
\$5 million DEFEASANCE	(5,000,000)	-	(5,000,000)	-
VARIANCE	\$ 7,794,944	\$ -	\$ (7,794,944)	-

ATTACHMENT F

MWRA's Responses to the Advisory Board's FY2017 Integrated CIP and CEB Recommendations and Comments

Advisory Board Recommendations	MWRA Responses
1. The Advisory Board recommends keeping the \$1.4 billion associated with Metropolitan Tunnel Redundancy in the CIP as a placeholder for the future project. The Advisory Board reserves its right to make future recommendations on the cost, scope, and makeup of any project(s) associated with this expense. (Page 34)	Agree.
2. The Advisory Board recommends that the Authority consider using the Program Management Division model used for the Boston Harbor Project when implementing the Metropolitan Tunnel Redundancy Project(s). (Page 34)	Agree. MWRA will consider the use of a similar business model for the Metropolitan Tunnel Redundancy project(s) as was used for the Boston Harbor Project.
3. The Advisory Board reaffirms its recommendation that no ratepayer funds should be used relocating the HEEC cable. (Page 42)	Agree with the recommendation. MWRA is taking all steps by which to avoid payment of costs, but subject to court and regulatory decisions.
4. The Advisory Board recommends reducing the FY17 Rate Revenue Requirement by \$3,771,675 resulting in a combined wholesale assessment increase of 3.34%. (Page 50)	Agree. MWRA reduced the Rate Revenue Requirement by \$3,821,497 resulting in 3.34% combined wholesale assessment increase.
5. In keeping with the Advisory Board's previous position to, when DSA funds are received, the Advisory Board expects the Authority to "Pay it Forward" to reflect the receipt by reducing the rate revenue requirement for FY17 by \$873,804. (Page 56, Page 91)	Agree.
6. The Advisory Board recommends that the Authority adjust its attrition/vacancy rate assumptions upward by \$1,000,000 (includes associated fringe benefits). (Page 58)	Partially agree. MWRA has removed funding for 5 positions for a reduction of \$410,674. This brings the FY17 FTE total to 1,150 inline with the 1,150 FTE goal recommended by Amawalk consultants based on a staffing study in 2012, to be reached in a five-year timeframe. The remaining monies required to achieve a reduction of \$1,000,000 were removed from other line items in the budget, primarily funding for chemicals for the treatment of enterococcus.
7. The Advisory Board recommends that the MWRA takes all steps necessary to seek a formal reclassification of Other Post-Employment Benefits for the purposes of calculating the Debt Service Coverage Ratio. (Page 63)	Agree. MWRA will work with its bond and disclosure counsel to determine if the money set aside for its OPEB deposit can be exempt from the requirements of the coverage calculation, without any negative impact to the rights of bondholders.

ATTACHMENT F

MWRA's Responses to the Advisory Board's FY2017 Integrated CIP and CEB Recommendations and Comments

Advisory Board Recommendations	MWRA Responses
<p>The Advisory Board supports the creation of a capital budget for the Watershed Division subject to the following conditions:</p> <ul style="list-style-type: none"> • The Watershed Division must implement a formal capitalization policy to clearly identify whether projects should be funded through the Watershed Operating Budget or the new capital budget. • The MWRA and Watershed Division should work together to develop criteria on the agency's working relationship on managing capital projects using a tiered approach where some projects are managed by MWRA and some by the Watershed Division. The MOU should be revisited and modified in any way needed to implement this approach. <p>8. Any projects that meet this capitalization threshold should be removed from the DCR operating budget.</p> <ul style="list-style-type: none"> • MWRA must receive a detailed five-year capital spending plan. • DCR must implement a five-year capital spending cap for the Watershed Division similar to the MWRA's spending cap. If DCR's capital spending is funded through MWRA's CIP, these projects will count toward the MWRA's <u>capital spending cap. (Page 66)</u> 	<p>Partially Agree. The Watershed Division, similar to MWRA, will establish and implement a formal capital policy.</p> <p>MWRA and Watershed Division will work together in determining which projects will be managed by which organization. The Watershed Division will submit a five-year capital spending plan and establish a five-year spending cap. The issue of funding capital projects from the operating budget will be further discussed and guidelines will be established. In line with the Advisory Board recommendation of re-evaluating various options of improving the required coverage per Bond Resolution, the inclusion of "capital" in the Watershed Division operating expenses would be one of the items considered.</p>
<p>9. The Advisory Board recommends that MWRA works staff-to-staff to identify options for gaining a coverage benefit for Watershed Division capital spending. (Page 66)</p>	<p>Agree. All payments to the Watershed Division are considered Commonwealth Obligations under the General Bond Resolution and are exempt from the coverage calculation.</p>
<p>10. The Advisory Board is recommending a reduction of \$56,000 to reflect a later start-up of the co-digestion pilot program until the last quarter of the fiscal year. (Page 72)</p>	<p>Partially Agree. MWRA budgeted funding for three months of co-digestion costs.</p>
<p>11. Consistent with the Advisory Board's support for the MWRA's community support initiatives related to public concern about lead in the drinking water, the Advisory Board recommends adding \$200,000 in "other services" for the purposes of funding additional temporary and/or contract employees to assist communities to update their inventory of local lead services. (Page 73)</p>	<p>Agree. MWRA has put a \$200,000 placeholder in the FY17 CEB. MWRA is currently working with member communities, the Advisory Board, and the Commonwealth of Massachusetts to determine the best course of action for addressing lead issues.</p>

ATTACHMENT F

MWRA's Responses to the Advisory Board's FY2017 Integrated CIP and CEB Recommendations and Comments

Advisory Board Recommendations	MWRA Responses
<p>12. Grateful for the Commonwealth's commitment to this important initiative, the Advisory Board recommends adding \$100,000 in "non-rate revenue" for the anticipated reimbursement for some of these costs. (Page 91)</p>	<p>MassDEP committed to an initiative to conduct testing for lead in public schools across the Commonwealth. Due to the fact that MWRA is already performs testing to our communities for presence of lead, MassDEP has committed to reimburse part of the costs associated with any public school testing funded by MWRA. Although, certainly this is a welcomed development, due to the uncertainty, MWRA chooses not to budget for this reimbursement at this time. However, in the case of the receipt of any funds, this revenue will result in a surplus in FY17 and will be used for rate relief in future years.</p>
<p>13. The Advisory Board recommends that the MWRA begins identifying, tracking, and reporting on specific projects that are funded through Pay-Go including their expected useful life. Included should be an estimate of the savings in avoided borrowing costs. (Page 100)</p>	<p>Agree. MWRA currently tracks spending on all projects and assigns those expenses to a series of bonds, SRF proceeds, or current revenue for capital. Staff are working on enhancing the tracking and reporting functions associated with capital spending.</p>
<p>14. The Advisory Board recommends that the MWRA redirects \$12.5 million from the "current revenue for the capital program" line item to make an optional principal payment or payments targeted for maximum benefits in the MWRA's most challenging upcoming years. (Page 100)</p>	<p>Partially agree. MWRA reduced the current revenue for the capital program by \$5.8 million and funded it at \$12.2 million which based on historical practice is a \$1.0 million increase over FY16 current revenue for capital. MWRA also added a budget line for debt prepayment totaling \$11.0 million.</p>
<p>15. The Advisory Board recommends that the Long-Term Rates Management Committee reconvene to discuss future levels of rate increases with a focus on Pay-Go spending and coverage levels. (Page 100)</p>	<p>As the Advisory Board and MWRA got to a mutual understanding as to the level of current revenue for capital for the next few years, and the use of debt prepayment as an additional long-term assessment vehicle, the urgency of reconvening the Long-term Rate Management Committee is not immediately needed. However, this topic is critical to be understood by all stakeholders, so we will reconvene the Long-term Rates Management Committee at a future date.</p>
<p>16. The Advisory Board recommends that MWRA offers any community joining the MWRA waterworks system the option to finance connection costs that it incurs interest-free, separate from its allocated Local Water Supply Assistance Program funds. Further, the Advisory Board recommends that the term of repayment for this financing be tied to the timeframe selected for paying the entrance fee. (Page 102)</p>	<p>MWRA will consider the option of financing connection costs interest free as a separate community financial assistance program and will work with the Advisory Board to design the program if there is community interest.</p>

ATTACHMENT F

MWRA's Responses to the Advisory Board's FY2017 Integrated CIP and CEB Recommendations and Comments

Advisory Board Comments	MWRA Responses
<p>1. The Advisory Board expects to coordinate closely with MWRA staff on discussing Phase 3 of the Water Loan Program in FY18. (Page 36)</p>	<p>Agree. MWRA's Phase 1 Local Water System Assistance Program distributed \$222.3 million in 10-year interest-free loans to 35 of 42 eligible member water communities from FY01 through completion in FY13. The Phase 2 Local Water System Assistance Program has distributed \$99.8 million in 10-year interest-free loans to 36 of 45 eligible member water communities from FY11 through FY16, with \$110.2 million remaining to be distributed through FY20. Seven communities have been distributed their entire funding allocation under Phase 2 of the water loan program. MWRA's Finance and Planning staff will work cooperatively with the Advisory Board to discuss a recommendation for Phase 3 Local Water System Assistance Program that can be reviewed during the FY18 CIP process.</p>
<p>2. The Advisory Board supports the continued use of the defeasance account strategy, which clearly identifies a use of variable rate debt service savings that is consistent with the original intended use of the funds that were raised. (Page 55)</p>	<p>Agree. The practice of defeasance has proved very effective for the management of long-term rates.</p>
<p>3. The Advisory Board expects the Authority to reduce capital financing by an additional \$565,374 to reflect the spring 2016 defeasance transaction as well as the favorable benefits of the 2016 new borrowing. (Page 5)</p>	<p>Agree. MWRA reduced capital financing by \$853,699. This reduction is a result of lower than anticipated debt service expense for the 2016 Series B bonds, offset by a decrease in the benefit of the defeasance and an update of the borrowing assumption for FY17 new money.</p>
<p>4. The Advisory Board expects the Authority to increase the line item for State Revolving Fund (SRF) debt service by \$252,996 to reflect the updated amounts anticipated for FY17. (Page 55)</p>	<p>Agree. Increase in SRF debt service is associated with additional projected borrowings offset by a decrease associated with the 2016 Series A transaction estimate being replaced with actual debt service amounts.</p>
<p>5. The Advisory Board supports the Authority's addition of this temporary community support staff and expects the final FY17 CEB to reflect the addition of this staff. (Page 58)</p>	<p>Agree. In May/June of FY16 the MWRA hired two contract employees to assist with community lead testing. The remaining funds for these one-year contracts was included in the final FY17 CEB.</p>
<p>6. Based on new data released this spring from the GIC, MWRA projects a decrease of \$350,285 from the proposed FY17 CEB. The Advisory Board expects this reduction to be included in the final FY17 CEB. (Page 59)</p>	<p>Agree. MWRA has adjusted the FY17 CEB to reflect the published FY17 GIC rates. This change has reduced the budget by \$325,383. In addition MWRA re-estimated the Medicare cost for FY17 and reduced this budget by \$24,903. The total reduction to the Fringe Benefits FY17 CEB is \$350,285.</p>

ATTACHMENT F

MWRA's Responses to the Advisory Board's FY2017 Integrated CIP and CEB Recommendations and Comments

Advisory Board Comments	MWRA Responses
8. The Advisory Board expects the Authority to adjust the final FY17 CEB "additions to reserves" line item to match the changes in the final FY17 CEB. (Page 64)	Agree. MWRA reduced the additions to reserves by \$363,489 due to lower operating reserve requirement. The operating reserve requirement is 1/6th of specific expenses per the indenture.
9. The Advisory Board expects the MWRA to increase its "maintenance" category of expense by \$760,075 in the final FY17 CEB for various projects including actuators for various facilities as well as relining of the sodium hypochlorite tanks at the Brutsch and Carroll Water Treatment Plants. (Page 70)	Agree.
10. Based on updated information, the Advisory Board expects the Authority will decrease "sludge pelletization" line item by \$232,769. (Page 73)	Agree.
11. Since the Proposed FY17 CEB, the Authority has indicated that it now plans to purchase, rather than lease additional storage space in Chelsea. The Advisory Board expects the Authority's "lease" line item to decrease by \$445,000. (Page 73)	Agree.
12. Being made aware of pricing and usage trends, the Advisory Board expects the Authority to decrease its FY17 CEB "utilities" expenses by an estimated \$870,670. (Page 76)	Agree. The reduction is primarily associated with lower pricing for electricity and diesel fuel based on continued favorable trends relative to FY16.
13. The Advisory Board expects that the chemicals budget will be revised to reflect updated pricing and usage assumptions, including the reduction in fluoride dosing consistent with updated federal regulations. The MWRA estimates this to be a reduction of \$332,645. (Page 79)	Agree. MWRA reduced the chemical budget by \$332,644 associated with updated pricing and usage assumptions. In addition, MWRA reduced the budget by \$542,703 for removal of the 6 months enterococcus central requirement associated with the anticipated new NPDES permit.
14. The Advisory Board expects the MWRA to increase the "professional services" category of expense by \$265,783 for additional initiatives including the "water active directory" SCADA project. (Page 82)	Agree. MWRA increased the budget by \$215,783 mostly for water active directory SCADA project and legal services. There was a \$50,000 reduction in funding of the TRAC local limit study associated with the anticipated new NPDES permit.
15. The Advisory Board expects the Authority to increase the "other materials" category of expense by \$47,490, primarily due to a decision to purchase rather than lease certain MIS equipment. (Page 86)	Agree.

ATTACHMENT F

MWRA's Responses to the Advisory Board's FY2017 Integrated CIP and CEB Recommendations and Comments

Advisory Board Comments	MWRA Responses
<p>16. The Advisory Board has also been informed that there will be a reduction in "other revenue" due to revised assumptions related to RPS credits being received in FY16. The Authority estimates this reduction to be \$437,259. (Page 89)</p>	<p>Agree.</p>
<p>17. The MWRA has informed the Advisory Board that there will be some adjustments in the final FY17 CEB due to some investments being called and requiring reinvestment. The Advisory Board has recognized MWRA's placeholder of \$200,000 for these adjustments, while understanding that they may be further refined for the final FY17 CEB. (Page 91)</p>	<p>The investment income was further refined and, based on the latest developments, the change between the proposed and draft final budgets is estimated to be a reduction of \$227,359. The MWRA had \$93 million in long-term investments called and reinvested in lower yielding securities. This negative impact was partially offset by higher average balances and higher short-term interest rates.</p>
<p>18. The Advisory Board thanks the Authority staff for its proactive approach toward achieving utility-level rate smoothing, and looks forward working with them to achieve continued utility-level smoothing moving forward. (Page 93)</p>	<p>Agree. This is very important initiative which will be evaluated every budget cycle. It will accommodate the main goal of MWRA to ensure long-term sustainable, predictable, and reasonable utility level assessments. Also to ensure budget certainty for our communities and serve as a catalyst for potential water system expansion opportunities.</p>
<p>19. The Advisory Board expects to work closely with the MWRA to help MassDEP assume primacy. (Page 103)</p>	<p>Agree. MWRA has supported and will continue to support the Advisory Board's efforts to advocate for MassDEP primacy for the NPDES Program.</p>

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: June 29, 2016
SUBJECT: Final FY17 Water and Sewer Assessments

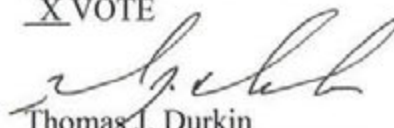


COMMITTEE: Administration, Finance & Audit

 INFORMATION

 X VOTE

 Kathy Sofri, Budget Director
Leo Norton, Assistant Manager, Rates, Revenue
and Finance



Preparer/Title

Thomas J. Durkin
Director, Finance

The FY17 Proposed Current Expense Budget (CEB) submitted to the Advisory Board at the February 2016 Board meeting included a 3.9% combined assessment increase.

Based on the Board discussions during the June 8th budget hearings and the Advisory Board recommendation, the Authority is putting forth a Rate Revenue Requirement of \$694,878,500, resulting in a 3.34% combined assessment increase.

MWRA continues to utilize a multi-year rates management strategy to provide sustainable and predictable assessment increases to its member communities. To achieve this goal again this year, MWRA has continued to employ conservative budgeting and fiscal discipline which includes controlled spending and use of historical variable rate assumptions. The combination of these measures results in combined utility assessment increase projections at 3.8% for the next five years.

RECOMMENDATION:

To adopt the following effective July 1, 2016:

- 1) Water system assessments of \$234,262,737 and sewer system assessments of \$460,615,763 for Fiscal Year 2017.
- 2) FY17 sewer assessments of \$500,000 for the Town of Clinton and \$305,075 for the Lancaster Sewer District.
- 3) FY17 charge to the City of Worcester of \$151,582 representing approximately 7.9% of the direct operating expenses for the Clinton Wastewater Treatment Plant.
- 4) FY17 water assessments of \$3,424,820 for the City of Chicopee, \$707,836 for South Hadley Fire District #1, and \$781,288 for the Town of Wilbraham.
- 5) A wholesale water rate of \$3,471.65 per million gallons.
- 6) A retail sewer rate of \$7,117.78 per million gallons.

DISCUSSION:

The Draft Final FY17 Current Expense Budget includes a Rate Revenue Requirement of \$694,878,500, an increase of 3.34% over the FY16 requirement.

	FY17 Draft Final	FY16 Approved	\$ Change from FY16	% Change from FY16
Water	\$234,262,737	\$226,372,877	\$ 7,889,860	3.49%
Sewer	460,615,763	446,067,123	\$14,548,640	3.26%
Total	\$694,878,500	\$672,440,000	\$22,438,500	3.34%

Attachment 1 summarizes FY17 wholesale water and sewer charges for each MWRA community.

The estimated impact of the FY17 assessment increase on the MWRA portion of the average household bill for water and sewer service in a fully served MWRA community that uses close to the system average of 61,000 gallons of water per year is less than \$16.

Water Assessments

MWRA calculates water assessments for customer communities by apportioning the water rate revenue requirement according to each community's share of total water use for the most recent calendar year. FY17 assessments are based on each community's share of CY15 water use of 67.479 billion gallons, a 4.0% increase compared to CY14 water use of 64.900 billion gallons. Changes in FY17 water assessments for customer communities compared to FY16 assessments vary considerably, depending on each community's use of water and how that use factors into their share of the water system in CY15 compared to CY14. This is particularly true for communities that receive only part of their water from MWRA.

The graph below illustrates the water Rate Revenue Requirement for the past 5 years. The changes from FY16 to FY17 are primarily the result of increased debt service related to water utility rehabilitation and improvements.

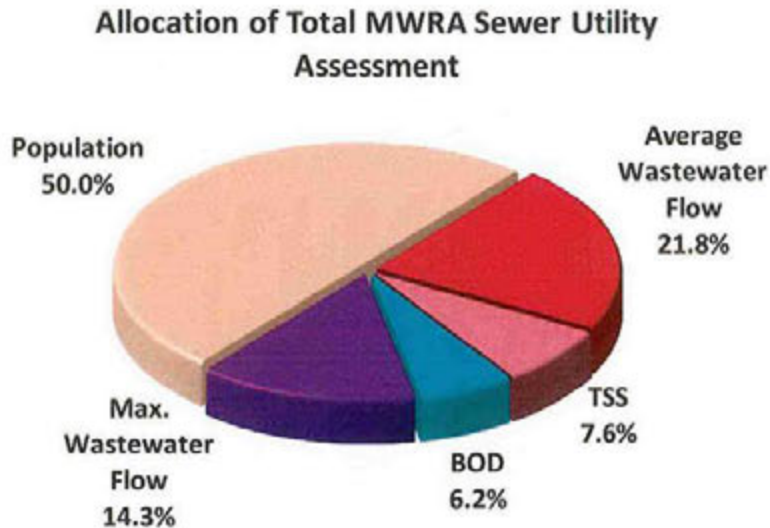
MWRA Water Rate Revenue Requirement



Sewer Assessments

MWRA allocates sewer assessments based on each community's share of the following allocation parameters: annual wastewater flow, maximum month flow, strength of flow, census population, and sewer population.

On average, approximately 50% of a community's preliminary FY17 sewer assessment is based on each community's share of wastewater flow and strength of flow (total suspended solids-TSS and biochemical oxygen demand-BOD), and approximately 50% is based on population as illustrated in the next graph.



Both the preliminary and final FY17 assessment for population were calculated using the most recent (July 2014) community population estimates from the U.S. Census Bureau, as well as the percentage of total population receiving municipal sewer service reported by each MWRA community.

Preliminary FY17 assessments were calculated using the average of CY13, CY14 and CY15 wastewater flows and strength of flows. Since the release of preliminary assessments in February, staff has revised CY15 flows for several communities resulting in very minor assessment impacts that in most cases are \$500 or less.

The graph below illustrates the Sewer Rate Revenue Requirement for the past 5 years. As with the water utility, the annual changes continue to be primarily the result of increased debt service related to sewer utility rehabilitation and improvements.

MWRA Sewer Rate Revenue Requirement



Clinton Sewer Service Area Assessments

Draft Final FY17 operating and maintenance (O&M) and capital expenses attributable to the Clinton Wastewater Treatment Plant are \$3,296,075, an increase of 9.9% over FY16 expenses. This includes a 2.7% increase in operating costs, and a 34.9% increase in capital expenses related primarily to the phosphorous removal project.

In accordance with the agreement that allows the City of Worcester to take water from the Wachusett watershed, Worcester is charged approximately 7.9% of the direct operating expenses for the Clinton Wastewater Treatment Plant. Draft Final FY17 direct operating expenses for the plant total \$1,916,089, resulting in an FY17 charge of \$151,582 for the City of Worcester. Worcester has been paying this annual charge to MWRA or its predecessors since 1914.

The Town of Clinton and the Lancaster Sewer District are allocated proportional shares of the remaining expenses based on annual metered wastewater flow to the Clinton Plant. Based on Draft Final FY17 expenses and CY15 wastewater flows, FY17 charges are \$305,075 for the Lancaster Sewer District and \$2,814,343 for the Town of Clinton. However, pursuant to Chapter 307, Section 8 of the Acts of 1987, Clinton is only liable for the first \$500,000 of its share of O&M and capital costs.

Attachment 2 details the expenses and corresponding charges for the Clinton Sewer Service Area.

CVA Water Assessments

Based on the Draft Final FY17 CIP and CEB for the Chicopee Valley Aqueduct (CVA) water system, the FY17 system assessment is \$4,913,944, an increase of 1.7% from FY16 assessments.

MWRA's CVA water assessment methodology allocates CVA assessments to the three communities served by the CVA system based on their share of prior calendar year water use. Based on CY15 water use, FY17 assessments are as follows:

- City of Chicopee: \$3,424,820 (+0.4%)
- South Hadley Fire District #1: \$ 707,836 (+2.3%)
- Town of Wilbraham: \$ 781,288 (+7.0%)

As with the metropolitan water system, changes in FY17 water assessments for each CVA community compared to FY16 assessments vary depending on their water use and how that use factors into their share of the CVA water system in CY15 compared to CY14.

Attachment 3 details the expenses and corresponding assessments for the CVA Water Service Area.

Wholesale Water Rate

MWRA's wholesale water rate per million gallons is applied to customers purchasing MWRA water on a pay-as-you-go basis (including customers with emergency agreements). Examples include the Department of Conservation and Recreation and the Department of Youth Services. The draft final wholesale water rate for FY17 is \$3,471.65 per million gallons. The Draft Final FY17 CEB includes revenue of \$108,083 from these customers.

Retail Sewer Rate

MWRA provides direct retail sewer service to Regis College in Weston and the New England Center for Children in Southborough. In accordance with MWRA Policy #OP.11, "Admission of New Community to MWRA Sewer System and Other Requests for Sewer Service to Locations Outside MWRA Sewer Service Area", both entities are charged a modified per million gallon "retail" rate that captures both sanitary and non-sanitary flows. Based on draft final FY17 sewer assessments, the FY17 retail sewer rate will be \$7,117.78 per million gallons. The Draft Final FY17 CEB includes revenue of \$86,997 from these customers.

ATTACHMENTS:

1. Final FY17 Water and Sewer Assessments
2. Clinton Wastewater Treatment Plant: FY17 Sewer User Charge Determination
3. Chicopee Valley Aqueduct System Assessment: Fiscal Year 2017

MWRA Fully Served Water and Sewer Customers	Final FY16 Water Assessment	Final FY17 Water Assessment	Percent Change from FY16	Final FY16 Sewer Assessment	Final FY17 Sewer Assessment	Percent Change from FY16	Final FY16 Combined Assessment	Final FY17 Combined Assessment	Dollar Change from FY16	Percent Change from FY16
ARLINGTON	\$4,724,970	\$4,978,564	5.3%	\$7,899,278	\$7,993,120	3.8%	\$12,424,248	\$12,969,684	\$545,436	4.4%
BELMONT	2,674,578	2,828,456	5.8%	4,624,861	4,825,479	4.3%	7,299,437	7,653,935	354,498	4.9%
BOSTON (BWSC)	80,205,208	82,771,709	3.2%	129,701,392	132,271,845	2.0%	209,906,600	215,043,554	5,136,954	2.4%
BROOKLINE	6,910,863	7,046,891	2.0%	12,639,575	12,894,419	2.0%	19,550,438	19,941,110	390,672	2.0%
CHELSEA	4,155,184	4,215,080	1.4%	7,435,243	7,663,315	3.1%	11,590,427	11,878,395	287,968	2.5%
EVERETT	4,636,654	4,948,191	6.7%	8,056,404	8,124,101	0.8%	12,693,058	13,072,292	379,234	3.0%
FRAMINGHAM	8,243,026	8,159,808	-1.0%	11,893,982	12,824,962	7.8%	20,137,008	20,984,770	846,962	4.2%
LEXINGTON	6,895,144	7,349,661	9.8%	6,970,176	7,265,870	4.2%	13,665,320	14,615,531	950,211	7.0%
MALDEN	6,941,818	6,950,768	0.1%	12,439,049	12,941,073	4.0%	19,380,867	19,891,841	510,974	2.6%
MEDFORD	6,432,009	6,432,219	0.0%	11,355,458	11,878,789	4.6%	17,787,467	18,311,008	523,541	2.9%
MELROSE	2,853,930	2,915,635	2.2%	6,084,875	6,261,952	3.3%	8,908,805	9,167,587	258,782	2.9%
MILTON	3,156,824	3,360,396	6.4%	5,018,915	5,362,055	6.8%	8,175,739	8,722,451	546,712	6.7%
NEWTON	12,205,271	12,950,552	6.1%	19,710,607	20,518,241	4.1%	31,915,878	33,468,793	1,552,915	4.9%
NORWOOD	3,755,101	3,652,867	-2.7%	6,718,885	7,023,166	4.5%	10,473,986	10,676,033	202,047	1.9%
QUINCY	11,918,042	11,776,311	-1.2%	19,481,076	19,971,978	2.5%	31,399,118	31,748,289	349,171	1.1%
READING	2,032,766	2,109,549	3.8%	4,624,378	4,769,928	3.1%	6,657,144	6,879,477	222,333	3.3%
REVERE	5,013,281	4,943,994	-1.4%	10,261,623	10,611,549	3.4%	15,274,904	15,555,513	280,609	1.8%
SOMERVILLE	7,060,400	7,658,200	8.5%	15,585,894	15,918,035	2.1%	22,646,294	23,576,325	930,031	4.1%
STONEHAM	3,381,301	3,174,690	-6.1%	4,429,220	4,542,049	2.5%	7,810,521	7,716,739	(93,782)	-1.2%
WALTHAM	8,631,171	9,384,159	8.7%	12,680,425	13,122,122	3.5%	21,311,596	22,506,281	1,194,685	5.6%
WATERTOWN	3,392,382	3,290,986	-3.0%	5,760,051	5,971,377	3.7%	9,152,433	9,262,363	109,930	1.2%
WINTHROP	1,629,550	1,643,615	0.9%	3,183,339	3,320,069	4.3%	4,812,889	4,963,684	150,795	3.1%
TOTAL	\$196,680,271	\$202,640,161	3.0%	\$326,324,706	\$336,065,494	3.0%	\$622,974,977	\$638,605,665	\$15,630,678	3.0%

MWRA Sewer and Partial Water Customers	Final FY16 Water Assessment	Final FY17 Water Assessment	Percent Change from FY16	Final FY16 Sewer Assessment	Final FY17 Sewer Assessment	Percent Change from FY16	Final FY16 Combined Assessment	Final FY17 Combined Assessment	Dollar Change from FY16	Percent Change from FY16
CANTON	\$1,286,728	\$1,673,754	30.1%	\$3,933,960	\$4,137,162	5.2%	\$5,220,688	\$5,810,916	\$590,228	11.3%
NEEDHAM	1,012,962	1,039,372	2.6%	5,408,445	5,683,915	5.1%	6,421,407	6,723,287	301,880	4.7%
STOUGHTON	1,106,344	1,144,245	3.4%	4,392,863	4,747,341	8.1%	5,499,207	5,891,586	392,379	7.1%
WAKEFIELD	1,855,071	1,852,218	-0.2%	5,563,262	5,813,697	4.5%	7,418,333	7,665,915	247,582	3.3%
WELLESLEY	852,477	1,056,294	23.9%	5,278,300	5,459,700	3.4%	6,130,777	6,516,044	385,267	6.3%
WILMINGTON	353,379	703,075	99.0%	2,476,867	2,595,601	4.8%	2,830,246	3,298,676	468,430	16.6%
WINCHESTER	1,234,222	1,544,349	25.1%	3,868,461	4,033,770	4.3%	5,102,683	5,578,119	475,436	9.3%
WOBURN	3,091,283	3,355,306	8.5%	9,492,994	9,324,662	-1.8%	12,584,277	12,679,968	95,691	0.8%
TOTAL	\$10,792,466	\$12,368,613	14.6%	\$40,415,172	\$41,795,898	3.4%	\$51,207,638	\$54,164,511	\$2,956,873	5.8%

MWRA Sewer-only Customers	Final FY16 Water Assessment	Final FY17 Water Assessment	Percent Change from FY16	Final FY16 Sewer Assessment	Final FY17 Sewer Assessment	Percent Change from FY16	Final FY16 Combined Assessment	Final FY17 Combined Assessment	Dollar Change from FY16	Percent Change from FY16
ASHLAND				\$2,380,635	\$2,485,174	4.4%	\$2,380,635	\$2,485,174	\$104,539	4.4%
BEDFORD				3,199,185	3,368,331	5.3%	3,199,185	3,368,331	169,146	5.3%
BRAINTREE				8,507,387	9,100,270	7.0%	8,507,387	9,100,270	592,883	7.0%
BURLINGTON				4,905,353	5,078,461	3.5%	4,905,353	5,078,461	173,108	3.5%
CAMBRIDGE				23,289,670	23,748,695	2.1%	23,289,670	23,748,695	459,025	2.1%
DEDHAM				5,063,931	5,311,572	4.9%	5,063,931	5,311,572	247,641	4.9%
HINGHAM SEWER DISTRICT				1,695,096	1,798,028	6.1%	1,695,096	1,798,028	102,932	6.1%
HOLBROOK				1,657,660	1,759,996	6.2%	1,657,660	1,759,996	102,336	6.2%
NATICK				8,526,614	8,786,705	4.2%	8,526,614	8,786,705	260,091	4.2%
RANDOLPH				6,011,817	6,272,186	4.3%	6,011,817	6,272,186	260,369	4.3%
WALPOLE				3,559,098	3,713,877	4.3%	3,559,098	3,713,877	154,779	4.3%
WESTWOOD				2,473,296	2,598,265	5.1%	2,473,296	2,598,265	124,969	5.1%
WEYMOUTH				11,087,503	11,765,811	6.1%	11,087,503	11,765,811	678,308	6.1%
TOTAL				\$79,327,245	\$82,754,371	4.3%	\$79,327,245	\$82,754,371	\$3,427,126	4.3%

MWRA Water-only Customers	Final FY16 Water Assessment	Final FY17 Water Assessment	Percent Change from FY16	Final FY16 Sewer Assessment	Final FY17 Sewer Assessment	Percent Change from FY16	Final FY16 Combined Assessment	Final FY17 Combined Assessment	Dollar Change from FY16	Percent Change from FY16
LYNNFIELD WATER DISTRICT	\$614,185	\$643,348	4.7%				\$614,185	\$643,348	\$29,163	4.7%
MARBLEHEAD	2,278,325	2,341,415	2.8%				2,278,325	2,341,415	63,090	2.8%
NAHANT	425,527	476,532	12.0%				425,527	476,532	51,005	12.0%
SAUGUS	3,645,083	3,692,889	1.3%				3,645,083	3,692,889	47,806	1.3%
SOUTHBOROUGH	850,020	948,422	11.6%				850,020	948,422	98,402	11.6%
SWAMPSCOTT	1,827,959	1,834,151	0.3%				1,827,959	1,834,151	6,192	0.3%
WESTON	2,240,675	2,445,970	9.2%				2,240,675	2,445,970	205,295	9.2%
TOTAL	\$11,881,774	\$12,382,727	4.2%				\$11,881,774	\$12,382,727	\$500,953	4.2%

MWRA Partial Water-only Customers	Final FY16 Water Assessment	Final FY17 Water Assessment	Percent Change from FY16	Final FY16 Sewer Assessment	Final FY17 Sewer Assessment	Percent Change from FY16	Final FY16 Combined Assessment	Final FY17 Combined Assessment	Dollar Change from FY16	Percent Change from FY16
DEDHAM-WESTWOOD WATER DISTRICT	\$305,532	\$196,381	-35.7%				\$305,532	\$196,381	(\$109,151)	-35.7%
LYNN (LWSC)	264,873	243,938	-7.9%				264,873	243,938	(20,935)	-7.9%
MARLBOROUGH	3,894,026	3,887,876	-0.2%				3,894,026	3,887,876	(6,150)	-0.2%
NORTHBOROUGH	1,103,542	1,135,772	2.9%				1,103,542	1,135,772	32,230	2.9%
PEABODY	1,480,393	1,507,269	1.8%				1,480,393	1,507,269	26,876	1.8%
TOTAL	\$7,048,366	\$6,971,236	-1.1%				\$7,048,366	\$6,971,236	(\$77,130)	-1.1%
SYSTEMS TOTAL	\$226,372,877	\$234,262,737	3.46%	\$446,067,123	\$460,615,763	3.26%	\$672,440,000	\$694,878,500	\$22,438,500	3.34%

Massachusetts Water Resources Authority
 Clinton Wastewater Treatment Plant
 Sewer User Charge Determination

BUDGETED EXPENSES: DRAFT Final FY2017	
Clinton Direct Operating Expenses:	\$1,916,089
MWRA Support Allocation:	471,007
Subtotal O&M Expenses:	\$2,387,097
Total Debt Service Expenses:	\$908,978
Total Clinton Service Area Expenses	\$3,296,075
Less Revenue (City of Worcester Payment)	-151,582
Clinton WWTP Rate Revenue Requirement:	\$3,144,493

WASTEWATER FLOW and FLOW SHARES:	CY2015		
	Town of Clinton Flow	Lancaster Sewer District Flow	Total Wastewater Flow
Average Daily Flow (MGD)	2.232	0.262	2.494
Average Flow (MG/YR)	814,769	95,581	910,350
Proportional Share of Flow	89.50%	10.50%	100.0%

Sewer User Charge Determination

TOWN OF CLINTON

O&M Expenses	\$2,387,097
Less Revenue (City of Worcester Payment)	-151,582
O&M Expenses to be Recovered	\$2,235,515
Clinton's Share of Flow	89.50%
Clinton's Share of O&M Costs	\$2,000,801

Total Clinton O&M Charge	\$2,000,801
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Debt Service Costs to be Recovered	\$908,978
Clinton's Share of Wastewater Flow	89.50%

Total Clinton Debt Service Charge	\$813,542
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Total Clinton O&M and Debt Service Charge	\$2,814,343
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Less MWRA Water Ratepayer Subsidy -2,314,343

Billable Charge to the Town of Clinton as per CH. 307, Section 8 The Acts of 1987	\$500,000
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LANCASTER SEWER DISTRICT

O&M Expenses	\$2,387,097
Less Revenue (City of Worcester Payment)	-151,582
O&M Expenses to be Recovered	\$2,235,515
Lancaster's Share of Flow	10.50%
Lancaster's Share of O&M Costs	\$234,714

Total Lancaster Sewer District O&M Charge	\$234,714
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Debt Service Costs to be Recovered	\$908,978
Lancaster's Share of Wastewater Flow	10.50%

Total Lancaster Sewer District Debt Service Charge	\$95,437
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Total Lancaster O&M and Debt Service Charge	\$330,151
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Billable Charge to Lancaster Sewer District	\$330,151
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Billable Sewer User Charges and Payment Schedule

Sewer Customer	Billable Charges
Town of Clinton (billable)	\$500,000
Lancaster Sewer District (before adj.)	\$330,151
Lancaster Sewer District (prior period adj.)	-\$25,076
Lancaster Sewer District (billable)	\$305,075
Total Billable Sewer Charges	\$805,075

Payment 1 on or before Sept 15, 2016	Payment 2 on or before Nov 15, 2016	Payment 3 on or before Feb 15, 2017	Payment 4 on or before May 15, 2017
\$125,000	\$125,000	\$125,000	\$125,000
\$82,538	\$82,538	\$82,538	\$82,538
\$207,538	\$207,538	\$207,538	\$207,538

Massachusetts Water Resources Authority

Chicopee Valley Aqueduct Water System Assessment

FY2017

CVA Operating Budget	FY16	FY17
CVA Cost Center Expenses	\$817,336	\$882,479
Allocated Waterworks Expenses	131,065	141,678
Allocated Watershed/PILOT	511,971	1,070,505
Allocated Watershed Land Acquisition	22,924	24,348
Allocated MWRA Indirect Expenses	538,480	564,148
SUBTOTAL OPERATING BUDGET	\$2,021,776	\$2,683,158

Change from Prior Year	
Dollars	Percent
\$65,143	8.0%
10,613	8.1%
558,534	109.1%
1,424	6.2%
25,668	4.8%
\$661,382	32.7%

CVA Capital Budget	FY16	FY17
Capital Expenses	\$2,875,054	\$2,879,705
TOTAL CVA BUDGET	\$4,896,830	\$5,562,863

Change from Prior Year	
Dollars	Percent
\$4,651	0.2%
\$666,033	13.6%

BASE COMMUNITY ASSESSMENT	FY16 ¹	FY17 ²
Chicopee	\$3,455,577	\$3,880,051
South Hadley Fire District #1	701,841	802,229
Wilbraham	739,411	880,583
CVA BASE SYSTEM ASSESSMENT	\$4,896,830	\$5,562,863

Change from Prior Year	
Dollars	Percent
\$424,474	12.3%
100,387	14.3%
141,172	19.1%
\$666,033	13.6%

PRIOR PERIOD ADJUSTMENTS	FY16 ³	FY17 ³
Chicopee	-\$45,820	-\$455,231
South Hadley Fire District #1	-9,823	-94,393
Wilbraham	-9,113	-99,295
TOTAL ADJUSTMENTS	-\$64,756	-\$648,920

Change from Prior Year	
Dollars	Percent
-\$409,411	893.5%
-84,570	860.9%
-90,183	989.6%
-\$584,164	902.1%

ADJUSTED ASSESSMENT	FY16	FY17
Chicopee	\$3,409,757	\$3,424,820
South Hadley Fire District #1	692,018	707,836
Wilbraham	730,299	781,288
ADJUSTED ASSESSMENT	\$4,832,074	\$4,913,944

Change from Prior Year	
Dollars	Percent
\$15,063	0.4%
15,817	2.3%
50,989	7.0%
\$81,869	1.7%

¹ Based on CY2014 water use and before prior period adjustments.

² Based on CY2015 water use and before prior period adjustments.

³ Prior period adjustment to account for budget to actual expenses.



MASSACHUSETTS WATER RESOURCES AUTHORITY

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

Frederick A. Laskey
Executive Director

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

WASTEWATER POLICY & OVERSIGHT COMMITTEE MEETING

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

to be held on

Wednesday, June 29, 2016

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

Time: Immediately following AF&A Comm.

AGENDA

A. Contract Awards

1. Chelsea Creek Headworks Upgrade, Resident Engineering/Resident Inspection Services: CDM Smith, Inc., Contract 6802

B. Contract Amendments/Change Orders

1. Fire Protection Sprinkler System Service: William Collins, Inc., Contract OP-285, Change Order 2
2. Fire Alarm Service Metro Boston: Sullivan & McLaughlin Companies, Inc., Contract OP-275, Change Order 3

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the Wastewater Policy and Oversight Committee

June 8, 2016

A meeting of the Wastewater Policy and Oversight Committee was held on June 8, 2016 at the Authority headquarters in Charlestown. Chairman Flanagan presided. Present from the Board were Ms. Wolowicz and Messrs. Foti, Pappastergion, Peña, Vitale and Walsh. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Mike Hornbrook and Bonnie Hale. The meeting was called to order at 11:50 a.m.

Approvals

*Wastewater Advisory Committee Contract

The Committee recommended approval of the renewal of the WAC contract (ref. agenda item A.1).

Approval of One New Member of the Wastewater Advisory Committee

The Committee recommended approval of Ms. Adriana Cillo as a new member of WAC (ref. agenda item A.2).

Contract Awards

*Technical Assistance Consulting Services, Deer Island Treatment Plant: Brown and Caldwell, Contract 7501; Stantec Consulting Services, Inc., Contract 7502; and AECOM Technical Services, Inc., Contract 7503

There was general discussion and question and answer. The Committee recommended approval of the three technical assistance contract awards (ref. agenda item B.1).

The meeting adjourned at 11:55 a.m.

* Approved as recommended at June 8, 2016 Board of Directors meeting.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: June 29, 2016
SUBJECT: Chelsea Creek Headworks Upgrade
Resident Engineering/Resident Inspection Services
CDM Smith Inc.
Contract 6802

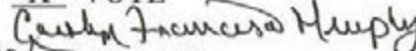


COMMITTEE: Wastewater Policy & Oversight

John P. Vetere, Deputy Chief Operating Officer
A. Navanandan, P.E., Chief Engineer
Margery J. Johnson, Program Manager
Preparer/Title

 INFORMATION

 X VOTE



Michele S. Gillen
Director of Administration


Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To approve the recommendation of the Consultant Selection Committee to select CDM Smith Inc. to provide Resident Engineering and Resident Inspection Services during construction of the Chelsea Creek Headworks Upgrade, and to authorize the Executive Director, on behalf of the Authority, to execute said contract with CDM Smith Inc. in an amount not-to-exceed \$3,632,829, for a contract term of fifty-one months from the Notice to Proceed.

DISCUSSION:

Contract 6802 will provide Resident Engineering and Resident Inspection Services for Construction Contract 7161 – Chelsea Creek Headworks Upgrade, which is the subject of a future award. Construction Administration Services are being provided by Arcadis U.S., Inc. under Design Contract 7206 – Remote Headworks Upgrade.



Existing east side of facility

The work under Contract 7161 includes replacement and automation of all solids handling equipment including screens, grit collector systems, and solids conveyance systems. Influent and effluent sluice gates will be replaced, and the hydraulic operating system will be replaced with electric gate actuators. Wet scrubbers for odor control will be replaced with carbon adsorbers, HVAC systems will be replaced, and redundancy will be added to these

systems. Ancillary systems including the emergency generator, fuel oil tank, and the facility's electrical transformer will be replaced. Instrumentation and control systems will be upgraded, the communications tower will be replaced and a communications equipment shelter will be added. Remediation of hazardous building materials including asbestos, lead, and paint containing polychlorinated biphenyls (PCBs); and contaminated soils, are also included in this project.



Upgraded east side of facility

Contract 6802 will provide a resident engineer, two resident inspectors (one specializing in electrical work and the other specializing in mechanical work), and a part-time administration person. The contract will provide daily on-site observation and documentation of the progress and quality of the construction work. With the exception of Task 1 Administration and Management, the levels of effort proposed were defined by the Authority.

MWRA staff will provide a Construction Coordinator for overall construction management of the contract.

Procurement Process

Staff utilized a one-step/two-envelope Request for Qualifications/Proposal, seeking a consultant to be selected on a most-qualified, low-bid basis with sealed price envelopes submitted separately from the technical proposal. Technical proposals were reviewed first to identify the firms most qualified to provide the required services based upon specific criteria. Then, the price envelopes of only the firms deemed most qualified were then opened. The most qualified proposer submitting the lowest appropriate price was then recommended for award of the contract.

MWRA received proposals from CDM Smith Inc. and MWH Constructors, Inc. The Selection Committee evaluated and compared each firm's proposal using the following criteria: Qualifications/Key Personnel; Past Performance on Authority Projects; Experience/Past Performance on Similar Non-Authority Projects; Capacity/Organization and Management Approach; Technical Approach; and Minority/Women Owned Business Enterprise Participation.

Since this project is so heavily weighted on the services of the Resident Engineer and Resident Inspectors (RE/RI), significant emphasis was placed on the experience and qualifications of each RE/RI assigned to the project.

Key members of the CDM Smith team have worked for the MWRA on previous projects. The Resident Engineer has worked on projects at Deer Island including a large valve replacement project, and rehabilitation of the primary and secondary clarifiers. He has also worked on several upgrades to municipal wastewater treatment facilities in Massachusetts. Both of the

Resident Inspectors have worked for the MWRA on the Spot Pond water storage facility projects, and the Electrical Resident Inspector also worked on the MWRA's Oakdale Power Generating Facility. All members of CDM Smith's team received very good references from MWRA staff.

MWH Constructors, Inc. teamed with Arcadis U.S., Inc., and also proposed a team with MWRA experience. The Resident Engineer worked on Transport SCADA Upgrades; and one Resident Inspector (Mechanical) worked on the Rehabilitation of Five Water Pumping Stations; while the other Resident Inspector (Electrical) worked on the Nut Island Headworks Improvements and the design of the Chelsea Creek Headworks Upgrade, both for Arcadis. All received very good references from MWRA staff. The Resident Engineer also received favorable references for a multiple contract project he managed for the Town of Tewksbury. MWH Constructors, Inc. proposed MBE/WBE utilization for the position of Administrative Assistant.

The Selection Committee determined that both firms met the threshold and technical requirements of the contract and proposed project teams that consisted of well-qualified and experienced key personnel. The Selection Committee was in agreement that both firms have the required experience and past performance on similar projects, and possess the capacity and technical expertise required to perform the work. As a result, both firms were found to be qualified.

The Selection Committee then opened the cost envelopes for each firm. The proposed costs are presented below:

	Bid Price
<i>Engineer's Estimate*</i>	\$3,958,000
CDM Smith Inc.	\$3,632,829
MWH Constructors, Inc.	\$3,839,989

*The original Engineer's Estimate, which has been carried in the FY17 CIP budget, has been adjusted to reflect changes to the levels of effort in the final RFQP. Hours were added for work that must be performed during low flow periods or must be continued on a 24-hour basis. Hours were also adjusted to allow for staggered starts of Resident Inspectors based on the type of work expected to be performed at the start of construction.

Based on the firm's qualifications and its lowest cost proposal, the Selection Committee recommends that the Board approve the award of Contract 6802 to CDM Smith Inc., in an amount not-to-exceed \$3,632,829, and for a contract term of fifty-one months from the Notice to Proceed.

BUDGET/FISCAL IMPACT:

The FY16 CIP includes a budget of \$2,256,046 for Contract 6802. The draft FY17 CIP includes a budget of \$3,737,811, which includes the current estimated construction duration and additional personnel.

MBE/WBE PARTICIPATION:

Due to the specialized nature of this work, there were no minimum MBE and WBE participation requirements established for this project.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: June 29, 2016
SUBJECT: Fire Protection Sprinkler System Service
William M. Collins Co., Inc.
Contract OP-285, Change Order 2



COMMITTEE: Wastewater Policy & Oversight

INFORMATION
 VOTE

M. Altaf Bhatti, Project Engineer
Brian L. Kubaska, P. E., Manager, SCADA and Process Control
Stephen D. Cullen, Director, WW Operations and Maintenance
Preparer/Title



Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to approve Change Order 2 to Contract OP-285, Fire Protection Sprinkler System Service, with William M. Collins Co., Inc. for an amount not-to-exceed \$57,596.72, increasing the contract amount from \$134,403.20 to \$191,999.92, with no increase in contract term.

Further, to authorize the Executive Director to approve additional change orders as may be needed to Contract OP-285, in amounts not-to-exceed the aggregate of \$27,520, or 25% of original contract value, and 180-days, in accordance with the Management Policies and Procedures of the Board of Directors.

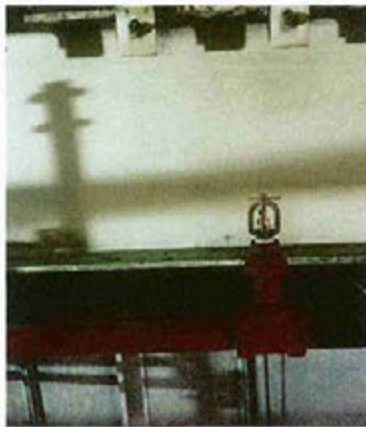
DISCUSSION:

Contract OP-285 provides fire protection sprinkler system testing services, non-emergency and emergency repair services, and replacement parts at various MWRA facilities that currently have sprinkler systems, including the Chelsea Facility, Nut Island Headworks, five wastewater pumping stations, three combined sewer overflow facilities, the Chelsea Screen House, Union Park, the John J. Carroll Water Treatment Plant, Nut Island Treatment Plant and seven other Western Operations facilities. These services are necessary and essential for the continued reliable operation of these systems and to ensure compliance with local and state fire protection and safety regulations.

Contract OP-285 is a two-year contract that expires on September 13, 2017.

This Change Order

Contract quantities are estimated based on typical expenditures from prior contracts, but do not take into consideration unexpected events that can significantly deplete contract budgets. Such an unexpected event occurred at the Nut Island Headworks on January 25, 2016. A fire in the odor control room of the facility resulted in substantial smoke and water damage to a large portion of the facility including the fire protection sprinkler and alarm systems. Corrective repairs were required to isolate the impacted areas, replace the damaged sprinkler system devices and piping, and perform testing to ensure reliable system operation. In addition, as a result of the fire at Nut Island, redundant fire pump #4 is currently out of service and this contract will be removing the pump for evaluation. After pump #4 removal, staff will determine if repairs can be performed under this service contract, which may require a subsequent change order, or if the work will require contract development and bidding as a stand-alone contract.



Replace Sprinkler Head



Sprinkler Head and Piping Replacement



Fire Pumps

Change Order 2 consists of the following four items:

On-Site Testing, Non-Emergency Repair Services, Regular Hours \$23,898.16

The contract included an original estimate of 680 service hours for on-site testing of fire sprinkler systems, non-emergency and emergency repair service, Monday through Friday between the hours of 7:00 a.m. and 3:00 p.m., excluding Saturdays, Sundays and Authority observed holidays, at a rate of \$83.56 per hour for a not-to-exceed amount of \$56,820.80. (Change Order 1 added 200 hours - \$16,712).

Based on estimates as of April 30, 2016 (7.5 months into the 24 month contract, or 31% complete by time), approximately 57% of the adjusted contract hours have been expended. These expenditures are due to the Nut Island fire. Staff estimate that an increase of 286 hours at the original unit bid price of \$83.56 per hour is required to ensure services through the end of the contract term, resulting in a recommended increase of \$23,898.16.

Repair Service Performed by Manufacturer's
Authorized Service Representative, Twenty-Four Hours Per Day, Every
Day of the Year During the Contract Time \$12,052.80

The contract included an original estimate of 10 service hours for On-Site Non- Emergency Repair Service on Fire Protection Sprinkler Systems performed by manufacturer's authorized service representative, twenty-four hours per day, every day of the year during the Contract Time, at a rate of \$200.88 per hour for a not-to-exceed amount of \$2,008.80. (Change Order 1 added 10 hours - \$2,008.80).

As of April 30, 2016, as a result of the Nut Island fire, 100% of the adjusted contract hours have been expended. Staff estimate that an increase of 60 hours at the original unit bid price of \$200.88 per hour is required to ensure services through the end of the contract term, resulting in a recommended increase of \$12,052.80.

On-Site Emergency, Emergency Repair Services \$10,445.76

The contract included an original estimate of 60 service hours for On-Site Emergency Repair Service on Fire Protection Sprinkler Systems, Monday through Friday between the hours of 3:00 p.m. and 7:00 a.m., at all times on Saturdays, Sundays and on Authority observed Holidays, at a rate of \$200.88 per hour for a not-to-exceed amount of \$12,052.80.

As of April 30, 2016, as a result of the Nut Island fire 100% of the adjusted contract hours have been expended. Staff estimate that an increase of 52 hours at the original unit bid price of \$200.88 per hour is required to ensure services through the end of the contract term, resulting in a recommended increase of \$10,445.76.

Increase Replacement Parts Allowance and Mark-Up \$11,200

The contract included an original allowance amount of \$39,200 for replacement parts and rental equipment furnished for on-site non-emergency and emergency repair service, including mark-up. (Change Order 1 added \$5,600).

Based on estimates as of April 30, 2016, approximately 16% of the allowance amount has been expended. However, it is anticipated that approximately \$13,000 is required to complete the work associated with the Nut Island event. Staff estimate that an increase of \$11,200 is required to ensure an uninterrupted supply of replacement parts and consumable materials, including mark-up, through contract completion.

The approved PCO for this change order has been identified by MWRA staff as an unforeseen condition. MWRA staff and the Contractor have agreed to an amount not to exceed \$57,596.72 for this additional work with no increase in contract term.

CONTRACT SUMMARY:

	<u>Amount</u>	<u>Time</u>	<u>Dated</u>
Original Contract:	\$110,082.40	730 Days	09/14/15
Change Orders:			
Change Order 1*	\$24,320.80	0 Days	9/13/17
Change Order 2	<u>\$57,596.72</u>	<u>0 Days</u>	Pending
Total of Change Orders:	\$81,917.52	0 Days	
Adjusted Contract:	\$191,999.92	730 Days	

*Approved under delegated authority

If Change Order 2 is approved, the cumulative total value of all change orders to this contract will be \$81,917.52 or 74.4% of the original contract amount. Work on this contract is approximately 35% complete.


BUDGET/FISCAL IMPACT:

Although unanticipated, funding for this change order work will be absorbed within the FY17 Current Expense Budget.

MBE/WBE PARTICIPATION:

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


STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: June 29, 2016
SUBJECT: Fire Alarm System Service, Metro Boston
Sullivan & McLaughlin Companies, Inc.
Contract OP-275, Change Order 3

COMMITTEE: Wastewater Policy & Oversight

INFORMATION
 VOTE

M. Altaf Bhatti, Project Engineer
Brian L. Kubaska, P. E., Manager, SCADA and Process Control
Stephen D. Cullen, Director, WW Operations & Maintenance
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 OP-275, Fire Alarm System Service, Metro Boston, with Sullivan & McLaughlin Companies, Inc., for a not-to-exceed amount of \$84,506, increasing the contract amount from \$210,805.70 to \$295,311.70, with no increase in contract term.

Further, to authorize the Executive Director to approve additional change orders as may be needed to Contract OP-275, in amounts not-to-exceed the aggregate of \$44,997.50, or 25% of original contract value, and 180-days, in accordance with the Management Policies and Procedures of the Board of Directors.

DISCUSSION:

Contract OP-275 provides fire alarm system testing and monitoring services, non-emergency and emergency repair services, and replacement parts for equipment located at various MWRA facilities, including the Chelsea Facility, four headworks facilities, nine wastewater pumping stations, five combined sewer overflow facilities, the Chelsea Screen House, Union Park, BOS 019, South Boston CSO facilities, and eleven water pumping stations.

Contract OP-275 is a two-year contract that expires on August 28, 2017. However, as discussed further below, due to higher than anticipated contract spending staff are proceeding with the procurement of a new contract to provide Fire Alarm System Services with an estimated contract notice- to-proceed forecast for January 2017.

This Change Order

Contract quantities are estimated based on typical expenditures from prior contracts, but do not take into consideration unexpected events that can significantly deplete contract budgets. Such an unexpected event occurred at the Nut Island Headworks Facility on January 25, 2016. A fire in the odor control room of the facility resulted in substantial smoke and water damage to a large portion of the facility including the fire protection sprinkler and alarm systems.

In addition to the budget deficiencies resulting from the Nut Island fire, a larger than expected number of service hours has been spent during the first several months of this contract at other facilities.



Replace Fire Alarm Pull Station



Replace Smoke Detector

Change Order 3 consists of the following two items:

Testing, Non-Emergency and Emergency Repair Services, Regular Hours \$56,166

The contract included an original estimate of 1,500 service hours for testing of fire alarm systems, non-emergency and emergency repair service, Monday through Friday between the hours of 7:00 a.m. and 3:00 p.m., excluding Saturdays, Sundays and Authority-observed holidays, at a rate of \$69 per hour for a not-to-exceed amount of \$103,500. (Change Order 1 added 100 hours - \$6,900.)

In order to ensure the reliability of the Nut Island fire detection equipment, all fire detection equipment impacted by the fire was replaced. This included 153-devices, which consisted mostly of smoke detectors, as well as power supplies, control modules, batteries, etc. Additional work performed at Nut Island, related to the fire, included activation and deactivation of alarming systems during the cleaning and demolition operation, support of the sprinkler service contractor (OP-285) to address the fire pump control panel and repair and testing of the carbon deluge system. Further ongoing work will require corrective repairs to the interlocks between the HVAC system and fire alarm panel. The additional work which continues at Nut Island to address fire-related issues will

expend a total of approximately 442-hours or 28% of the service person hour budget.

In addition to the budget deficiencies resulting from the Nut Island fire, a larger than expected number of service hours has been spent during the first several months of this contract at other facilities. This was primarily due to a greater than anticipated number of corrective repair needs at various facilities, as well as unanticipated work associated with the fire protection sprinkler system services contract (OP-285) as recommended by MWRA's insurance carrier after the award of the contract. Staff are requesting that an additional 372-hours or 23% of the current budget for this item be added to address these greater than anticipated expenditures until a replacement contract can be procured.

Based on estimates as of April 30, 2016 (8 months into the 24 month contract, or 33% complete by time), approximately 67% of the adjusted contract hours have been expended. Staff are requesting an increase of 814-hours at the original unit bid price of \$69 per hour be added to ensure services until a new contract is procured, resulting in a recommended increase of \$56,166.

Increase Replacement Parts Allowance and Mark-Up \$28,340

The contract included an original allowance amount of \$54,500 for replacement parts and consumable materials furnished in connection with the performance of all work under this contract, including mark-up. (Change Order 1 added \$5,450.)

Given the unanticipated work due to the Nut Island Headworks fire as described above, all of the current budget for replacement parts and mark-up have been expended.

Based on estimates as of April 30, 2016, approximately 30% of the allowance amount has been expended. However, it is anticipated that \$59,000 of unbilled and future parts will be required to complete the work associated with the Nut Island Headworks Fire. Staff estimate that an increase of \$28,340 will be sufficient to ensure the work can be completed at Nut Island and an uninterrupted supply of replacement parts and consumable materials, including mark-up, is available until a new contract can be procured.

The approved PCO for this work has been identified by MWRA staff as an unforeseen condition. MWRA staff and the Contractor have agreed to a not-to-exceed amount of \$84,506 for this change order with no increase in contract term.

CONTRACT SUMMARY:

	AMOUNT	TIME	DATED
Original Contract:	\$179,990.00	730 Days	07/22/15
CHANGE ORDERS:			
Change Order 1*:	\$12,665.70	0 Days	12/08/15
Change Order 2*:	\$18,150.00	0 Days	04/26/16
Change Order 3:	<u>\$84,506.00</u>	<u>0 Days</u>	Pending
Total Change Orders:	\$115,321.70	0 Days	

Adjusted Contract: \$295,311.70 730 Days

*Approved under delegated authority

If Change Order 3 is approved, the cumulative total value of all change orders to this contract will be \$115,321.70 or 64% of the original contract amount. Work on this contract is approximately 37% complete.

BUDGET/FISCAL IMPACT:

Although unanticipated, funding for this change order work will be absorbed within the FY17 Current Expense Budget.

MBE/WBE PARTICIPATION:

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



MASSACHUSETTS WATER RESOURCES AUTHORITY

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

Frederick A. Laskey
Executive Director

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

WATER POLICY AND OVERSIGHT COMMITTEE MEETING

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

to be held on

Wednesday, June 29, 2016

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

Time: Immediately following Wastewater Comm.

AGENDA

A. Approvals

1. Renewal of Reading and Wellesley Water Supply Continuation Agreements

B. Contract Awards

1. Farm Pond Inlet Chamber, Farm Pond Gatehouse and Waban Arches Evaluations: Green International Affiliates, Inc., Contract 7473

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the
Water Policy and Oversight Committee

June 8, 2016

A meeting of the Water Policy and Oversight Committee was held on June 8, 2016 at the Authority headquarters in Charlestown. Vice-Chairman Peña presided. Present from the Board were Ms. Wolowicz and Messrs. Flanagan, Foti, Pappastergion, Vitale and Walsh. Among those present from the Authority staff were Fred Laskey, Steve Remsberg, Mike Hornbrook, Steve Estes-Smargiassi, Pam Heidell, John Gregoire, Cori Barrett, Terry Flynn, and Bonnie Hale. The meeting was called to order at 11:55 a.m.

Information

2015 Annual Water Quality Report (Consumer Confidence Report)

Staff handed out copies of the report and briefly described its contents.

Approvals

*Water Supply Citizens Advisory Committee Contract

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

*First Amendment of Memorandum of Agreement between MWRA and Massachusetts Division of Fisheries and Wildlife and the Massachusetts Department of Fish and Game for McLaughlin Fish Hatchery Pipeline and Hydropower Project

Staff reported on the commitment of an additional \$200,000 from the fisheries agencies for this project, and Mr. Laskey thanked Secretary Beaton and his staff for their assistance in making this funding available. The Committee recommended approval of the amendment to the MOA (ref. agenda item B.2).

Contract Awards

*Dam Safety Compliance and Consulting Services: GZA GeoEnvironmental, Inc., Contract W-301

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

* Approved as recommended at June 8, 2016 Board of Directors meeting.

Contract Amendments/Change Orders

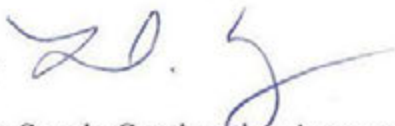
***Construction of Water Mains-Sections 36, W11C and 9A: RJV Construction Corp.,
Contract 7448, Change Order 5**

Staff described the necessity of Change Order 5 to install a new 48-inch butterfly control valve and buried concrete vault. There was general discussion and question and answer. The Committee recommended approval of Change Order 5 (ref. agenda item D.1).

The meeting adjourned at 12:05 p.m.

* Approved as recommended at June 8, 2016 Board of Directors meeting.

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: June 29, 2016
SUBJECT: Renewal of Reading and Wellesley Water Supply Continuation Agreements

COMMITTEE: Water Policy & Oversight

INFORMATION
 VOTE

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


Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To authorize the Executive Director, on behalf of the Authority, to execute the attached ten-year Water Supply Continuation Agreements with Reading and Wellesley substantially in the form filed as Attachments 1 and 2 to this Staff Summary.

DISCUSSION:

Introduction

Reading and Wellesley are two of twenty-five MWRA "contract communities" that receive MWRA water pursuant to Water Supply Continuation Agreements. The differentiation between contract and non-contract communities dates back prior to the Enabling Act. Some contract communities, like Wellesley, are partially supplied by MWRA and regularly use local sources to meet some portion of demand whereas some communities, like Reading, are fully served. There are also three contract communities that rely on MWRA only in unusual or emergency situations.

The Reading and Wellesley Agreements expire on June 30, 2016 and August 11, 2016 respectively, and consequently new Agreements are required. The development of new Agreements is predicated upon the satisfaction of certain criteria set forth in Section 8 (d) of the MWRA Enabling Act and the completion of a process outlined in MWRA regulation 360 C.M.R. 11.00 entitled "Regulations for the Continuation of Contract Water Supply" (the Regulation). The Regulation prescribes the preparation of a Supplementary Report that includes supply and demand analyses, documentation of conservation and demand management efforts, and a description of various aspects of the community's water supply system. The Regulation also prescribes the execution of a written agreement between MWRA and each community for up to a ten year period. In the past months, MWRA staff has worked with Reading and Wellesley to complete the prescribed contract renewal processes and to develop Agreements with the communities for the next contract term.

The Proposed Agreements

Proposed Water Supply Continuation Agreements for Reading and Wellesley are included in Attachments 1 and 2. These Agreements specify how water supply needs of the communities will be met in a manner consistent with the capabilities of the MWRA water supply system. The Agreements also constitute a record of compliance with and a continuing commitment to the requirements specified in Section 8 (d) of the Enabling Act and MWRA Continuation of Contract Water Supply regulations.

Each of the proposed Agreements recites the facts establishing that the applicable criteria set forth in Section 8 (d) of the Enabling Act as necessary conditions for the continuation of water supply have been satisfied; these criteria relate to safe yield, non-abandonment of local sources, implementation of effective demand management measures, and the conduct of water use surveys.

Each Agreement also states the maximum annual water volumes and maximum daily water volumes that MWRA agrees to provide the community over the next ten years. In the case of Reading, the maximum annual volume is 766.5 million gallons, and is based on the entrance fee that Reading paid upon admission to MWRA as a fully served community in 2007. The Agreement reflects an understanding that Reading may in the future request an additional volume of 62 million gallons per year (0.17 mgd), as approved under the Interbasin Transfer Act: the 62 million gallon increase would be subject to revision of the entrance fee. Reading's MWRA withdrawals have consistently been below 766.5 million gallons. The annual volume limit in the contract is exclusive of any water that may be wheeled through Reading to North Reading if North Reading joins MWRA.

For Wellesley, the maximum annual volume in the Agreement is based on a continuation of past trends: the proposed maximum withdrawal from MWRA in the proposed contract is 350 million gallons a year. On an annual basis, Wellesley uses MWRA to meet 25% of its demand, whereas 75% is met by local sources which include ten wells and three water treatment plants. June-September withdrawals accounts for most of the water that Wellesley withdraws from MWRA. By comparison, the annual withdrawal day withdrawal in the soon to be expiring contract is 300 million gallons. Process treatment water losses and decline in well yields have diminished capacity in local sources.

The contract renewal process provided an opportunity to not only consider future community demands from MWRA, but to assess the progress the communities have made to implement demand management programs and to protect local sources, pursuant to the requirements for Continuation of Water Supply and Enabling Act mandates. The accomplishments and future obligations are summarized below.

Reading and Wellesley have ongoing leak detection and repair programs, and both communities report that 100% of their systems are metered. Reading's Unaccounted-for-Water (UAW) is less than two percent, and handily meets the 10% UAW in the Massachusetts Water Conservation Standards. Wellesley's UAW is typically around 13-14%. Wellesley is working to reduce

UAW by an active leak detection program and survey of a portion of the distribution system on a weekly basis, and listening to hydrants every week with an electronic listening device to allow timely identification and repair of hydrant, service and main leaks. The Town also employs a radio read automatic metering system and is considering doing a water meter change out.

The contract communities are required to have conservation public information and evaluation program that includes distribution of Authority provided materials and both communities are compliant. Whereas 65 gallons per capita per day (RGPCD) is the Commonwealth's Water Conservation Standard, Reading's RGPCD is below 50 and is affected by conservation requirements dictated in Reading's Interbasin Transfer Act approval. Wellesley's RGPCD is typically below 65; 2015 was an exception due to lower than normal precipitation. Both Reading and Wellesley have local drought restriction ordinances.

Both Reading and Wellesley also have ordinances for the protection of local sources lying within the community boundaries (while Reading is now fully served by MWRA, its local sources have been placed on emergency and have not been abandoned). In addition to its Water Supply Protection District, Wellesley also has a Winter Road Maintenance Restriction Policy, and also regularly communicates with neighboring communities for protection of local sources beyond Wellesley's border.

In short, the proposed Agreements reflect continued commitment to implementation of current and proposed local demand management programs and local source protection.

BUDGET/FISCAL IMPACTS:

The communities' water withdrawals are assessed in accordance with MWRA's Community Charge Determination Policy. MWRA's Community Charge Determination Policy computes charges for water services on the basis of each community's metered water flows.

ATTACHMENTS:

Attachment 1: Water Supply Continuation Agreement between MWRA and Reading

Attachment 2: Water Supply Continuation Agreement between MWRA and Wellesley

WATER SUPPLY CONTINUATION AGREEMENT
BETWEEN
MASSACHUSETTS WATER RESOURCES AUTHORITY
AND
THE TOWN OF READING

This Water Supply Continuation Agreement ("Agreement") by and between the Massachusetts Water Resources Authority (the "MWRA") and the Town of Reading (the "Town"), hereinafter jointly referred to as "the Parties," documents the agreement and understanding of the Parties regarding the arrangement whereby the MWRA will continue to supply water to the Town and the Town will purchase its water supply from the MWRA water supply system.

RECITALS

- R.1. The MWRA was created by the Massachusetts legislature in December 1984 to operate, regulate, finance, and modernize the waterworks and sewerage systems serving the greater metropolitan Boston area. Operating pursuant to the terms of its Enabling Act, Chapter 372 of the Acts of 1984 (the "Act"), the MWRA currently provides water supply and distribution services and wastewater collection and treatment services, to certain cities, towns and special service districts (the "Communities") within its service area;
- R.2. The MWRA desires to continue to provide safe and sufficient water supplies to the Town and to provide system-wide assistance to help protect and conserve water supplies;
- R.3. Section 8(d) of the Act permits the MWRA to extend its waterworks system to a community and to provide the continued delivery of water to the new community under reasonable terms as determined by the MWRA, provided that specific requirements are met;
- R.4. On September 21, 2005 the Town made a formal application to the MWRA to become a permanent customer of the MWRA water supply system and requested a withdrawal of up to 219 million gallons a year in order to supplement its local sources to reduce the impacts of its water withdrawals on the Ipswich River Basin during low flow periods;

Attachment 1

- R.5 The MWRA found that the applicable requirements of section 8(d) of the Act were met as follows:
- (1) the safe yield of the watershed system as of the date of this contract and as projected for the term hereof, is sufficient to meet the projected demand of the Town;
 - (2) no existing or potential water supply source for the Town has been abandoned;
 - (3) effective demand management measures have been developed by the Town;
 - (4) a local water supply source feasible for development has not been identified by either the Town or the Department of Environmental Protection (the "DEP"); and
 - (5) a water use survey has been completed which identifies all users within the Town that consume in excess of twenty million gallons a year;
- R.6. The Town, having met the conditions of Section 8(d) and the conditions of MWRA OP #10 Admission of a New Community to the Waterworks System, was duly admitted to the MWRA Waterworks System in November 2005, thereby acquiring certain rights and obligations conferred by that admission;
- R.7 After admission to the MWRA as a partially supplied community, the Town undertook a series of actions related to regulatory review and received approval under the Interbasin Transfer Act to increase its purchase from the MWRA for up to 829 million gallons annually or 2.27 mgd on an annualized average basis;
- R.8 In October of 2007, the MWRA Board of Directors approved Reading's request to become fully supplied by the MWRA, and for Reading to increase its purchase from MWRA to up to 766.5 million gallons annually, 2.1 mgd on an average annual day basis, with the understanding that the Town may in the future request an additional volume of 0.17 mgd, as approved under the Interbasin Transfer Act;
- R.9. A regulation entitled "Continuation of Water Contract Supply," promulgated by the MWRA at 360 CMR 11.00 ("the Regulation"), defines more specifically the requirements of section 8(d) of the Act and governs the continued delivery of water by the MWRA to the communities purchasing water from the MWRA;
- R.10 The Town and the Town of North Reading ("North Reading") are in discussions whereby the Town would wheel water received from the MWRA to North Reading, in conjunction with North Reading's efforts to become an MWRA community. It is understood that any volume of MWRA water that would be wheeled through the Town to North Reading will be metered and that MWRA water supplied to North Reading will not be considered part of the Town's approved withdrawal from the MWRA.
- R.11. The existing agreement between the MWRA and the Town will expire on June 30, 2016 and both Parties wish to formalize their rights and obligations regarding the supply of water to Reading and therefore enter into this Agreement.

Attachment 1

NOW, THEREFORE, in consideration of the mutual promises contained herein and for other good and valuable consideration, the MWRA and the Town agree to the following:

1. The term ("Term") of this Agreement shall begin on July 1, 2016 (start of Fiscal Year 2017) and shall end at midnight on June 30, 2026 (end of Fiscal Year 2026). It is the practice of the MWRA to renew water supply continuation contracts upon substantial compliance by a community with the requirements of the Regulation and after completion of negotiations for such renewal satisfactory to the community and to the MWRA.
2. The MWRA shall during the Term of this Agreement, provide the Town with water, for the Town's consumption, on an annual (fiscal year) volume basis stated in millions of gallons ("mg") as follows:

<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>
766.5	766.5	766.5	766.5	766.5
<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>
766.5	766.5	766.5	766.5	766.5

and consistent with the hydraulic capabilities of MWRA's distribution system, up to 3.8 million gallons per day ("mgd") on a daily water volume basis. The annual volume basis and daily water basis are exclusive of any water that the Town may wheel to North Reading, which would be metered at a juncture between the Town and North Reading.

3. Any increase beyond 766.5 mg on an average annual basis, exclusive of any and all metered water that the Town may wheel to North Reading, will require a written contract revision signed by each of the Parties hereto and a revision to the entrance fee.
4. In the event that the Town determines that the volume designated in this Agreement to be supplied for by the MWRA system is insufficient to meet the Town's demand or projected demand, the Town may petition the MWRA to amend this Agreement pursuant to 360 CMR 11.11 and MWRA OP #10 Admission of a New Community to the Waterworks System.
5. The Town has paid the Authority an entrance fee, and in consideration of the payment of the entrance fee by the Town, the MWRA agrees to continue to provide a supply of water to the Town from the MWRA's water supply system in accordance with 360 C.M.R. 11.00.
6. The MWRA shall bill the Town and the Town shall timely pay to the MWRA charges for all water supplied under this Agreement at the MWRA's applicable prevailing rate. All billing procedures, due dates, and interest charges for late payments shall be in accordance with the MWRA's standard policies and procedures.

Attachment 1

7. The Town agrees that the MWRA shall not be liable to the Town for any disruption of water supply delivery to the Town attributable to the water distribution systems of the Town, or of any community to which the Town may wheel water in the future. Nothing in this Agreement is intended by either party to alter existing statutory provisions or existing law with respect to a utility's immunity from liability for interruptions in service to the Town.
8. The Town agrees to continue in effect a full cost pricing system for water received from the MWRA water supply system.
9. The Town agrees that during the Term it shall continue the implementation of its current and proposed local demand management programs, including the following: participation in MWRA conservation programs, distribution of MWRA-provided materials to all water users, compliance with the MWRA's regulations for town-wide leak detection and repair (360 CMR 12.00), maintaining metering in 100 percent of the Town's distribution system, including all municipal facilities, and maintenance of efficient water fixtures in all public buildings, together with promotion of their use in industrial, commercial and residential areas.
10. The Town agrees that during the Term it shall not abandon any local source and substitute for it water from MWRA sources unless DEP has declared that the local source is to be or has been abandoned, is unfit for drinking, and cannot be economically restored for drinking purposes.
11. The Town agrees to continue in full force and effect during the Term an Aquifer Protection District Zoning Bylaw to preserve and protect existing and potential sources of drinking water supplies which complies with the requirements of MassDEP's Wellhead Protection Regulations (310 CMR 22.21(2)), unless during the Term, the Town abandons all existing public water supply wells located within the Town. If the Town abandons an existing public water supply well, the Town may revise the boundaries of the Aquifer Protection District, as provided by law.
12. The Town agrees to cooperate with MWRA in any investigations to locate MWRA distribution storage facilities in the Northern Intermediate High Service Area to improve system operability and reliability in the Service Area.
13. Any disputes arising between the MWRA and the Town concerning the calculation of the Town's annual assessment shall be resolved in accordance with the MWRA's Rate Basis Data Review and Dispute Resolution Process. Any other dispute arising between the MWRA and the Town under terms of this Agreement shall be resolved in accordance with the dispute resolution process set forth at 360 CMR 11.14 and the administrative procedures set forth at 360 CMR 1.00.
14. Exclusive of any MWRA water wheeled through the Town to North Reading and that is metered at the Reading and North Reading junction, the Town will be assessed for water in accordance with MWRA's Community Charge Determination Policy. MWRA's

Attachment 1

Community Charge Determination Policy computes charges for water services on the basis of each community's metered water flows. The MWRA annual water rate revenue requirement is allocated according to each Community's prior year's water use relative to the system as a whole. The annual rate revenue requirement is comprised of operation and maintenance (O&M) and capital (debt service) charges.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their duly authorized representatives.

MASSACHUSETTS WATER RESOURCES AUTHORITY

By: _____ Date: _____
Frederick A. Laskey
Executive Director

TOWN OF READING

By: _____ Date: _____
Robert W. LeLacheur
Town Manager

WATER SUPPLY CONTINUATION AGREEMENT
BETWEEN
THE MASSACHUSETTS WATER RESOURCES AUTHORITY
AND
THE TOWN OF WELLESLEY

This Water Supply Continuation Agreement ("Agreement") by and between the Massachusetts Water Resources Authority (the "MWRA") and the Town of Wellesley (the "Town"), hereinafter jointly referred to as the "Parties", documents the agreement and understanding of the Parties regarding the arrangement whereby the MWRA will continue to supply water to the Town and the Town will purchase its water supply or a portion of its water supply from the MWRA water supply system.

RECITALS

- R.1. The MWRA was created by the Massachusetts legislature in December, 1984 to operate, regulate, finance, and modernize the waterworks and sewerage systems serving the greater metropolitan Boston area. Operating pursuant to the terms of its Enabling Act, chapter 372 of the Acts of 1984 (the "Act"), the MWRA currently provides water supply and distribution services and wastewater collection and treatment services, to certain cities, towns and special service districts (the "Communities") within its service area.
- R.2. The MWRA desires to continue to provide safe and sufficient water supplies to the Town and to provide system-wide assistance to help protect and conserve water supplies.
- R.3. Section 8(d) of the Act permits the MWRA to enter into an arrangement to provide the continued delivery of water to a Community provided that specific requirements are met.
- R.4. A Regulation entitled "Continuation of Contract Water Supply", promulgated by the MWRA at 360 C.M.R. 11.00 and most recently revised on November 18, 1994, (the "Regulation") defines more specifically the requirements of section 8(d) of the Act and governs the continued delivery of water by the MWRA to the communities purchasing water from the MWRA in accordance with contracts.
- R.5. The Town executed a contract dated March 13, 1974 for the purchase of water from the MDC which contract, which because it had no stated termination date remained in effect on January 1, 1985 and by operation of the Act was terminated as of January 1, 1990, and was thereafter replaced by a contract (s) which were subject to the terms of the Act.

- R.6 The Town and MWRA subsequently executed new contracts for the purchase of water from the MWRA in 1991, 1998, and 2006; the latter contract, which by its terms, expires on August 11, 2016.
- R.7 The Town, pursuant to the Regulation, has requested from the MWRA that its water supply be continued and has submitted a continuation request, a supply analysis, a demand analysis, and a plan for water conservation and demand management pursuant to Regulation section 360 C.M.R. 11.08.
- R.8 The Town has adopted a local bylaw for the protection of local sources and has a local drought restriction ordinance.
- R.9 The Town has submitted a detailed description of local user charge systems and accounting systems which meet the Regulations' requirement for conservation based rates.
- R.10 Based on its review of the submittals described in the recitals numbered R.7., R.8. and R.9., the MWRA finds that the applicable requirements of section 8(d) of the Act have been met as follows:
- (1) the safe yield of the watershed system as of the date of this contract and as projected for the term hereof, is sufficient to meet the projected demand of the Town;
 - (2) no existing or potential water supply source for the Town has been abandoned;
 - (3) effective demand management measures have been developed by the Town;
 - (4) a local water supply source feasible for development has not been identified by either the Town or the Department of Environmental Protection (the "DEP");
 - (5) a water use survey has been completed which identifies all users within the Town that consume in excess of twenty million gallons a year; and
- R.11. The MWRA and the Town wish to formalize their rights and obligations regarding the supply of water to the Town and therefore enter into this Agreement.

NOW, THEREFORE, in consideration of the foregoing recitals and of the mutual promises contained herein and for other good and valuable consideration, the MWRA and the Town agree to the following:

1. The term ("Term") of this Agreement shall be ten (10) years beginning on July 1, 2016 (beginning of FY2017) and ending at midnight on June 30, 2026 (end of FY2026). It is the practice of MWRA to renew water supply continuation agreements upon substantial compliance with the requirements of the Regulations after successful negotiations for such renewal satisfactorily to the communities and to the MWRA.
2. The MWRA shall during the Term over ten fiscal year periods identified below provide the Town with water on a maximum annual water volume basis, stated in millions of gallons, as follows:

<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
350	350	350	350	350
<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>
350	350	350	350	350

and consistent with the hydraulic capabilities of the MWRA system, up to 4.5 million gallons a day on a maximum daily water volume basis. In the event of unusual water demand or supply conditions and upon written notice to the MWRA disclosing and explaining such conditions, MWRA agrees that it will use its best efforts to supply the Town with those quantities of water to meet its legitimate needs in excess of the maximum annual water volumes stated above so as to make up for the unexpected shortfalls in the available yield of local sources.

4. In the event that revised circumstances regarding local demand and/or supply should occur and the Town determines that the volume designated in this Agreement to be supplied from the MWRA system is insufficient to meet the Town's projected demand, the Town may petition the MWRA to amend this Agreement pursuant to 360 C.M.R. 11.11.
5. The MWRA shall bill the Town and the Town shall pay to the MWRA charges for all water supplied under this Agreement at the MWRA's applicable prevailing rate (s). All billing procedures, due dates, and interest charges for late payments shall be in accordance with the MWRA's standard policies and procedures.
6. The Town agrees to continue in effect during the Term a user charge system and an accounting system which meets the Regulation's requirement for conservation based rates.
7. The Town shall develop and implement a full cost pricing system within twelve (12) months from the date that all communities listed in section 8(d) of the Act, other than those subject to 360 CMR 11.00, have implemented a full cost pricing system.
8. The Town agrees that during the Term it shall continue the implementation of its current and proposed local demand management programs, including participation in MWRA conservation programs, and distribution of MWRA-provided materials to all water users.
9. The Town agrees that during the Term it shall not abandon any local source and substitute for it water from DCR/MWRA sources unless DEP has declared that the local source is to be or has been abandoned, is unfit for drinking, and cannot be economically restored for drinking purposes.
10. The Town agrees to use its best efforts to continue in full force and effect during the Term its local bylaw for the protection of local water sources, or, at the Town's discretion, to

adopt any more stringent measures. The Town also agrees to continue dialogue with officials in the Town of Needham regarding their cooperation to protect wellhead areas that extend into that town.

11. Any dispute arising between the MWRA and the Town concerning the calculation of the Town's annual assessment shall be resolved in accordance with MWRA's Rate Basis Data Review and Dispute Resolution Process. Any other dispute arising between MWRA and the Town under terms of this Agreement shall be resolved in accordance with the dispute resolution process set forth at 360 CMR 11.14 and the administrative procedures set forth at 360 CMR 1.00.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed on this day of June 2016 by their duly authorized representatives.

MASSACHUSETTS WATER RESOURCES AUTHORITY

By:

Frederick A. Laskey
Executive Director

TOWN OF WELLESLEY

By:

Michael Pakstis,
Department of Public Works Director

STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: June 29, 2016
SUBJECT: Farm Pond Inlet Chamber, Farm Pond Gatehouse and Waban Arches Evaluations
Green International Affiliates, Inc.
Contract 7473

COMMITTEE: Water Policy & Oversight

Peter Grasso, Project Manager
A. Navanandan, P.E., Chief Engineer
Preparer/Title

 INFORMATION
 X VOTE

Michelle Gillen
Director of Administration

Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To approve the recommendation of the Consultant Selection Committee to award Contract 7473, Farm Pond Inlet Chamber, Farm Pond Gatehouse and Waban Arches Evaluations to Green International Affiliates, Inc., and to authorize the Executive Director, on behalf of the Authority, to execute said contract in the amount of \$339,126 for a contract term of 18-months from the Notice to Proceed.

BACKGROUND:

The Sudbury Aqueduct was constructed in 1874-1878 as part of the water system for the Metropolitan Boston area. The Sudbury Aqueduct and all related facilities are on the National Register of Historic Places. The 17.4-mile gravity aqueduct connects the Framingham Reservoirs in Framingham to the Chestnut Hill Reservoir in Boston. The aqueduct passes through the communities of Framingham, Sherborn, Natick, Wellesley, Needham, Newton and Boston.

The Sudbury Aqueduct has been used as an emergency backup aqueduct since 1974 and was last used to convey water to Chestnut Hill during the Shaft 5 water main break on May 1, 2010. The Sudbury Aqueduct continues to be an important part of MWRA's emergency backup water supply system.

Two structures are located along the aqueduct on both sides of Farm Pond in Framingham, one is an inlet chamber with a small brick and slate roof structure, the other is a large brick and granite gate house (Figures 1&2, respectively). Both structures currently provide access to the aqueduct.



Figure 1. Farm Pond Inlet Chamber



Figure 2. Farm Pond Gatehouse

The Waban Arch Bridge is a nine arch brick and granite bridge that carries the Sudbury Aqueduct over Waban Brook in Wellesley. It is 536-ft in length, is 18-ft wide and rises 48-ft above the Waban Brook (Figure 3).



Figure 3. Waban Arches

This study is being undertaken because the condition of the two Farm Pond structures have deteriorated to such an extent that there are significant safety and health concerns, both with public access and the aqueduct itself. In 1995, an MWRA Waterworks Engineering Assessment was completed on the Inlet Chamber and Gatehouse. Both structures exhibited severe deterioration, and nesting birds and other animals have created potential contamination issues. Also, a collapse of either structure down into the aqueduct could block the flow of water in the event there were an emergency and the aqueduct needed to be brought back into service. The Waban Arches Bridge had been inspected as recently as 2006 and the interior had been found to

be in relatively good shape, but the exterior has deteriorated exhibiting loose and missing mortar and bricks, tree/vegetation penetrations and a broken and corroded railing. A comprehensive inspection and evaluation of the Waban Arches aqueduct is warranted.

DISCUSSION:

Contract 7473 is an 18-month contract that will evaluate the condition and structural integrity of these structures and provide a recommendation for repair and stabilization, restoration, or in the case of the Farm Pond structures, potential demolition. The recommendations will be based on internal and external inspections, and consider the most practical and cost effective alternative for MWRA to pursue.

The Consultant will perform a review of the Farm Pond structures and the Waban Arches, including drawings, reports, and all previous analysis and inspections. The Consultant will conduct internal and external inspections of the structures including: verifying conditions described by the MWRA in previous inspection reports; conducting inspections and testing of the interior and exterior condition of the structures for visible evidence of structural weakness (missing bricks, deterioration of structural members and supports, and other evidence of collapse), visible cracks, infiltration, efflorescence and related mineral deposits, root and tree penetrations, visible bulges, visible leaks, flow restrictions (sediment and debris), mortar deterioration, roof structural integrity and other conditions that may affect their long-term structural stability. The Consultant will also determine if there are any hazardous materials present and to what extent. The Consultant will then perform an evaluation of each structure and develop a report outlining the inspection findings, evaluation methodology, and an alternatives recommendation matrix with associated costs.

For the Farm Pond Inlet Chamber and Gatehouse, one of the following options will be recommended: 1) No Action; 2) Repair and Stabilization; 3) Restoration; or, 4) Demolition.

For the Waban Arches one of the following options will be recommended:
1) No Action; 2) Repair and Stabilization; or, 3) Restoration.

Procurement Process

On March 23, 2016, MWRA issued a one-step Request for Qualifications Statements/Proposals (RFQ/P), utilizing the following criteria: Cost - 40 points; Qualifications and Key Personnel - 15 points; Past Performance on Authority Projects - 15 points; Technical Approach and Capacity/Organization and Management Approach - 15 points; Experience/Past Performance on Similar Non-Authority Projects - 15 points.

The RFP/P was publicly advertised, and notice of its release was sent directly to 12 firms; 19 firms requested the RFQ/P documents. On April 22, 2016, MWRA received two proposals, one from Green International Affiliates, Inc. (Green) and one from Pare Corporation (Pare).

The proposal costs are presented below:

PROPOSER	PROPOSED CONTRACT COST	LEVEL OF EFFORT	COST PER HOUR
Green International Affiliates	\$339,126*	2077 hours	\$163.28
Pare Corporation	\$293,198*	1867 hours	\$157.04

*Reflects corrections made due to mathematical errors.

The Selection Committee scored and ranked the proposals as follows:

PROPOSER	TOTAL POINTS	ORDER OF PREFERENCE* TOTAL SCORE	FINAL RANKING
Green International Affiliates	384	6	1
Pare Corporation	372	9	2

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

Green was ranked first by four of the five voting members of the Selection Committee. The Committee members were in agreement that Green's proposal presented a well thought out technical approach with an appropriate level of effort and distribution of work. Green's proposed project team has excellent qualifications and experience, and has the capacity to do the work. Its project team includes McGinley Kaslow & Associates, Inc., GZA GeoEnvironmental Inc., and City Point Partners LLC.

The Committee unanimously agreed that Green's proposal was superior in identifying their technical approach and where the level of effort would be directed. The proposal was very detailed regarding inspections of difficult to reach areas, specialized equipment to access those areas, and the types of deficiencies which would be examined. They also proposed the same "in-depth" bridge inspection conducted by MassDOT's biannual bridge inspection program, and will provide the MWRA with a Structure Inventory and Appraisal data sheet of the Waban Arch Bridge which to be used as a baseline for future inspections.

Green's overall past MWRA and non-MWRA project performance has been very good. Green's references, both MWRA and non-MWRA, scored between 5 and 10 for overall performance and were for a variety of projects ranging from a building project for University of Rhode Island to Authority projects, such as the Echo Bridge Safety Improvements project in Needham and the Sudbury Aqueduct – Rosemary Brook Siphon Buildings Repair and Stabilization project in Wellesley. All references said they would hire Green again for future projects. McGinley Kaslow's references were also good. Their experience in architectural and historic renovations makes them well suited for this project. Their past MWRA experience includes working with Green on the Deer Island Historic Steam Pump Station, the Echo Bridge Safety Improvements, and they are presently working on the Rosemary Brook Siphon Buildings Repair and Stabilization Project.

In addition, lab testing for possible contaminants will be handled by GZA GeoEnvironmental Inc. and Cost estimating will be handled by City Point Partners LLC.

Pare was ranked second by the Committee. Pare's cost was \$45,928 lower than Green's with 210 less labor hours and \$12,000 less in equipment rentals and other expenses. The Selection Committee felt that although Pare's costs were lower, the lack of specifics in their technical approach for the bridge inspection, along with the lower proposed level of effort for inspections (380 hours lower than Green), and high overhead rate, outweighed the cost differential.

Based on final rankings, the Selection Committee recommends the award of this contract to Green International Affiliates, Inc. in an amount not-to-exceed \$339,126. In accordance with MWRA's Procurement procedures, staff entered into discussions with Green to confirm costs, level of effort, and project management. Based on those discussions, staff believe that Green can complete the project for the proposed cost.

BUDGET/FISCAL IMPACT:

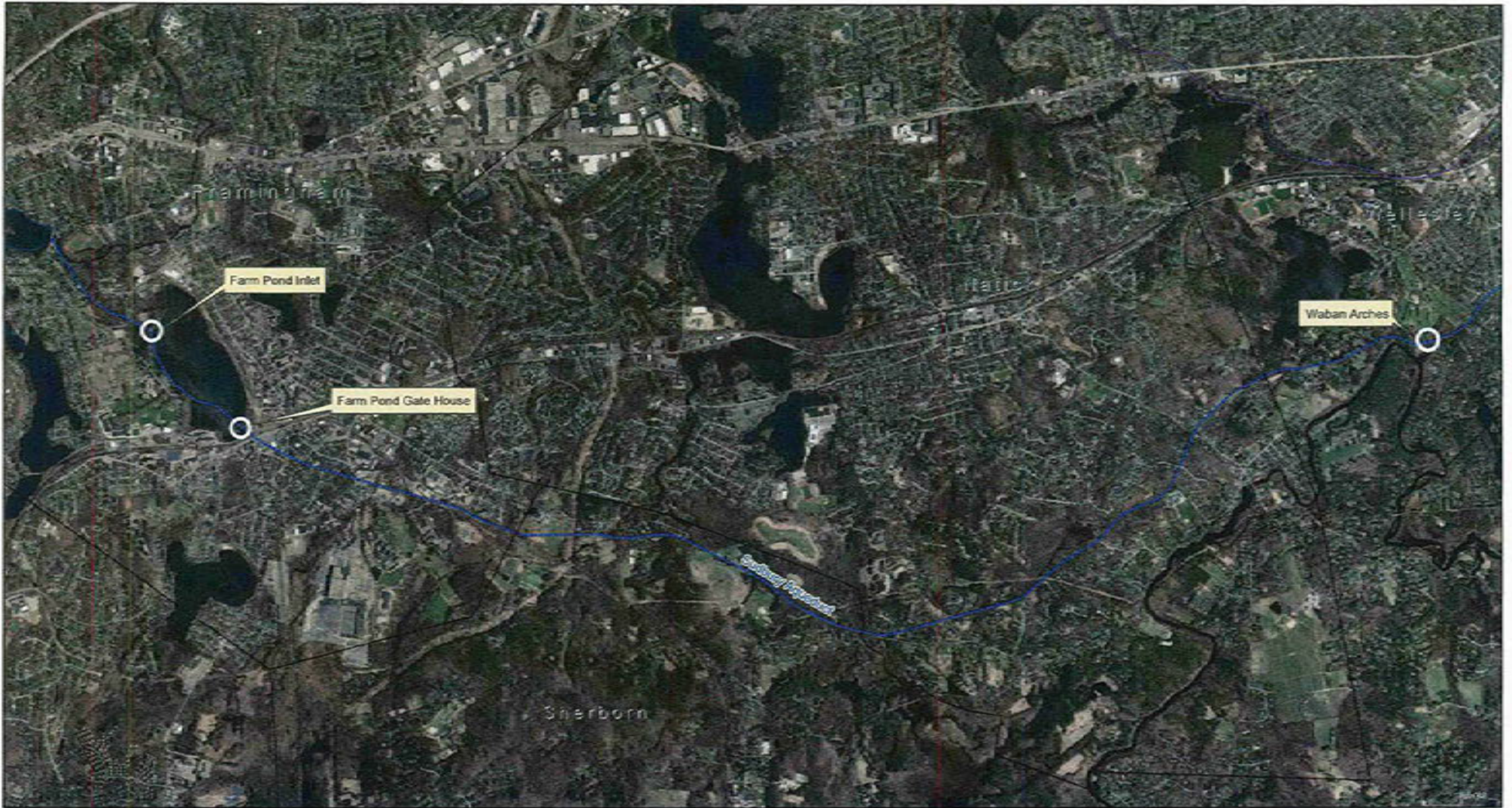
The approved FY16 CIP includes a budget of \$104,157 for Contract 7473. The recommended contract award amount is \$339,126 or \$234,969 over the budget. This amount will be covered within the five-year CIP spending cap. The original budget of \$104,157 was based on the costs associated with an evaluation performed on two historic buildings. However, the scope of this evaluation was expanded to include the addition of the internal and external inspection of the 536-ft long Waban Arches structure which adds significantly to the cost of this evaluation. Inspections will require specialized equipment to reach sections under the bridge that are 40-50 feet over the Waban Brook. Also, significant safety procedures will also be required, for confined space entry and safety apparatus for inspection crews working above ground.

MBE/WBE/PARTICIPATION:

There were no minimum MBE and WBE participation requirements established for this contract due to the limited opportunities for subcontracting. However, Green is an MBE firm.

ATTACHMENTS:

Map - Project Location



Project Location Map





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, June 29, 2016

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

Time: Immediately following Water Comm.

AGENDA

A. Approvals

1. Appointment of Program Manager, Chemistry, ENQUAL
2. Appointment of Operations Supervisor, Clinton Wastewater Treatment Plant
3. Appointment of Operations Liaison, Deer Island Treatment Plant
4. Appointment of Area Manager, Deer Island Treatment Plant
5. FY17 Non-Union Compensation

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the
Personnel and Compensation Committee

June 8, 2016

A meeting of the Personnel and Compensation Committee was held on June 8, 2016 at the Authority headquarters in Charlestown. Chair Wolowicz presided. Present from the Board were Messrs. Flanagan, Foti, 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 12:05 p.m.

Approvals

***PCR Amendments - June 2016**

The Committee recommended approval of the June PCR amendments (ref. agenda item A.1).

***Appointment of Application and Systems Development Manager, MIS**

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


***Appointment of Senior Program Manager, Field Operations and Permitting, TRAC**

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

The meeting adjourned at 12:10 p.m.

* Approved as recommended at June 8, 2016 Board of Directors meeting.



STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: June 29, 2016
SUBJECT: Appointment of Program Manager, Chemistry

COMMITTEE: Personnel & Compensation

 INFORMATION
 X VOTE

Betsy Reilley, Ph.D., Director, ENQUAL
Karen Gay-Valente, Director, Human Resources
Carolyn Fiore, Deputy Chief Operating Officer
Preparer/Title



Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To approve the appointment of Mandu Inyang, to the position of Program Manager, Chemistry (Unit 9, Grade 29), Environmental Quality (ENQUAL) at the recommended salary of \$94,499.04, to be effective on a date to be determined by the Executive Director.

DISCUSSION:

The position of Program Manager of Chemistry became vacant in July, 2015 upon the retirement of the previous incumbent. Organizationally, this position reports to the Senior Program Manager, Quality Assurance.

The Water Quality Assurance unit of the Environmental Quality Department, ENQUAL is located in Southborough. The group is responsible for the maintenance and operation of the Contaminant Monitoring System (CMS), on-line Water Quality (WQ) analyzers, WQ Buoys, Quality Assurance/Quality Control program for field monitoring equipment, and response to chemistry related issues including disinfection reports (concentration and intensity reporting for ozone, ultraviolet and chlorine), reservoir dynamics, and the effects of treatment on water quality. Additionally, this group is responsible for monitoring and responding to algae issues, collection of Massachusetts Department of Environmental (DEP) required samples, generating DEP compliance reports and other water quality reports, responding to water quality issues and emergencies, assessing impacts of reservoir spills and performing other emergency response evaluations, and analyzing water quality data to improve understanding of changes in the water treatment, transmission and distribution system.

This position was posted both internally and externally. There were two postings and two rounds of interviews. For the first posting, there were nineteen applicants and six were referred to be interviewed. Following this round of interviews, there were two offers made, but both candidates declined. With the intent of attracting more candidates with strong chemistry backgrounds and work experiences, the second posting was posted at sites other than those usually targeted by the Authority. Twenty-eight applications were received and seven were

referred to be interviewed. The interview team included the Director of ENQUAL, the Senior Program Manager, Quality Assurance, the Deputy Director of Programs, Policy and Planning, and a representative from Human Resources. Upon completion of those interviews, Dr. Mandu Inyang is being recommended for this position based upon her extensive water quality experience, ability to manage water quality research projects, understanding of chemical processes, and her background in the fate and transport of contaminants.

Dr. Inyang is completing a 3-year post-doctoral position in the Department of Water Quality Research and Development at the Southern Nevada Water Authority. She has managed and participated in water research projects, performed bench scale treatment tests, and studied removal kinetics for unregulated emerging contaminants. She is currently studying biologically induced corrosion in distribution systems and performs water quality tests including adenosine triphosphate (ATP) for assessment of microbial growth, disinfection byproducts, trace metals, and other parameters using pipelooop test systems and online monitoring equipment. She has studied a wide range of contaminants. Dr. Mandu has utilized and developed models to understand the fate and transport of contaminants, and to understand chlorine and chloramine decay. She has authored twenty-one publications and has earned awards for best written and most cited technical papers. She has collaborated with scientific teams, managed interns, and presented findings at national meetings. Her knowledge of current water quality issues, engineering, and water and disinfection chemistry, make her the best qualified candidate.

Dr. Mandu Inyang has a Bachelor's of Technology Degree in Chemical Engineering from Ladoke Akintole University of Technology in Nigeria; and a Masters of Science and Ph.D. in Biological and Environmental Engineering from the University of Florida in Gainesville, FL.

BUDGET/FISCAL IMPACT:

There are sufficient funds for this position in the FY17 Capital Expense Budget.

ATTACHMENTS:

Resume of Dr. Mandu Inyang
Position Description
Organization Chart

INYANG, MANDU IME

Permanent Resident

EDUCATION

- 08/2010-08/2013 **Ph.D.**, in Biological and Environmental Engineering, *Minor in Environmental Engineering Science*, University of Florida, Gainesville, Florida.
- 08/2008-08/2010 **M.S.**, in Biological and Environmental Engineering, *Minor in Environmental Engineering Science*, University of Florida, Gainesville, Florida.
- 12/1999-12/2005 **B.Tech.**, in Chemical Engineering, Ladoké Akintola University of Technology, Ogbomosho, Oyo State, Nigeria.

PROFESSIONAL EXPERIENCE

- 08/2013-present **Post-Doctoral Researcher:** *Water Quality Research and Development, Southern Nevada Water Authority, Henderson, NV, USA.*
- 08/2010-08/2013 **Graduate Research Assistant:** *Environmental Nanotechnology Laboratory, University of Florida, Gainesville, FL, USA.*
- 08/2008-08/2010 **Graduate Research Assistant:** *Environmental Nanotechnology, and Bioprocess Laboratories, University of Florida, Gainesville, FL, USA*
- 11/2007-05/2008 **Research Scholar:** *Bioprocess Laboratory, University of Florida, Gainesville, FL, USA.*
- 06/2004-11/2004 **Intern:** *Process design department, National Engineering and Technical Company, Lagos, Nigeria.*

TEACHING EXPERIENCE

- 05/2014-07/2014 **Mentor:** Summer Internship program, Water Quality Research and Development, Southern Nevada Water Authority.
- 07/2012-08/2012 **Mentor:** NSF-REU Program at University of Florida.
- 03/2010 **Instructor:** GATOR TRAX (Tau Beta Pi) program, Elementary School Students, Gainesville, FL.
- 02/2006-01/2007 **Chemistry Lecturer:** National Diploma Students, Basic and Applied Science Department, Niger State Polytechnic, Zungeru, Nigeria.

CERTIFICATES AND LICENSES

- 04/2016 HAZWOPER (8-hour Refresher Course). EHS-Southern Nevada Water Authority.
- 10/2007 AUTOCAD Course Completion Certificate. Danami Training Center, Nigeria.
- 10/2016 GRADE T1- Nevada Water treatment Operator-in-training license (in progress).
- 2016 ENGINEER-IN-TRAINING CERTIFICATION (in progress)

PROJECTS

- 04/2015-present *Blending Requirements for Water from Direct Potable Reuse Treatment Facilities. Water Research Foundation Project (WRF 4536):*

- Manage project and provide Clients with project deliverables, e.g., test plans, SOPs, scope of work, and progress reports.
- Simulate full-scale treatment of raw potable water and blended reuse water (50 – 70 gallons) at bench-scale using ozonation, coagulation-flocculation-sedimentation, chlorination and pasteurization tests.
- Perform pipe loop incubation tests with blended and non-blended finished waters to simulate full-scale distribution system, and investigate the impact of blending on finished water quality in distribution systems.
- Perform water quality tests including, turbidity, disinfectant residual, biological corrosion, trihalomethane formation potential tests and ATP analysis on influent and effluent water from simulated pipe rigs.
- Investigate corrosivity potential of finished blended waters before and after discharge in distribution pipes.

06/2014-12/2015 *Removal of Multiple Chemical Contaminants Using Ozone and Biofiltration. Water Research Foundation Project (WRRF 13-10/WRF 4559):*

- Managed project, including operation and maintenance of 12 GPM Pilot biofilters (two plastic and four granular media) in the absence and presence of ozone.
- Designed filter operating conditions to optimize biofiltration performance in filters for Project 4559.
- Conducted weekly and monthly sampling campaigns for biofilters to investigate the fate of 36 trace organic contaminants (9 nitrosamines, 11 perfluoroalkyl acids, and 16 pharmaceutical and personal care products) in pilot-scale biological filters.
- Supervised graduate interns in field investigations and prepared progress reports for Funding agency.

12/2013-06/2015 *Using Carbon Adsorbents to Remove Perfluoroalkyl Acids from Potable Reuse Systems (WRRF 13-10):*

- Evaluated the potential of biochar (charcoal-based media), anthracite, and activated carbon to remove perfluoroalkyl acids from potable and reuse water in bench-scale and/or pilot-scale testing.
- Conducted bench-scale biochar sorption tests with raw potable water and tertiary treated wastewater to investigate the impact of organic matter on perfluorobutanoic acid and perfluorooctanoic acid removal.

07/2014-10/2014 *Evaluating Fate Mechanisms for Contaminants in BNR Treatment Systems. Water Environment Research Foundation Project (WERF U2R13):*

- Coordinated sludge sampling campaigns for full-scale biological nutrient removal (BNR) processes.
- Evaluated the fate of 14 pharmaceutical and personal care products in activated sludge from full-scale A2O BNR system.
- Modeled biotransformation kinetics for the 14 compounds using pseudo-first order biodegradation kinetics.
- Identified biotransformation pathways for bio-transformed compounds under anaerobic, anoxic, and aerobic conditions.

08/2008-08/2013 *Engineered Biochars for the Removal of Metallic, Organic and Emerging Contaminants from Aqueous Solutions. M.Sc. and Ph.D. Projects:*

- Performed anaerobic digestion of agro-waste residues to generate methane, and converted digestion residuals to low-cost charcoal material (biochar) for adsorbing heavy metals in water.
- Modified biochar by impinging engineered nanoparticles (carbon nanotubes, titanium dioxide, and silver nanoparticles) on char surface.
- Investigated the treatment performance of modified biochar in removing dyes and pharmaceutical products using batch and column tests.

AWARDS AND HONORS

2015 Best Paper Award, 2015 Top 10 cited papers, Bio-resource Technology Journal.
2014 Chemical Engineering Journal award for Top cited paper in 2011 and 2012.
2011 First place, ASABE Graduate student paper presentation.
2010 Outstanding UF International Engineering student award.
2010 Award for outstanding Thesis, Agricultural and Biological Engineering Department, UF.
2010 Certificate for high scholastic achievement, Honor Society of Agriculture.
2010 Certificate for distinguished scholarship, Engineering Honor Society.
2006-2007 Association of Science and Technology Students award for contribution to educational development, Zungeru, Nigeria.
2000-2005 Exxon Mobil scholarship for Nigerian Universities.

PROFESSIONAL AFFILIATIONS AND SYNERGISTIC ACTIVITIES

- Water Environment Federation (WEF), Member
- American Water Works (AWWA), Member
- Engineering Honor Society (Tau Beta Pi), Member
- Honor Society of Agriculture (Gamma Sigma Delta), Member
- American Chemical Society (ACS), Member

- American Society of Agronomy (ASA), Member
- Crop Science Society of America (CSSA), Member
- Soil Science Society of America (SSSA), Member
- Reviewer for Bioresource Technology Journal, Journal of Hazardous Materials, Water Research Journal.

PATENT APPLICATION

- Gao B., **Inyang, M.**, Yao, Y., Pullammanappallil, P., Biologically Activated Biochar, Methods of Making Biologically Activated Biochar, and Methods of Removing Contaminants from Water WO 2011097183 A2. Application # PCT/US2011/023263. Filed February 1, 2011.

GRANT ACTIVITY

- Dickenson, E., Wert, E., Schneider, O., Brown, J., Summers, S., **Inyang, M.**, Vanderford, B., Upadhyaya, G., Marfil-Vega, R. *Simultaneous Removal of Multiple Chemical Contaminants using Biofiltration. Water Research Foundation Project. \$350,000 (Awarded August, 2014).*

CONFERENCE PRESENTATIONS AND PROCEEDINGS

1. **Inyang, M.**, Grimaldi A., Sutherland J., Garvey E., Salveson, A., Dickenson, E. An Evaluation of Water Quality from Blending for Direct Potable Reuse. 20th Annual Water Reuse Research Conference, Denver, CO. May 22 – 24, 2016 (upcoming).
2. **Inyang, M.**, Velarde, M., Dickenson, E., Removing Perfluoroalkyl acids from Potable Reuse Systems using carbon adsorbents: Bench-scale and Pilot Testing. 251st American Chemical Society National Meeting, San Diego, CA. March 13 – 17, 2016.
3. **Inyang, M.**, Velarde, M., Stanford, B., Wert, E., Dickenson, E., Using Ozone and Biological Filtration to Remove Trace Organic Chemicals from Potable Reuse Systems. 2015 International Ozone Association – Pan American Group Annual Conference and Expo, September 19 – 22, 2015, Dallas, Texas.
4. **Inyang, M.**, Velarde, M., Dickenson, E., Using Carbon Adsorbents to Remove Perfluoroalkyl Acids from Potable and Reuse Water. Fluoros 2015 Conference, July 12 – 15, 2015, Golden, Colorado (Poster).
5. **Inyang, M.**, Velarde, M., Wert, E., Stanford, B., Dickenson, E., Using Biofiltration for Trace Organic Contaminant Removal in Potable Reuse Systems. Nevada Water Environment Association, 2015 Annual Conference, April 7 – 8, 2015, Las Vegas, Nevada.
6. **Inyang, M.**, Velarde, M., Dickenson, E., Using Carbon Adsorbents to Remove Perfluoroalkyl Acids from Potable Reuse Systems. 19th Annual Water Reuse and Desalination Research Conference, May 4 – 5, 2015, Huntington Beach, California (Poster).
7. Velarde, M., **Inyang, M.**, Batista, J., Gerrity, D., Dickenson, E., Removal of Trace Organic Contaminants using Biofiltration in Potable Reuse Systems. 19th Annual Reuse and Desalination Research Conference, May 4 – 5, 2015, Huntington Beach, California.
8. **Inyang, M.**, Flowers, R., Velarde, M., Drew McAvoy, Dickenson, E., Biotransformation of Trace Organic Contaminants in Biological Nutrient Removal Treatment Systems. 87th Annual Water Environment Federation Technical Exhibition and Conference, September 27 – October 1, 2014, New Orleans, Louisiana.
9. **Inyang, M.**, Gao, B., Wu, L., Yao, Y.; Zhang M.; Liu, L., Filtration of engineered nanoparticles in carbon-based fixed bed columns. Sustaining Economies and Natural Resources in a Changing World Symposium, Reitz Union, University of Florida, Gainesville, April 2 - 3, 2013 (Poster).
10. **Inyang, M.**, Gao, B.; Yao, Y.; Xue, Y.; Zimmerman, A. R.; Pullammanappallil, P.; Cao, X., Removal of Heavy Metals from Aqueous Solution by Biochars Derived from Anaerobically Digested Biomass Biochars, ASSA-CSSA-SSSA, International Annual Meetings, October 21-24, 2011, San-Antonio, Texas (Poster).
11. **Inyang, M.**; Gao, B.; Yao, Y.; Xue, Y.; Zimmerman, A. R.; Pullammanappallil, P.; Cao, X., Removal of Heavy Metals from Aqueous Solutions by Biochars from Anaerobically Digested Residues, Florida Section ASABE Annual Conference and Trade Show, June 15-18, 2011, Naples, Florida.

SELECT JOURNAL PUBLICATIONS

1. **Inyang, M.**, Flowers, R., Velarde, M., McAvoy, D., Dickenson, E. Biological Transformation of Trace Organic Compounds by Activated Sludge in Biological Nutrient Removal Systems. 2016. Bioresource Technology Journal. doi:10.1016/j.biortech.2016.05.124.

2. **Inyang, M.**, Velarde, M., Dickenson, E. Removing Perfluoroalkyl Acids from Potable Reuse Systems using Carbon Adsorbents: Bench-scale and Pilot Testing (*in preparation*).
3. **Inyang, M.**, Velarde, M., Stanford, B., Dickenson, E. Using Ozone and Biofiltration for Removing Trace Organic Compounds in Potable Reuse Systems (*in preparation*).
4. **Inyang, M.**, Grimaldi, A., Garvey E., Sutherland, J., Salveson, A., Dickenson, E. An Evaluation of Finished Water Quality from Blending Waters for Direct Potable Reuse (*in preparation*).
5. Grimaldi, M., **Inyang, M.**, Garvey E., Sutherland, J., Salveson, A., Dickenson, E., James, D. Investigating the stability of blended water in potable distribution system (*in preparation*).
6. He, X., Elkouz, E., **Inyang, M.**, Wert, E., Dickenson., In-situ Reactivation of Silver modified Granular Activated Carbon using Ozone for Localized Treatment of Trihalomethanes (*in preparation*).
7. **Inyang, M.**, Dickenson, E. The potential role of biochar in the removal of organic and microbial contaminants from potable and reuse water: A review. 2015. *Chemosphere Journal* 134, 232-240.
8. **Inyang, M.**, Gao, B., Zimmerman, A., Yanmei, Z., Xinde, C. 2014. Sorption and co-sorption of lead and sulfapyridine on carbon nanotube-modified biochars. *Environmental Science and Pollution Research Journal*, 1-9.
9. **Inyang, M.**, Gao, B., Zimmerman, A., Zhang, M., Chen, H. 2014. Synthesis, characterization, and dye sorption ability of carbon nanotube–biochar nanocomposites. *Chemical Engineering Journal*, 236, 39-46.
10. **Inyang, M.**, Gao, B., Wu, L., Yao, Y., Zhang, M., Liu, L. 2013. Filtration of engineered nanoparticles in carbon-based fixed bed columns. *Chemical Engineering Journal*, 220, 221-227.
11. Yao, Y., Gao, B., Chen, J., Zhang, M., **Inyang, M.**, Li, Y., Alva, A., Yang, L. 2013. Engineered carbon (biochar) prepared by direct pyrolysis of Mg-accumulated tomato tissues: Characterization and phosphate removal potential. *Bioresource Technology*, 138, 8-13.
12. Zhang, M., Gao, B., Pu, K., Yao, Y., **Inyang, M.** 2013. Graphene-mediated self-assembly of zeolite-based microcapsules. *Chemical Engineering Journal*, 223, 556-562.
13. Zhang, M., Gao, B., Varnosfaderani, S., Hebard, A., Yao, Y., **Inyang, M.** 2013. Preparation and characterization of a novel magnetic biochar for arsenic removal. *Bioresource Technology*, 130, 457-462.
14. Zhang, M., Gao, B., Yao, Y., **Inyang, M.** 2013. Phosphate removal ability of biochar/MgAl-LDH ultra-fine composites prepared by liquid-phase deposition. *Chemosphere*, 92(8), 1042-1047.
15. **Inyang, M.**, Gao, B., Yao, Y., Xue, Y., Zimmerman, A.R., Pullammanappallil, P., Cao, X. 2012. Removal of heavy metals from aqueous solution by biochars derived from anaerobically digested biomass. *Bioresource Technology*, 110, 50-56.
16. Yao, Y., Gao, B., Zhang, M., **Inyang, M.**, Zimmerman, A.R. 2012. Effect of biochar amendment on sorption and leaching of nitrate, ammonium, and phosphate in a sandy soil. *Chemosphere*, 89(11), 1467-1471.
17. Zhang, M., Gao, B., Yao, Y., Xue, Y., **Inyang, M.** 2012. Synthesis of porous MgO-biochar nanocomposites for removal of phosphate and nitrate from aqueous solutions. *Chemical Engineering Journal*, 210, 26-32.
18. Zhang, M., Gao, B., Yao, Y., Xue, Y., **Inyang, M.** 2012. Synthesis, characterization, and environmental implications of graphene-coated biochar. *Science of The Total Environment*, 435-436, 567-572.
19. Yao, Y., Gao, B., Chen, H., Jiang, L., **Inyang, M.**, Zimmerman, A.R., Cao, X., Yang, L., Xue, Y., Li, H. 2012. Adsorption of sulfamethoxazole on biochar and its impact on reclaimed water irrigation. *Journal of Hazardous Materials*, 209-210, 408-413.
20. **Inyang, M.**, Gao, B., Ding, W., Pullammanappallil, P., Zimmerman, A.R., Cao, X. 2011. Enhanced Lead Sorption by Biochar Derived from Anaerobically Digested Sugarcane Bagasse. *Separation Science and Technology*, 46(12), 1950-1956.
21. Yao, Y., Gao, B., **Inyang, M.**, Zimmerman, A.R., Cao, X., Pullammanappallil, P., Yang, L. 2011. Removal of phosphate from aqueous solution by biochar derived from anaerobically digested sugar beet tailings. *Journal of Hazardous Materials*, 190(1-3), 501-507.
22. **Inyang, M.**, Gao, B., Pullammanappallil, P., Ding, W., Zimmerman, A.R. 2010. Biochar from anaerobically digested sugarcane bagasse. *Bioresource Technology*, 101(22), 8868-8872.

**MWRA
POSITION DESCRIPTION**

POSITION: Program Manager, Chemistry

PCR#:

DIVISION: Operations

DEPARTMENT: Environmental Quality

BASIC PURPOSE:

Manages and maintains primary responsibility for all facets of the Environmental Quality – Water Chemistry program. Conducts analyses on the causes and effects of physical and chemical processes that affect regulatory compliance and water quality concerns. Reviews scientific data and process control variables and provides predictive models of water quality changes in the water system. Manages the continued design, development, operation, and technical support of the Authority's Contaminant Monitoring System. Assists Program Manager, Water Quality Assurance and others regarding regulatory compliance and water quality, where applicable.

SUPERVISION RECEIVED:

Works under the basic supervision of the Senior Program Manager, Quality Assurance.

SUPERVISION EXERCISED:

Exercises supervision of professional and scientific staff.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Oversee and participate in investigations of water quality including but not limited to changes from source to tap, water treatment methods, response to contamination events, water operations, water sampling and testing, etc.
- Monitor source water reservoir water quality and hydrologic trends.
- Monitor and model reservoir water quality parameters to provide predictive information to Operations regarding applied dose, disinfection effectiveness, CT, and IT.
- Monitor and model disinfection residuals throughout the distribution system and provide support in determination of applicable dose and determination of decay rates.

- Verify required CT and IT to meet inactivation requirements. Review and verify methods for calculation and validation of CT and IT compliance.
- Use forecasting tools for predictive analysis related to treatment doses required for compliance, including DBP formation, lead and copper, nitrification, etc. Assist Operations by recommending chemical and/or dose changes.
- Manage overall Contaminant Monitoring System (CMS) program including: maintenance, system growth, staff oversight, staff training, data monitoring, and response procedures.
- Review and recommend new sensor technologies, data transfer, processing, and visualization technologies, and data communication technology for applicability to the CMS network, and provide budget information needed to maintain and expand the program.
- Review and verify that current standard operating procedures and training materials are updated for improved efficiency, readiness, relevance, and applicability, and that staff are fully trained to perform required duties.
- Provide management over staff activities, conduct performance assessments, develop annual budget needs, support procurement processes for necessary supplies and equipment, and manage outside contracts including development of scope, specifications, and awards.
- Participate in MWRA/MDC Reservoir Operations Committee to provide expertise as related to water quality concerns within the reservoirs as well as the watershed.
- Manage reservoir monitoring programs to study the fate and transport of potential contaminant releases, and investigate and propose treatment modifications to Operations for contaminants that may reach the system intakes.
- Assist in the development and evaluation of emergency response plan procedures.

SECONDARY DUTIES:

- Work with and coordinate activities of outside vendors and contractors as needed.
- Verify that all work performed by subordinate staff utilize proper work order management and that such activities are appropriately documented and reported.
- Utilizes internal and external notifications and maintenance alerts to schedule necessary maintenance in a timely manner.
- Participate in an on-call rotation to monitor and respond to water quality alarms and implement Consequence Management Plan response as appropriate.

- Perform related duties, as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Four (4) year undergraduate degree in water quality engineering, chemical engineering, chemistry, or other related field; Master's degree or Ph.D. preferred; and
- (B) Seven (7) to Nine (9) years of work experience in the identification, investigation, and/or resolution of water quality issues. Experience in the areas of online water quality monitoring and/or water security are required; and
- (C) Three (3) to five (5) years of managerial/supervisory experience.
- (D) A Master's degree can be substituted for up to two years of work experience. A Ph.D. can be substituted for up to three years of work experience.

Necessary Knowledge, Skills and Abilities:

- (A) Thorough knowledge of water supply operations including, source water, treatment, distribution, and storage considerations as they impact to water quality.
- (B) Knowledge of online analyzer and remote sensor technology in water monitoring applications, including knowledge of water security monitoring and contaminant warning systems.
- (C) Demonstrated ability to gather, analyze, and present technical information.
- (D) Demonstrated ability to lead multiple project teams through planning, organizing, directing, training, and assigning duties to subordinates.

SPECIAL REQUIREMENTS:

A valid Massachusetts Grade II Water Treatment License; or the ability to obtain within one (1) year.

A valid Massachusetts Drivers License required.

TOOLS AND EQUIPMENT USED:

Laboratory test equipment, hand tools, mobile radio, telephone, beeper, personal computer including word processing and other software, copy and fax machine.

PHYSICAL DEMANDS:

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

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

The employee must frequently lift and/or move up to 10 pounds and occasionally lift and/or move up to 25 pounds. Specific vision abilities required by this job include close vision, distance, color vision, peripheral vision, depth perception, and the ability to adjust focus.

WORK ENVIRONMENT:

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

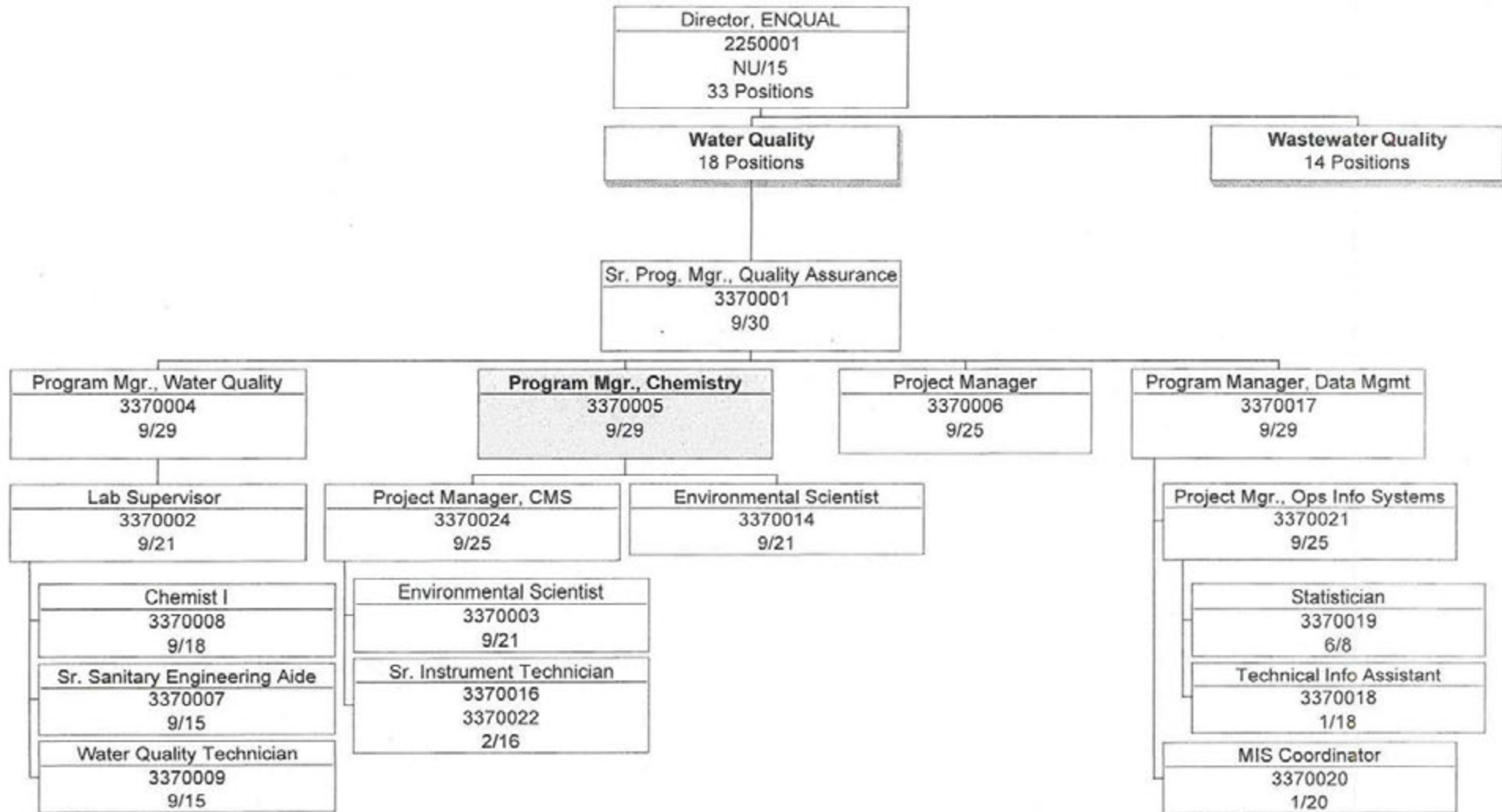
While performing the duties of this job, the employee regularly works in an office, laboratory, and field environment. The employee occasionally works in outside weather conditions. The employee occasionally works near moving mechanical parts and is occasionally exposed to wet and/or humid conditions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

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


September 2015

Programs, Policy & Planning
Environmental Quality

June 2016



STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: June 29, 2016
SUBJECT: Appointment of Operations Supervisor, Clinton Advanced Wastewater Treatment Plant

COMMITTEE: Personnel & Compensation


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

 INFORMATION

 X VOTE


Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To approve the appointment of Mr. George Poske, Area Supervisor Clinton Advanced Wastewater Treatment Plant to the position of Operations Supervisor (Unit 3, Grade 24), at the recommended salary of \$85,993.55, to be effective on a date to be determined by the Executive Director.

DISCUSSION:

The position of Operations Supervisor, Clinton Advanced Wastewater Treatment Plant was recently established at the April 13, 2016 Board of Directors meeting. The Clinton Plant is presently under construction for a new phosphorous 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 higher levels of treatment complexity. The position will also provide additional operator coverage for the plant when conditions require 24/7 staffing. The Operations Supervisor reports to the Superintendent and supervises the operations staff at the Clinton Plant.

The position was posted internally and six candidates applied. The Director of Deer Island Wastewater Treatment Plant, the Superintendent of the Clinton Wastewater Treatment Plant, and the Manager of Operations Support interviewed all six internal candidates. Upon completion of those interviews Mr. George Poske was identified as the most qualified candidate based on a combination of experience, abilities and knowledge.

Mr. Poske is currently an Area Supervisor at the Clinton Advanced Wastewater Treatment Plant. He has maintained plant efficiencies through monitoring of operational data and laboratory results. He has extensive experience supervising wastewater staff and operations during wet weather/storm preparedness events and has worked closely with engineering and construction staff in a cooperative manner to ensure construction activities at the plant do not impact

operations. He has worked with instrumentation personnel to integrate SCADA into the existing monitoring system.

Mr. Poske began working at the MWRA as a skilled laborer in 1986 and has over twenty-nine years of experience working at the Clinton Plant in various positions of increasing responsibility. Mr. Poske has always responded to plant alarms during overnight and weekend shifts with dedication and expertise.

Mr. Poske holds a Grade 7-Full Active Wastewater License. Additionally, he is enrolled in a wastewater management training program and has taken public and environmental health courses at Quinsigamond Community College.

BUDGET/FISCAL IMPACT:

There are sufficient funds for this position in FY17 Expense Budget.

ATTACHMENTS:

Resume of George Poske
Position Description
Organization Chart

George Poske

I have over 29-years' experience at the Clinton WWTP with extensive knowledge of operations, repair and maintenance of plant equipment including laboratory analysis. I have been in a supervisory role since 1992 overseeing all aspects of operations and maintenance.

1992- Present

Area Supervisor

In this position I supervise all operations for maximum treatment and efficiency to ensure compliance with all local, state and federal regulations. I analyze problems and take appropriate action to ensure continuous and reliable operation of equipment and systems.

- Monitor the efficiency of the plant's operational procedures through review of logs, maintenance records and laboratory reports and recommends operational procedure changes, if necessary.
- Extensive experience supervising wastewater staff and operating wastewater facility during wet weather/storm preparedness events.
- Ensure all health and safety guidelines and polices are adhered to at all times.
- Assists in the repair and replacement of plant equipment.
- Knowledge and experience in performing routine operational and regulatory lab testing.
- Assist the superintendent and manager with the preparation of the annual budget.
- Order bulk chemicals to maximize treatment efficiencies.
- Work with engineering and construction staff in a cooperative manner to ensure construction activities do not impact operations.
- Work with instrumentation personnel to integrate SCADA into the existing monitoring system.
- Assists in ordering of equipment and services for operations and maintenance.

1988-1992

STP Operator

- Operations of headworks, primary sedimentation, trickling filters, anaerobic digester and final clarifiers.
- Maintained proper disinfection and dechlorination levels.
- Routine operational laboratory procedures.
- Maintains operational logs.
- Assists in the repair and replacement of plant equipment.

1986-1988

Skilled Laborer

- Assisted operators in daily plant operations.
- Maintained buildings and grounds including snow removal

Education

Grade 7-Full Active Wastewater License (#3117)

Member of MWPCA

I am presently enrolled in the Wastewater Management training program and have taken numerous wastewater classes to maintain my active Grade 7 license. (See attached)

I attended Quinsigamond Community College where I've taken classes in public and environmental health.

MASSACHUSETTS WATER RESOURCES AUTHORITY
JOB VACANCY ANNOUNCEMENT
(Internal)

Job Title: Operations Supervisor

Announcement Number: #7193

Position Control Register #2910019

Bargaining Unit: 3

Grade Level: 24

Date Posted: 04/27/16

Last Day for Applying: 05/03/16

Salary Range: \$1,344.32-\$1,867.52

Division/Section: Operations/AWWTP/Clinton, MA

Work Schedule: Monday-Friday 7:00am-3:00pm

BASIC PURPOSE:

Supervises operations staff, and manages the operations functions associated within Operations/Clinton AWWTP facility.

SUPERVISION RECEIVED:

Works under the general supervision of the Clinton Superintendent.

SUPERVISION EXERCISED:

Exercises close supervision of operations staff.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Coordinates and oversees Wastewater Operations Control Center (OCC) activities for the Clinton and Lancaster service areas.
- Manages wet weather events, monitors weather forecasts and radar to ensure facilities are properly staffed during wet weather, sends out snapshots, ensure proper operations and process control during wet weather events and is an essential employee during wet weather events and emergencies.
- Writes activity reports detailing all operational activities and issues, writes wastewater incident reports as needed, reviews dispatch reports, and reviews scanner rounds.

JOB VACANCY ANNOUNCEMENT NUMBER #7193 (Continued)

- Coordinates all operating functions including overseeing the operation of the Clinton residuals landfill, for maximum treatment efficiency to ensure compliance with all local, state, federal and court ordered regulations/requirements.
- Assists in preparation of annual budgets for the Clinton AWWTP.
- Evaluates needs for emergency response and exercises judgment while acting according to operational policies, procedures, order, working rules, safety and health measures. Directs and enforces safety programs and conducts inspections with the Clinton Superintendent.
- Analyzes the efficiency of the plant's operational procedures through review of logs, and laboratory reports and recommends operational procedure changes if necessary.
- Approves the purchase of materials and services required for operations, maintenance, and laboratory work.
- Coordinates preventive and corrective maintenance for all equipment at Clinton AWWTP to maintain equipment availability and redundancy needs.

SECONDARY DUTIES:

- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A high school education or equivalent; and
- (B) Knowledge of principles, procedures, methods, equipment and materials used in the operation of wastewater facilities as acquired by eight (8) to ten (10) years direct operating experience of which three (3) must be in a supervisory capacity in a Grade VII type wastewater treatment facility; or
- (C) Any equivalent combination of education or experience.

Necessary Knowledge, Skills and Abilities:

- (A) Excellent verbal and written communication skills.
- (B) Skill in the operation of the listed tools and equipment.
- (C) Basic reading, writing, mathematical, oral communication skills.
- (D) A working knowledge of control systems and the operation of secondary and tertiary wastewater treatment plant systems.

JOB VACANCY ANNOUNCEMENT NUMBER #7193 (Continued)

SPECIAL REQUIREMENTS:

A valid Massachusetts Drivers License.

A Grade VI Wastewater Operator License with the ability to obtain a Grade VII Wastewater Operators License within one year..

TOOLS AND EQUIPMENT USED:

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

PHYSICAL DEMANDS:

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential 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 stoop, kneel, crouch or crawl. The employee occasionally is required to stand, walk, talk or hear, sit, climb, or balance, taste or smell.

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

WORK ENVIRONMENT:

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

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

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

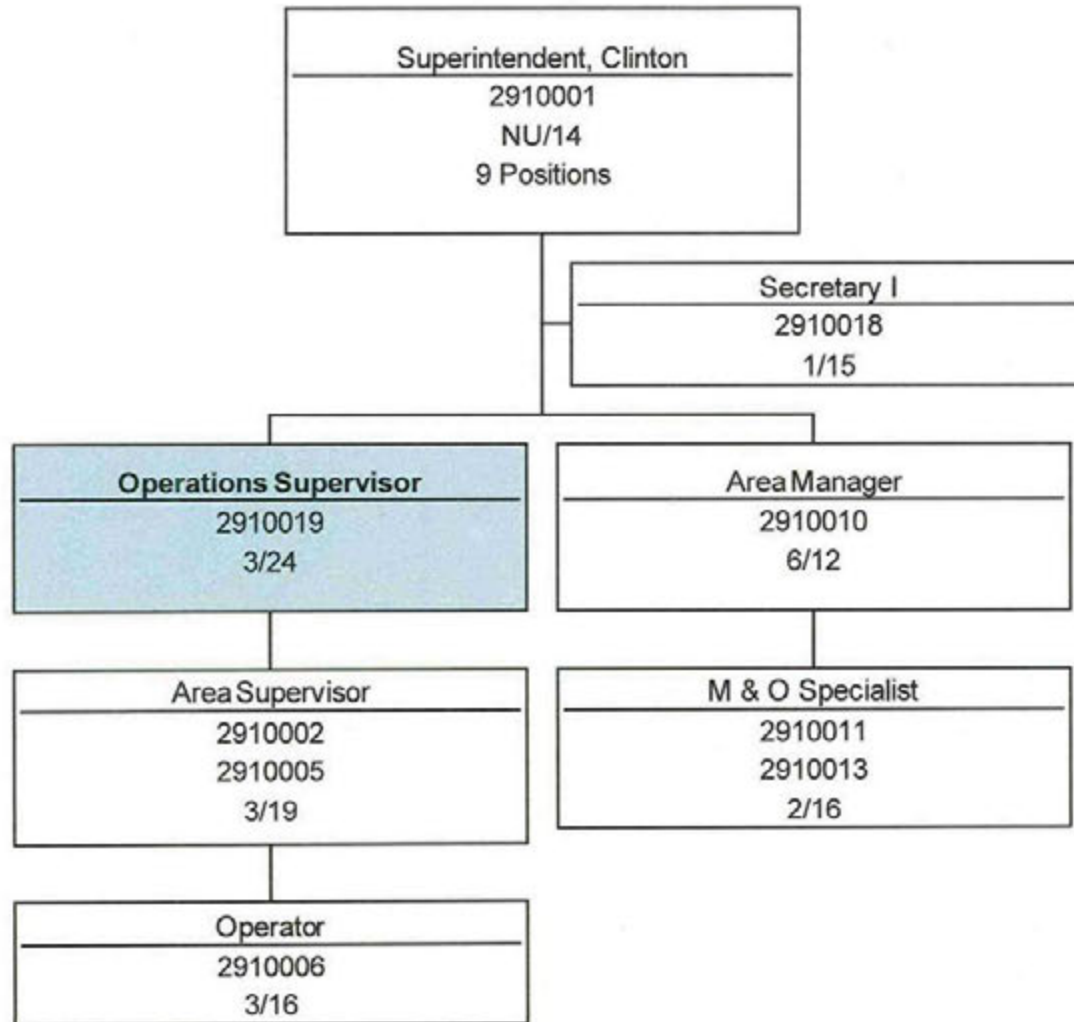
Massachusetts Water Resources Authority
Charlestown Navy Yard
100 First Ave.
Boston, MA 02129
ATTN: Susan A. Carter, Human Resources Specialist

Massachusetts Water Resources Authority (MWRA) is an Equal Opportunity/Affirmative Action Employer. All qualified applicants will receive consideration for employment without regard to race, color, national or ethnic origin, age, religion, disability, sex or gender, sexual orientation, gender identity or expression, or veteran status.


Operations- Wastewater Treatment

Clinton Wastewater Treatment Plant

June 2016



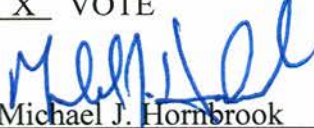
STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: June 29, 2016
SUBJECT: Appointment of Operations Liaison, Deer Island Wastewater Treatment Plant
Operations Division

COMMITTEE: Personnel & Compensation

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

 INFORMATION
 X VOTE


Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To approve the appointment of Ms. Cynthia Parks to the position of Operations Liaison, Deer Island Treatment Plant (Unit 6, Grade 10), at an annual salary of \$87,790.99, to be effective on a date to be determined by the Executive Director.

DISCUSSION:

The Operations Liaison position was relocated to the Deer Island Director's office in May 2016 to address a resource need. This position will report directly to the Director and Deputy Director at Deer Island and will coordinate a number of functions including coordinating and assisting in the updating and implementation of revised Deer Island policies and procedures, managing administrative activities relating to management reporting such as the Yellow and Orange Notebooks, and assisting with personnel matters. Other responsibilities include conducting contractor safety orientation training and tracking contractors that have received security authorization to access Deer Island. A core responsibility of this position is the coordination of Deer Island's extensive staff training requirements with Human Resources including participating in the new employee safety awareness training program. The position will also act as the liaison between Deer Island and Public Affairs on Deer Island project inquiries, odor complaints, community inquiries, public meetings, presentations and events on Deer Island.

Selection Process:

The position was posted internally and eleven candidates applied. The Director, DITP, and the Special Assistant for Affirmative Action interviewed all eleven internal candidates. Upon completion of those interviews Ms. Cynthia Parks was selected as the most qualified candidate to fill this position based on her knowledge, skills and experience.

Ms. Parks currently holds the position of Administrative Manager in the Deer Island Director's Office. Ms. Parks has more than 38 years of progressive experience in administrative support positions, of which the last 24 years have been at MWRA. In her current position, Ms. Parks is responsible for the preparation of hiring packages, and personnel requisitions. She is involved with scheduling employee training and manages license renewal records for Deer Island staff in cooperation with Human Resources. Ms. Parks has performed all of her MWRA responsibilities at a high level. Ms. Parks has excellent communication and interpersonal skills and familiarity with MWRA's business and management practices. During her 23 years at Deer Island, Ms. Parks has gained an understanding of the variety of issues associated with a large wastewater treatment facility.

Ms. Parks holds an Associate's Degree in Business Administration from Saint Mary's College. Ms. Parks has been certified as proficient in MWRA's Administrative Support Certificate Program.

BUDGET/FISCAL IMPACT:

There are sufficient funds for this position in the proposed FY17 Current Expense Budget.

ATTACHMENTS:

Resume of Cynthia Parks
Position Description
Organization Chart

CYNTHIA PARKS

EXPERIENCE: ADMINISTRATIVE MANAGER TO DEER ISLAND DIRECTOR - 2000 TO PRESENT

Preparation of hiring packages, personnel requisitions including submittal of management reports (i.e. Orange and Yellow Notebook). Manages Lawson's training reports. Provide management, administrative and technical support for operations and maintenance within the DITP. Assist with staff development training including safety training program delivery. Assist when needed with the tour program. Works with Maximo. Updates database for all contractor's orientation training. Generate and distribute needed DITP reports related to facility performance, regulatory and community issues and personnel matters. Maintains databases in support of operations and maintenance activities related to DITP. Prepares written and computer-generated reports.

MWRA - DEER ISLAND - MAINTENANCE DEPARTMENT - SECRETARY I - 11/29/93 - 03/2000

Developed and maintain database for the maintenance department, help to develop and oversees maintenance contracts. Developed spreadsheets on Lotus 1.2.3. Schedule and confirm meetings, also schedule interviews for positions in the maintenance department. Coordinates all access to Deer Island via security gate for applicants to be interviewed. Greets visitors, determine their needs and refer callers to the appropriate individuals. Assist department manager in the preparation of Budget reports, agendas and special projects. Perform duties of administrative assistant in her absence. Provide clerical support to six (6) maintenance managers and their supervisors.

MWRA - LEGAL DEPARTMENT - LEGAL ASSISTANT 11/23/92 - 11/27/93

BOSTON GARDENS - LEGAL DEPARTMENT - LEGAL ASSISTANT - 1/92 TO 11/92.

Typing litigation papers, answering telephone, making appointments, travel arrangements, attending meetings, coordinates publication of various public information. Prepares agenda for meetings. Assist with administrative policies and procedures.

MORGAN MEMORIAL/GOODWILL INDUSTRIES - EXECUTIVE ASSISTANT TO THE PRESIDENT 1/91 - 1/92

Typing, filing, Board of Directors minutes of the meeting, travel arrangements, reviews requisitions with division personnel. Prepared agendas for various meetings. Attend meetings for the President and prepares notes for distribution. Supervise secretarial staff.

DONALD E. GREEN LAW FIRM - LEGAL ASSISTANT 1/90 - 12/90

Type PINS, litigation, letters, filing, insurance claims, telephone contact with clients. Notary Public for clients. Meets and greets clients. Screening applicants for hire. Participated in settlement negotiations of claims with automobile accidents. Knowledge of workers compensation law.

Cynthia Parks

ROXBURY MULTI-SERVICE CENTER - ADMINISTRATIVE ASSISTANT TO THE EXECUTIVE DIRECTOR, PERSONNEL DIRECTOR 6/87 - 12/89

Typing letters, memos, setting up appointments and travel arrangements. Acted as a liaison with staff and Board of Directors. Compiled monthly calendar of events. Assisted in screening and interviewing applicants for hire. Provided confidential business support. Conducted reference check. Arranged pre-employment physical for selected applicants, conducted exit interviews. Worked with various diverse groups, and community organizations. Developed and implement office procedures. Responds to security incidents, document the occurrences, Assist in conducting investigation. Provided training and supervised secretarial staff. Conducted tours for United Way personnel visits to job sites.

BANK OF BOSTON - EXECUTIVE SECRETARY TO THE VICE PRESIDENT 1986 - 1987

Telephone contact with customers, typing letters, travel arrangements. Attended meetings with suppliers. Performed duties as assigned.

GOODWIN PROCTOR & HOAR, LEGAL SECRETARY, 10/81 - 10/86

Typing of all legal documents, proposals, litigation, letters, wills and confidential issues. Completion of paralegal courses.

PEAT, MARWICK MITCHELL & CO., - SUPERVISOR, 1/78 - 9/81

Supervised staff of ten people, handled proposals, order supplies, typed budget reports. Develop and conduct training for new hires, provided harmonious labor management relations and established personnel policies. Prepared monthly program status report. Managed day to day activity of the Report Department.

**EDUCATION: ASSOCIATES DEGREE - BUSINESS ADMINISTRATION
SAINT MARY'S COLLEGE**

REFERENCES: AVAILABLE UPON REQUEST

**MWRA
POSITION DESCRIPTION**

POSITION: Operations Liaison

DIVISION: Operations

DEPARTMENT: Deer Island Wastewater Treatment Plant (DIWWTP)

BASIC PURPOSE:

Provide management, administrative and technical support for operations, maintenance and administrative activities within the Deer Island Wastewater Treatment Plant.

SUPERVISION RECEIVED:

Works under the general supervision of the Director and Deputy Director of the DIWWTP.

SUPERVISION EXERCISED:

None.

ESSENTIAL DUTIES AND RESPONSIBILITIES:

- Assist as directed with the coordination of all DIWWTP activities including facility operations issues, technical support tracking and field activities.
- Coordinate with Section managers to assist in establishing and implementing DIWWTP policies and procedures. Assist in research, review and drafting of proposed new and revised policies and procedures.
- Assists with coordination of staff development training including contractor training. Assist with safety training program delivery.
- Maintain databases in support of operations and maintenance activities related to Deer Island Treatment Plant. Prepares written and computer-generated reports.
- Manage any administrative activities related to DIWWTP including but not limited to personnel matters and submittal of management reports (i.e. Orange and Yellow Notebook).

- Generate and distribute needed DIWWTP reports related to facility performance, regulatory and community issues and personnel matters.
- Coordinate with applicable section management on aspects of DIWWTP operation including responding to correspondence related to community assistance and interdepartmental projects.
- Act as liaison with host communities on matters of odors, operations impacts, community inquiries and information presentations and meetings.
- Assist in various aspects of the Community Assistance Program.
- Perform related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) Knowledge of business and management practices and principles normally attained through a 4-year college program in business, public administration or related field, and
- (B) Understanding of the operation of a large municipal wastewater transport system as acquired through five (5) to seven (7) years of experience, or
- (C) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

- (A) Excellent interpersonal, oral and written communication skills are required.
- (B) Familiarity with local government systems.
- (C) Knowledge of personal computers required.

SPECIAL REQUIREMENTS:

None

TOOLS AND EQUIPMENT USED:

Motor vehicle, mobile radio, telephone, beeper.

PHYSICAL DEMANDS:

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential 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 stoop, kneel, crouch or crawl. The employee occasionally is required to stand, walk, talk or hear, sit, climb, or balance.

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

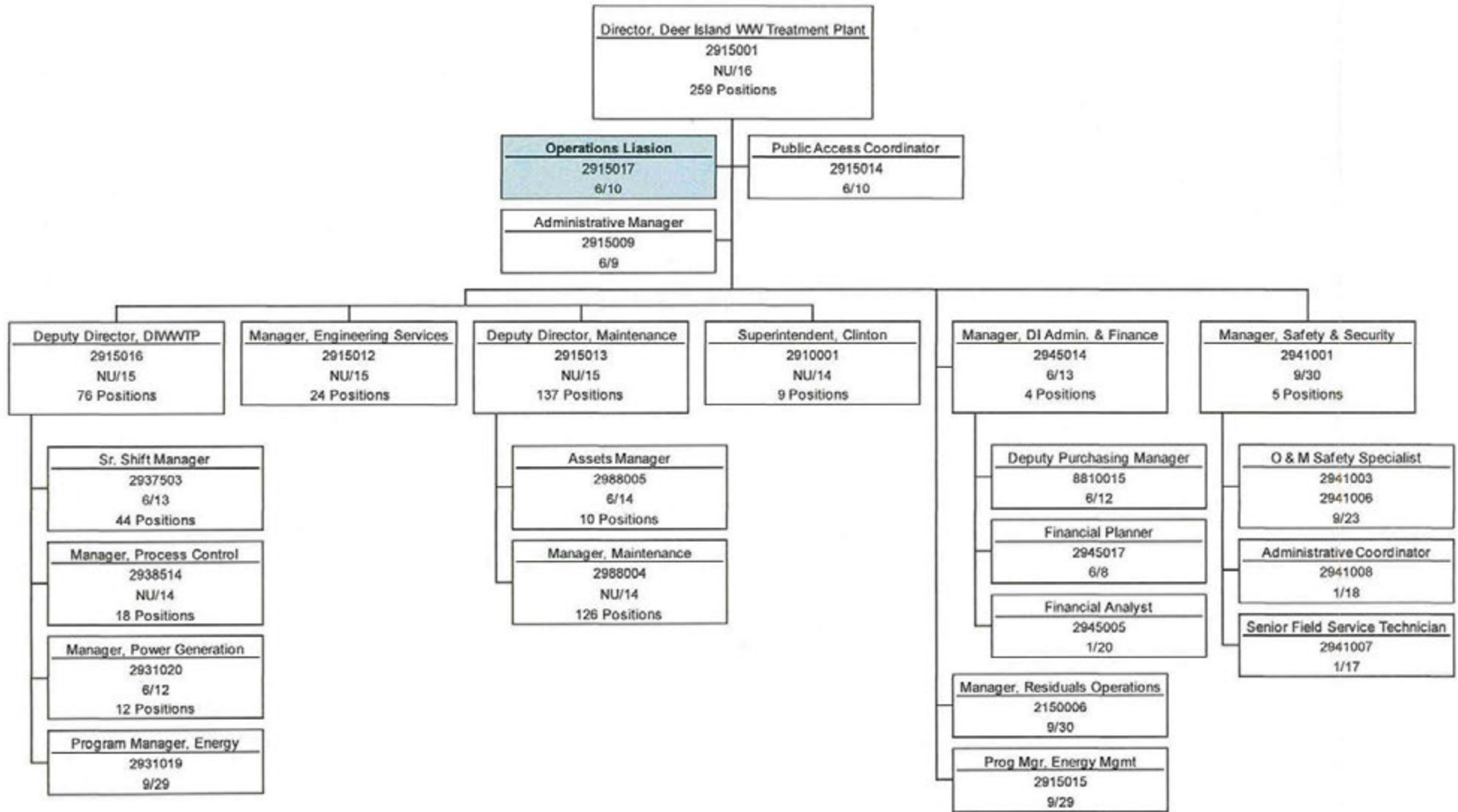
WORK ENVIRONMENT:

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


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

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

Operations - Wastewater Treatment - Summary
June 2016




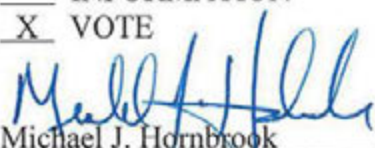
STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director 
DATE: June 29, 2016
SUBJECT: Appointment of Area Manager, Deer Island Wastewater Treatment Plant
Operations Division

COMMITTEE: Personnel & Compensation

INFORMATION
 VOTE

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


Michael J. Hornbrook
Chief Operating Officer

RECOMMENDATION:

To approve the appointment of Mr. Mark Lavino to the position of Area Manager (Unit 6, Grade 12), at the recommended salary of \$89,367.63, to be effective on a date to be determined by the Executive Director.

DISCUSSION:

The Area Manager position became vacant upon the approved transfer of the previous incumbent to another facility. The Area Manager position reports to the Maintenance Manager at Deer Island Wastewater Treatment Plant, and is responsible for directing a staff of eighteen. This position is responsible for implementing industry best management practices to increase staff productivity, monitor asset performance indicators, and implement programs to maximize asset life while reducing equipment downtime. Deer Island Treatment Plant is approaching twenty-one years in service and the Area Manager position is critical to ensure all assets are replaced and repaired as necessary to maintain the effective operation of the plant.

Selection Process

The position was posted internally and nine qualified candidates applied and were referred for interviews. The Deer Island Deputy Director of Maintenance, Maintenance Manager and Program Manager, Monitor and Compliance AACU interviewed all of the candidates. Upon completion of those interviews, Mr. Mark Lavino was identified as the most qualified candidate to fill this position based on his knowledge, maintenance skills, experience, and his understanding of the Area Manager's role and responsibilities.

Mr. Lavino currently holds the position of Unit Supervisor at Deer Island. He is responsible for supervising a staff of multi-trade personnel performing various types of work in the Residuals process area. His roll as Unit Supervisor includes assignment of daily work orders, assisting in

creating job plans, and working with planners to order all necessary replacement. Over the years, Mr. Lavino has excelled in this position as a Unit Supervisor.

Mr. Lavino has twenty-three years of proven maintenance experience as M&O Specialist, Unit Supervisor and Acting Area Manager. He has been a leader in implementing best practices to increase productivity, and monitoring performance indicators to maximize asset life. He has a strong understanding of the computerized maintenance management system (Maximo) modules and applications which are needed to ensure documentation of completed work. He has extensive field experience as a Unit Supervisor and has worked on all types of mechanical equipment, working closely with operations and management staff throughout his tenure at MWRA.

Mr. Lavino holds multiple certifications from Notre Dame University on topics including Effective Leadership and Leadership and Management. He has a Massachusetts Grade 2 Wastewater Operator's License and a Grade 2 Collections License. He is also a certified Vibration Analyst Level 1.

BUDGET/FISCAL IMPACT:

There are sufficient funds in the FY17 Current Expense Budget to fund this position.

ATTACHMENTS:

Resume of Mark Lavino
Position Description
Organization Chart

Mark Lavino

Objective

To obtain a position within an organization that allows me to utilize my skill set in a managerial position to aid in my continued growth and development.

Experience

Unit Supervisor Residuals

2008 – Present Massachusetts Water Resources Authority, DITP

- Actively involved with the hiring process for the M&O positions
- Actively involved with writing SOPs for various projects
- Lead supervisor for the installation of the new TPS pumps
- Supervised the Deer Island facilities department
- Filled in as temporary manager on an as needed basis
- Supervised the rehab of the Digester PRVs and valve project
- Aided in ordering and stocking material for the Residuals area
- Help coordinate work in progress with other supervisors, operations, and planners to minimize back log
- Assist in annual budget plan
- Actively involved with the lube oil task team, CMG department
- Works with various contractors and vendors
- Computer proficient, Maximo Data Base, Microsoft Office & Word

Emergency Response team Member

2016- present

Treasurer of AFSCME Local 1242

2000- present

- Aided in the negotiation and ratification of five (5) contracts on the Unit 2 members behalf
- Worked with the Human Resource department to negotiate discipline of Unit 2 members

M&O Specialist

1997 – 2008 Massachusetts Water resources Authority, DITP

- Performed mechanical repairs and installations of pumps, impellers, ect in all aspects of plant operations including troubleshooting when necessary.
- Assist engineers in the TIC Center to help improve designs for assigned work orders and report modifications that were made to equipment.
- Works with Operations Area Supervisors to aid in the shutdown and start-up of systems.
- Works with staff to develop new and improved operating practices and procedures and to coordinate efforts regarding troubleshooting.

Acting Heavy Equipment Operator

1996 – 1997 Massachusetts Water Resources Authority, Prison Point, North Maintenance Facility

- Operated the Vector truck.
- Operated a backhoe and front end loader on various projects.

Skilled Laborer

1993 – 1996 Massachusetts Water Resources Authority, North Maintenance Facility

- Worked in the Community Assistance Program.
- Performed tasks in connection with valve operation and maintenance such as cleaning drains and culverts, pipeline construction, digging ditches, spreading asphalt, caulking lead joints, and assisting in valve installations.

Education

Malden High School, Malden Massachusetts

1988 – 1992

- High School Diploma

University of Notre Dame online

- Certificate for Leading Teams and Organizations
- Certificate for Effective Leadership
- Certificate for Executive Leadership Strategies
- Certificate for Leadership & Management

Licensing

Available Licenses & Certificates

- Commercial Drivers License Class: B w/Tanker Endorsement
- Hoisting Engineering – License: HE 067958
- Pipefitter Journeyman – Process piping – License: PJ 299557
- Wastewater License Grade 2 - License: 17186
- Collections License Grade 2 – License: C-2558
- International Maintenance Institute License
- Vibration Analyst Level 1- Certificate: 1102-VA1-06
- V-Belt systems: Certificate
- Opt align Plus Laser Advanced Alignment: Certificate
- Specification Writing: Certificate
- Counterbalanced Sit-down Rider Forklift Trucks: Certificate

**MWRA
POSITION DESCRIPTION**

POSTION: Area Manager

DIVISION: Operations

DEPARTMENT:

BASIC PURPOSE:

Manages maintenance activities (labor, materials, services) and monitors performance against operational needs and requests.

SUPERVISION RECEIVED:

Works under general supervision of the Maintenance Manager.

SUPERVISION EXCERCISED:

Exercises close supervision of assigned operations/maintenance staff.

ESSENTIAL DUTIES AND RESPONSIBILITES:

- Manages a group of maintenance personnel who perform tasks related to maintenance and construction.
- Coordinates with other managers, supervisors, work coordination staff and others for optimal functioning of assigned staff.
- Monitors "Work-In-Progress" by coordinating with Maintenance Supervisors, Operations Managers and Planner Schedulers, and also monitors backlog with object of minimization.
- Prepares budget for assigned cost center and monitors performance against approved budget. Approves and tracks spending, justifies variances from budget, and provides support documentation as requested.
- Reviews, monitors, evaluates work performed, and recommends appropriate improvements on equipment, techniques, and procedures.
- Provides project management of outside contract services as assigned.
- Provides technical input for major maintenance projects and reviews new construction proposals to insure maintainability.
- Reviews assigned employee performance according to MWRA procedures as established and maintained by the Human Resources Department.
- Recommends upgrades to plant equipment and facilities to ensure continued optimal operation. Includes tracking major projects and the coordination of outside contractors, as required.
- Promotes the MWRA Safety Policy and Program by participating in and supporting activities as detailed by the Authority Safety Group.

- Acts as liaison between and promotes harmonious relations with other Maintenance Managers, Operations Managers, vendors and MWRA departments.
- Performs supervisory responsibilities of roving field crews and operational personnel located within an operational control center (OCC) as needed.
- Coordinates shutdown and start-up of process equipment in support of maintenance activities.
- Ensures plant cleanliness and makes rounds to ensure plant facility is maintained by staff.
- Schedules and works overtime as required.
- Needs to be available during any emergency.
- Provides training to assigned staff.
- Directs remedial action in all emergencies.
- Assists employee with procurement of tools, parts and materials.
- Operates motor vehicles, such as vans and pick-up trucks, to transport materials to work sites, pick up equipment, etc.
- Generates inspection lists and maintenance reporting through the Computerized Maintenance Management System.
- Inspects and troubleshoots various systems and equipment

SECONDARY DUTIES:

- Assists employees with the preparation of injury and illness reports, safety work orders, and maintenance work order requests, reviews requests for completeness and accuracy.
- Assists in maintaining harmonious labor management relations through proper application of collective bargaining agreement provisions and established personnel policies.
- Performs related duties as required.

MINIMUM QUALIFICATIONS:

Education and Experience:

- (A) A four (4) year degree in maintenance management, or any related field; and
- (B) Seven (7) – nine (9) direct experience of principles, procedures, methods, equipment and materials used in the operation, repair and maintenance of a large municipal wastewater or water treatment facility; and
- (C) Two (2) must be in a supervisory capacity; ore
- (D) Any equivalent combination of education and experience.

Necessary Knowledge, Skills and Abilities:

- (A) A working knowledge of the methods, techniques, operations, systems, equipment, principles and practices of wastewater or water treatment.

- (B) Ability to plan, organize, direct, train and assign duties to subordinates, as obtained through successful completion of supervisory training program or an approved substitution.
- (C) Extensive knowledge of safety practices and applications in wastewater treatment operations.
- (D) Ability to plan, organize, direct, train and assign duties to subordinates.

SPECIAL REQUIREMENTS:

- A valid Class D Massachusetts Motor Vehicle Operator License.

TOOLS AND EQUIPMENT USED:

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

PHYSICAL DEMANDS:

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

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

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

WORK ENVIRONMENT:

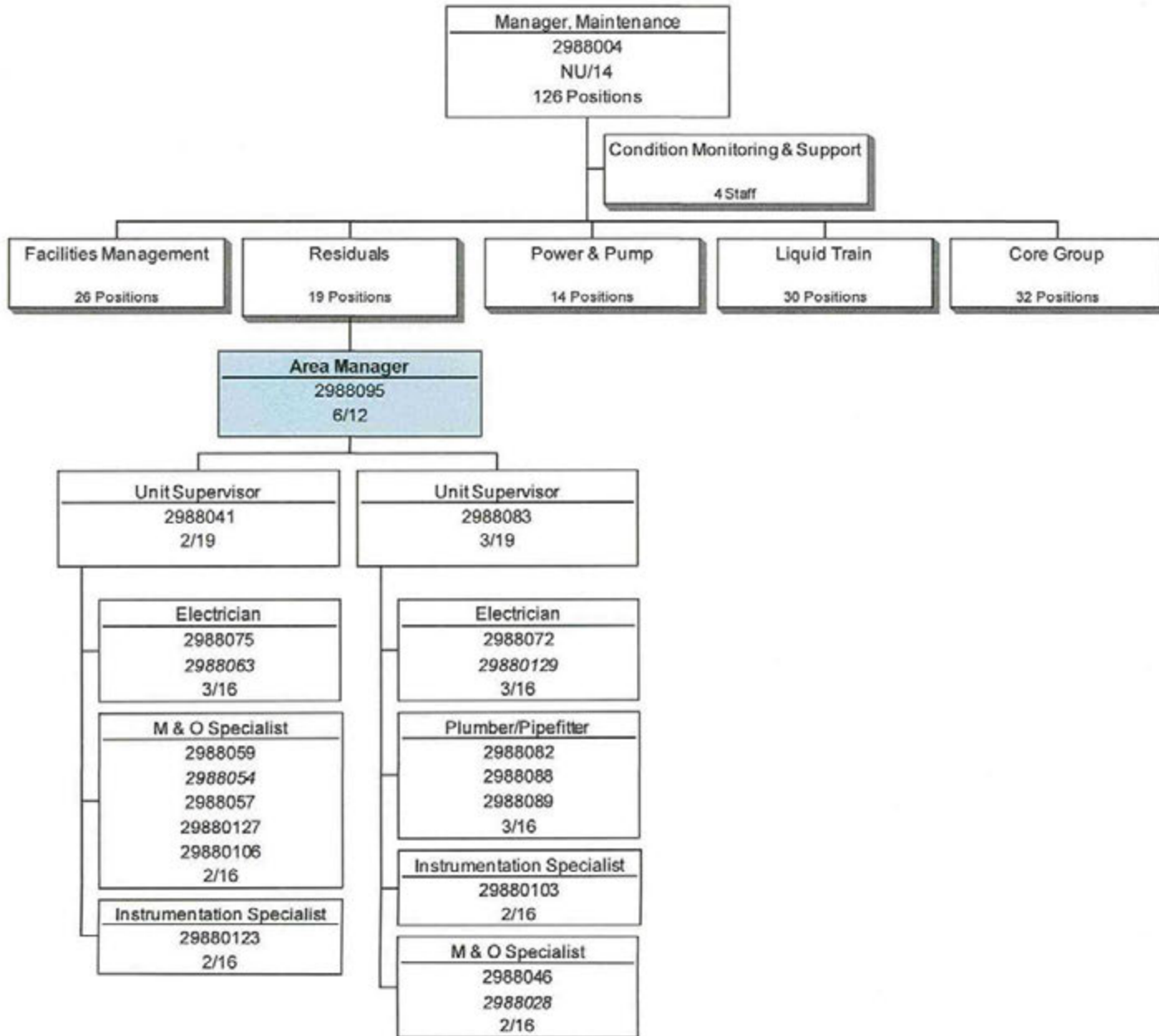
The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job.

While performing the duties of this job, the employee regularly works in outside weather conditions. The employee occasionally works near moving mechanic 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.

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

Deer Island - Trades Maintenance

June 2016



STAFF SUMMARY

TO: Board of Directors
FROM: Frederick A. Laskey, Executive Director
DATE: June 29, 2016
SUBJECT: FY17 Non-Union Compensation



COMMITTEE: Personnel and Compensation

VOTE
 INFORMATION

RECOMMENDATION:

That the Board of Directors take the following actions for MWRA's FY17 non-union compensation review:

1. Authorize the Executive Director to implement a 1.5% across-the-board compensation adjustment for non-union managers effective with the first FY17 payroll, and further authorize the Executive Director to implement a 1.5% across-the-board adjustment for non-union managers effective December 31, 2016.
2. Approve a revision to the non-union salary ranges for FY17 presented in Attachment A and filed with the records of the meeting.

DISCUSSION:

Under this proposal, there are 61 non-union managers who will be eligible for a compensation adjustment. These adjustments mirror the negotiated salary increases bargaining unit employees will receive for FY17.

The salary adjustments will be provided to all non-union managers on the payroll as of June 25, 2016 and December 31, 2016. These adjustments do not include the Executive Director and Chief Operating Officer with whom the Authority maintains individual employment contracts.

BUDGET/FISCAL IMPACT

These adjustments for non-union managers result in a total annual cost of approximately \$238,786 for FY17.

ATTACHMENTS:

Attachment A: FY17 Proposed Non-Union Salary Ranges

ATTACHMENT A

FY 17 Proposed Non-Union Salary Ranges effective June 25, 2016

Grade	Minimum	Maximum
13	\$78,094	\$121,458
14	\$87,882	\$133,559
15	\$98,932	\$147,842
16	\$111,290	\$163,183
17	\$125,252	\$175,661

FY 17 Proposed Non-Union Salary Ranges effective December 31, 2016

Grade	Minimum	Maximum
13	\$79,266	\$123,280
14	\$89,200	\$135,562
15	\$100,416	\$150,059
16	\$112,959	\$165,630
17	\$127,131	\$178,296



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

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

BOARD OF DIRECTORS' MEETING

to be held on

Wednesday, June 29, 2016

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

Time: 1:00 p.m.

AGENDA

I. APPROVAL OF MINUTES

II. REPORT OF THE CHAIR

III. REPORT OF THE EXECUTIVE DIRECTOR

IV. BOARD ACTIONS

A. Approvals

1. Final FY17 Capital Improvement Program (ref. AF&A B.1)
2. Final FY17 Current Expense Budget (ref. AF&A B.2)
3. Final FY17 Water and Sewer Assessments (ref. AF&A B.3)
4. Renewal of Reading and Wellesley Water Supply Continuation Agreements (ref. W A.1)
5. Appointment of Program Manager, Chemistry, ENQUAL (ref. P&C A.1)
6. Appointment of Operations Supervisor, Clinton Wastewater Treatment Plant (ref. P&C A.2)
7. Appointment of Operations Liaison, Deer Island Treatment Plant (ref. P&C A.3)

8. Appointment of Area Manager, Deer Island Treatment Plant (ref. P&C A.4)

9. FY17 Non-Union Compensation (ref. P&C A.5)

B. Contract Awards

1. Chelsea Creek Headworks Upgrade, Resident Engineering/ Resident Inspection Services: CDM Smith, Inc., Contract 6802 (ref. WW A.1)

2. Farm Pond Inlet Chamber, Farm Pond Gatehouse and Waban Arches Evaluations: Green International Affiliates, Inc., Contract 7473 (ref. W B.1)

C. Contract Amendments/Change Orders

1. Fire Protection Sprinkler System Service: William Collins, Inc., Contract OP-285, Change Order 2 (ref. WW B.1)

2. Fire Alarm Service Metro Boston: Sullivan & McLaughlin Companies, Inc., Contract OP-275, Change Order 3 (ref. WW B.2)

V. CORRESPONDENCE TO THE BOARD

VI. OTHER BUSINESS

VII. EXECUTIVE SESSION

A. Real Estate

1. Watershed Land Acquisition Approvals

B. Litigation

1. Cross-Harbor Cable – Approval of Army Corps of Engineers Agreement; Adjustment in Professional Services Contracts for Outside Counsel/Expert Witness

2. Settlement of Claims of Western Surety to Interstate Engineering Contract Balances – Suffolk Superior Court, Civil Action Nos. 13-0893 and 15-2300

VIII. ADJOURNMENT

MASSACHUSETTS WATER RESOURCES AUTHORITY

Meeting of the Board of Directors

June 8, 2016

A meeting of the Board of Directors of the Massachusetts Water Resources Authority was held on June 8, 2016 at the Authority headquarters in Charlestown. Member Foti presided. Present from the Board were Ms. Wolowicz and Messrs. Flanagan, Pappastergion, Peña, Vitale and Walsh. Messrs. Beaton, Blackmon, Carroll and Cotter were absent. Among those present from the Authority staff were Frederick Laskey, Executive Director, Steven Remsberg, General Counsel, Michael Hornbrook, Chief Operating Officer, Thomas Durkin, Director of Finance, Michele Gillen, Director of Administration, and Bonnie Hale, Assistant Secretary. The meeting was called to order at 1:00 p.m.

APPROVAL OF MINUTES

Upon a motion duly made and seconded, it was

Voted to approve the minutes of the Board of Directors' meeting of May 11, 2016, as presented and filed with the records of the meeting.

REPORT OF THE EXECUTIVE DIRECTOR

Mr. Laskey recognized Kathy Baskin, who is leaving the Executive Office of Energy and Environmental Affairs to attend the Harvard School of Government. He praised her work ethic and valuable assistance as EOEEA's long-time liaison to MWRA. Mr. Laskey reported on additional matters, including: North Reading had voted to join the MWRA water system; the Deer Island Treatment Plant would be receiving the NACWA Platinum Award and the Clinton Treatment Plant the Gold Award; 32 diplomats toured Deer Island

in a trip sponsored by the U.S. State Department; and all were welcome to attend the Spot Pond Tank dedication scheduled for June 18th.

APPROVALS

Memorandum of Agreement between the Commonwealth of Massachusetts and the Massachusetts Water Resources Authority

Upon a motion duly made and seconded, it was

Voted to authorize the Executive Director, on behalf of the Authority, to execute and enter into a Memorandum of Agreement with the Commonwealth of Massachusetts, substantially in the form presented and filed with the records of the meeting, to defease MWRA's obligation to reimburse the Commonwealth for the debt service associated with its bonds utilized to purchase land within the Quabbin, Wachusett and Ware River watersheds.

Bond Defeasance of Future Debt Service

Upon a motion duly made and seconded, it was

Voted to amend the FY16 defeasance authorization from an aggregate principal amount of approximately \$26,350,000 to \$5,080,000 of outstanding MWRA senior bonds in order to reduce the debt service requirement by approximately \$6,220,300 in the FY17 through FY22 timeframe.

Wastewater Advisory Committee Contract

Upon a motion duly made and seconded, it was

Voted to authorize the Executive Director, on behalf of the Authority, to execute a contract, substantially in the form presented and filed with the records of the meeting, with the Wastewater Advisory Committee for a term of one year, from July 1, 2016 to June 30, 2017, for a total contract cost of \$69,017.

Approval of One New Member of the Wastewater Advisory Committee

Upon a motion duly made and seconded, it was

Voted to approve the addition of one new member, Ms. Adriana Cillo of the Boston Water and Sewer Commission, to the Wastewater Advisory Committee.

Water Supply Citizens Advisory Committee Contract

Upon a motion duly made and seconded, it was

Voted to authorize the Executive Director, on behalf of the Authority, to execute a contract, substantially in the form presented and filed with the records of the meeting, with the Water Supply Citizens Advisory Committee for a one-year period beginning July 1, 2016, with a total contract cost of \$102,365.

First Amendment of Memorandum of Agreement between MWRA and Massachusetts Division of Fisheries and Wildlife and the Massachusetts Department of Fish and Game for McLaughlin Fish Hatchery Pipeline and Hydropower Project

Upon a motion duly made and seconded, it was

Voted to authorize the Executive Director, on behalf of the Authority, to execute the First Amendment to the Memorandum of Agreement, substantially in the form presented and filed with the records of the meeting, between the Massachusetts Division of Fisheries and Wildlife, the Massachusetts Department of Fish and Game, and the Massachusetts Water Resources Authority relating to the construction and operation of the McLaughlin Fish Hatchery Pipeline and Hydropower Project at the William A. Brutsch Water Treatment Facility.

PCR Amendments - June 2016

Upon a motion duly made and seconded, it was

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

Appointment of Application and Systems Development Manager, MIS

Upon a motion duly made and seconded, it was

Voted to approve the appointment of Mr. Giri Narayanan to the position of Manager, Application & Systems Development in the MIS Department (Non-Union, Grade 14), at an annual salary of \$125,500, to be effective on the date designated by the Executive Director.

Appointment of Senior Program Manager, Field Operations and Permitting, TRAC

Upon a motion duly made and seconded, it was

Voted to approve the Executive Director's recommendation to appoint Mr. Peter Yarossi to the position of Senior Program Manager, Field Operations and Permitting, Toxic Reduction and Control (Unit 9, Grade 30), at an annual salary of \$119,706.80, to be effective on the date designated by the Executive Director.

CONTRACT AWARDS

Disclosure Counsel: Greenberg Traurig, LLP, Contract F241

Upon a motion duly made and seconded, it was

Voted to approve the recommendation of the Consultant Selection Committee to select Greenberg Traurig, LLP to provide Disclosure Counsel Services and to authorize the Executive Director, on behalf of the Authority, to execute contract F241 with Greenberg Traurig, LLP in an amount not to exceed \$652,000 for a term of four years from the Notice to Proceed.

MWRA FY17 Insurance Program Renewal

Upon a motion duly made and seconded, it was

Voted to approve awards to the lowest eligible and responsive proposers for insurance policies, bonds and related broker services for MWRA's FY17 Insurance Program, and to authorize the Executive Director, on behalf of the Authority, to

execute contracts for broker services, for the terms, premiums and fees described below, and incorporated by reference for the record, resulting in a total program amount not to exceed \$1,567,273 for FY17:

- (1) Workers' Compensation Excess Policy with New York Marine Insurance Co., submitted by broker Willis of Massachusetts, Inc. (Willis Towers Watson), for the period beginning July 1, 2016, through June 30, 2017, with a \$25 million limit and a \$500,000 self-insured retention, for a premium of \$165,741;
- (2) Property Policy (including Boiler & Machinery coverage) with FM Global Insurance Co., for the second year of the two-year policy, from July 1, 2016, through June 30, 2017, with various limits of coverage and a \$2.5 million self-insured retention, resulting in a FY17 premium of \$730,622;
- (3) General Liability Policies (including Automobile Liability, Marine Liability, Wharfingers, Limited Pollution and Employment Practice Liability) with Lexington Insurance Company submitted by broker Richards Robinson Sheppard Insurance, LLC (Richards Robinson Sheppard), for the period beginning July 1, 2016 through June 30, 2017, with a \$25 million limit and a \$2.5 million self-insured retention, for a premium of \$291,200;
- (4) Excess Liability Policies with insurance companies to be determined and submitted by broker Richards Robinson Sheppard, for the period beginning July 1, 2016, through June 30, 2017, providing a combined total of \$75 million of excess liability coverage for a total combined premium not to exceed \$255,000;
- (5) Public Official's Liability Policy with ACE USA Insurance Co., submitted by broker Arthur J. Gallagher Risk Management Services Inc. (Arthur J. Gallagher & Co.), for the period beginning July 1, 2016, through June 30, 2017 with a \$5 million limit and a \$1 million self-insured retention, for a premium of \$46,460, including broker commission;
- (6) Fiduciary Liability Policy with Hudson Insurance Co., submitted by broker Alliant Insurance Services Inc. (Alliant Insurance Services), for the period beginning July 1, 2016, through June 30, 2017, with a \$5 million limit and a \$1 million retention, for a premium of \$9,246 and a broker fee of \$1,100 reflected in item (9) below;
- (7) Public Official's/Crime Bond with Great American Insurance Co., submitted by broker Richards Robinson Sheppard, for the period beginning July 1, 2016, through June 30, 2017, with a \$1 million limit and a \$25,000 deductible for a premium of \$5,154;
- (8) Treasurer's Bond with a \$1 million limit with an insurance company to be determined in an amount not to exceed \$2,500, with a one-year term beginning January 2017; and
- (9) Broker contracts with Richards Robinson Sheppard Insurance, LLC for an amount of \$40,000, Willis of Massachusetts, Inc. for an amount of \$20,250, Alliant Insurance Services, Inc. for \$1,100 and Arthur J. Gallagher Risk Management Services Inc. for a commission included within the policy premium, from notice of award through June 30, 2017.

Technical Assistance Consulting Services, Deer Island Treatment Plant: Brown and Caldwell, Contract 7501; Stantec Consulting Services, Inc., Contract 7502; and AECOM Technical Services, Inc., Contract 7503

Upon a motion duly made and seconded, it was

Voted to approve the recommendation of the Consultant Selection Committee to select Brown and Caldwell, Stantec Consulting Services, Inc. and AECOM Technical Services, Inc. to provide as needed technical assistance consulting services for the Deer Island Treatment Plant and to authorize the Executive Director, on behalf of the Authority, to execute Contract 7501 with Brown and Caldwell, Contract 7502 with Stantec Consulting Services, Inc. and Contract 7503 with AECOM Technical Services, Inc., each in an amount not-to-exceed \$1,600,000 and for a term of three years from the Notice to Proceed.

Dam Safety Compliance and Consulting Services: GZA GeoEnvironmental, Inc., Contract W-301

Upon a motion duly made and seconded, it was

Voted to approve the recommendation of the Consultant Selection Committee to select GZA GeoEnvironmental, Inc. to provide dam safety compliance and consulting services and to authorize the Executive Director, on behalf of the Authority, to execute Contract W-301 with GZA GeoEnvironmental, Inc., in an amount not-to-exceed \$167,100, and for a term of 730-days from the Notice to Proceed.

CONTRACT AMENDMENTS/CHANGE ORDERS

Construction of Water Mains-Sections 36, W11C and 9A: RJV Construction Corp., Contract 7448, Change Order 5

Upon a motion duly made and seconded, it was

Voted to approve Change Order 5 to increase the price of Contract 7448 with RJV Construction Corp., Construction of Water Mains - Sections 36, W11C and S9-A, in an amount not to exceed \$550,000, with no increase in contract term.

OTHER BUSINESS

Performance Review and Extension of Contract for Executive Director

Upon a motion duly made and seconded, it was

Voted to: (1) rate the performance of Frederick A. Laskey, Executive Director, for Fiscal Year 2016 as excellent; (2) extend the term of the Executive Director's employment agreement and his appointment as the Executive Director by one year through June 30, 2019; and (3) increase his current salary by 1.5% effective July 1, 2016 and 1.5% effective January 1, 2017.

Extension of Contract for Chief Operating Officer

Upon a motion duly made and seconded, it was

Voted to: (1) adopt the Executive Director's performance rating of excellent for Michael J. Hornbrook, Chief Operating Officer, for Fiscal Year 2016; (2) extend the term of the Chief Operating Officer's employment agreement and his appointment as Chief Operating Officer by one year through May 31, 2019; and (3) authorize the Executive Director to increase the Chief Operating Officer's current salary by 1.5% effective July 1, 2016 and 1.5% effective January 1, 2017.

The meeting adjourned at 1:25 p.m.