

June 24, 2016



Ray Ritcey, Chair
Halifax Water
Halifax, Nova Scotia

The regular meeting of the Halifax Water Board will be held on Thursday, June 30, 2016 at 9:00 a.m. in the Boardroom at 450 Cowie Hill Road, Halifax.

AGENDA

In Camera

- 1C Approval of Minutes of In-Camera Meeting held on Thursday, April 28, 2016 (*5 minutes*)
- 2C Business Arising from Minutes
 - a) Governance Matter - Verbal (*5 minutes*)
 - b) Contractual Matter (*10 minutes*)
- 3C Customer Relations Matter (*15 minutes*)

Regular Meeting

- 1.
 - a) Ratification of In-Camera Motions
 - b) Approval of the Order of Business and Approval of Additions and Deletions (*5 minutes*)
- 2.
 - a) Approval of Minutes of Regular Meeting held on Thursday, April 28, 2016
 - b) Approval of Minutes of Special Meeting held on Thursday, May 26, 2016
- 3. Business Arising From Minutes
 - a)
- 4.1 2015/16 Audited Financial Statements and Year End Results (*15minutes*)
- 4.2 Operating Results for the Two Months Ended May 31, 2016 - Report to Follow (*5 minutes*)
- 5. Capital Projects: (*25 minutes*)
 - 5.1 Geizer 158 Reservoir Rehabilitation - Floor Replacement..... \$2,750,000
 - 5.2 Capital Project Spending Summary - 2015/16
- 6. Halifax Regional Water Commission Employees' Pension Plan Financial Statements for the Year Ended December 31, 2015 (*10 minutes*)
- 7. Cogswell District Energy - Report & Presentation (*JH*) (*20 minutes*)
- 8. Board Books Feedback - Verbal (*10 minutes*)
- 9. Date of Next Meeting

Information Reports

- 1-I Operations and Financial Monthly Update
- 2-I Capital Budget Approvals to Date
- 3-I Bank Balance
- 4-I Computerized Maintenance Management System (CMMS) - Phase 2 - Implementation - Project Update
- 5-I Pension Plan Investment Performance 1st Quarter, 2016
- 6-I Lead Service Line Replacement Policy – *Report to Follow*
- 7-I Municipal Auditor General Report – A Performance Review of Flexible Work Arrangement Programs

- 8-I Stormwater Cost of Service Decision M07147
- 9-I AMI NSUARB Approval Process
- 10-I 2015/16 Cost Containment Report
- 11-I Seasonal Disinfection – *Report to Follow*
- 12-I Capital Cost Contributions - Financial Status Report for Fiscal Year Ended March 31, 2016

Original Signed by:

James G. Spurr
Secretary

**HALIFAX REGIONAL WATER COMMISSION
MINUTES**

April 28, 2016

PRESENT: Commissioner Ray Ritcey, Chair
Commissioner Russell Walker, Vice Chair
Commissioner John Traves
Commissioner Darlene Fenton
Commissioner David Hendsbee
Commissioner Don Mason

REGRETS: Commissioner Mike Savage
Commissioner Barry Dalrymple

STAFF: Carl Yates, General Manager, HRWC
Cathie O'Toole, Director, Finance & Customer Service,
HRWC
James Spurr, Legal Counsel, HRWC
Jamie Hannam, Director, Engineering & IT Services, HRWC
Lorna Skinner, Administrative Assistant, HRWC

TABLE OF CONTENTS

CALL TO ORDER..... 3

1.a) RATIFICATION OF IN CAMERA MOTIONS..... 3

**1.b) APPROVAL OF THE ORDER OF BUSINESS AND APPROVAL OF
ADDITIONS AND DELETIONS 3**

2. APPROVAL OF MINUTES - March 31, 2016..... 3

3. BUSINESS ARISING FROM MINUTES..... 3
a) None 3

4. OPERATING RESULTS FOR THE TWELVE MONTHS ENDED MARCH 31, 2016 3

5. CAPITAL PROJECTS 4

**5.1 AEROTECH WASTEWATER TREATMENT FACILITY EXPANSION AND UPGRADE
PROJECT - CONSTRUCTION PHASE 4**

5.2 GIS HARDWARE/SOFTWARE PROGRAM 4

6. 2016/17 CORPORATE BALANCED SCORECARD - 2016/17 PROGRAM..... 4

7. CONFIRMATION OF 2016 ACTUARIAL VALUATION 4

8. DATE OF NEXT MEETING 5

CALL TO ORDER

The Chair called the regular meeting to order at 9:00 a.m. in the Board Room of the HRWC, 450 Cowie Hill Road. The Board moved In Camera at 9:00 and the regular meeting reconvened at 10:04 a.m.

1.a) RATIFICATION OF IN CAMERA MOTIONS

MOVED BY Commissioner Mason, seconded by Commissioner Hendsbee that the Halifax Regional Water Commission Board ratify the In Camera motions.

MOTION PUT AND PASSED.

1.b) APPROVAL OF THE ORDER OF BUSINESS AND APPROVAL OF ADDITIONS AND DELETIONS

MOVED BY Commissioner Mason, seconded by Commissioner Walker that the Halifax Regional Water Commission Board approve the order of business and approve additions and deletions.

MOTION PUT AND PASSED

2. APPROVAL OF MINUTES – March 31, 2016

MOVED BY Commissioner Walker, seconded by Commissioner Walker that the Halifax Regional Water Commission Board approve the minutes of March 31, 2016.

MOTION PUT AND PASSED.

3. BUSINESS ARISING FROM MINUTES

None.

4. OPERATING RESULTS FOR THE TWELVE MONTHS ENDED MARCH 31, 2016

Cathie O'Toole stated there is a current surplus of \$5M. It is anticipated that it will decrease somewhat as the final depreciation expense has not yet been booked. A projected surplus of \$4M is expected. A mild winter, cost containment and greater than anticipated consumption are the main drivers of the surplus.

5. CAPITAL PROJECTS

At this time, Jamie Hannam joined the meeting.

5.1 Aerotech Wastewater Treatment Facility Expansion and Upgrade Project – Construction Phase - \$16,085,366

A report dated April 19, 2016, was submitted.

Jamie Hannam gave a brief presentation on this project.

5.2 GIS Hardware/Software Program - \$400,000

A report dated April 13, 2016, was submitted.

MOVED BY Commissioner Mason, seconded by Commissioner Walker that the Halifax Regional Water Commission Board approve the above-noted capital project items 5.1 and 5.2.

MOTION PUT AND PASSED.

At this time, Jamie Hannam exited the meeting.

7. CONFIRMATION OF 2016 ACTUARIAL VALUATION

A report dated April 14, 2016, was submitted.

Cathie O'Toole informed the Board that the 2016 Actuarial Valuation has been presented to the Pension and Benefit Committee and approved by the Audit and Finance Committee. She added that the going concern deficit of the Pension Plan as at January 1, 2014, was \$27.1M. As of the current Actuarial Valuation, effective January 1, 2016, the going concern deficit has been reduced to \$7.6M. Modelling suggests that within six years, based on a 50/50 probability, the Pension Plan would be fully funded.

MOVED BY Commissioner Mason, seconded by Commissioner Fenton that the Halifax Regional Water Commission Board approve the submission of the 2016 Actuarial Valuation and resulting changes to pension contribution rates.

MOTION PUT AND PASSED.

6. CORPORATE BALANCED SCORECARD – 2016/17 PROGRAM

A report dated April 28, 2016, was submitted.

Carl Yates gave a presentation on the Corporate Balanced Scorecard 2016/17 Program.

MOVED BY Commissioner Mason, seconded by Commissioner Walker that the Halifax Regional Water Commission Board approve:

1. **Corporate Balanced Scorecard targets for the 2016/17 fiscal year as detailed in the attached presentation.**
2. **The Organizational Award Program tied to the outcomes of 12 Organizational Indicators as detailed in the attached presentation.**

MOTION PUT AND PASSED.

8. DATE OF NEXT MEETING

The next meeting is scheduled for June 30, 2016.

The meeting was adjourned at 11:00 a.m.

Original Signed by:

James G. Spurr
Secretary

Original Signed by:

Commissioner Ray Ritcey
Chair

The following Information Items were submitted:

- 1-I Operations and Financial Monthly Update
- 2-I Capital Budget Approvals to Date – 2015/2016
- 3-I Bank Balance
- 4-I International Financial Reporting Standards (IFRS)

**HALIFAX REGIONAL WATER COMMISSION
MINUTES
Special Meeting
May 26, 2016**

PRESENT: Commissioner Ray Ritcey, Chair
Commissioner Russell Walker, Vice Chair (via teleconference)
Commissioner Darlene Fenton (via teleconference)
Commissioner David Hendsbee (via teleconference)
Commissioner Barry Dalrymple (via teleconference)

REGRETS: Commissioner Mike Savage
Commissioner John Traves
Commissioner Don Mason

STAFF: Carl Yates, General Manager, HRWC
Cathie O'Toole, Director, Finance & Customer Service, HRWC
James Spurr, Legal Counsel, HRWC
Jamie Hannam, Director, Engineering & IT Services, HRWC
Lorna Skinner, Administrative Assistant, HRWC

TABLE OF CONTENTS

CALL TO ORDER..... 3

1. FEDERAL/PROVINCIAL INFRASTRUCTURE FUNDING - ADDITIONAL CANDIDATE PROJECT 3

CALL TO ORDER

The Chair called the regular meeting to order at 8:35 a.m. in the Board Room of the HRWC, 450 Cowie Hill Road.

1. FEDERAL/PROVINCIAL INFRASTRUCTURE FUNDING – ADDITIONAL CANDIDATE PROJECT

A report dated May 25, 2016, was submitted.

Jamie Hannam informed the Board that there has been an emergence of a new Federal/Provincial funding program, the Clean Water/Wastewater Fund (CWWF). There are new criteria that didn't previously exist for the Build Canada Fund. The two primary ones are: a) the project can only be done if federal/provincial funding is received (i.e., the monies are not currently budgeted) and, b) construction can be completed by 2017/18 (commissioned by March 2018). Within these narrow constraints, one additional project was identified as meeting the criteria, the J.D. Kline Water Supply Plant Filter Media Replacement Project.

MOVED BY Commissioner Walker, seconded by Commissioner Fenton that the Halifax Regional Water Commission Board approve the J.D. Kline Water Supply Plant Filter Media replacement project at an estimated cost of \$5,600,000 as an additional HRWC priority for potential federal/provincial infrastructure funding.

MOTION PUT AND PASSED.

The meeting was adjourned at 8:55 a.m.

Original Signed by:

James G. Spurr
Secretary

Original Signed by:

Commissioner Ray Ritcey
Chair

TO: Ray Ritcey, Chair and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: *Original Signed By:*

Cathie O'Toole, MBA, CPA, CGA, Director, Corporate Services

APPROVED: *Original Signed By:*

Carl Yates, M.A.Sc., P.Eng., General Manager

DATE: June 23, 2016

SUBJECT: **Audited Operating Results for the year ended March 31, 2016**

ORIGIN

Operational and Regulatory Requirement.

RECOMMENDATION

It is recommended that the Board approve the March 31, 2016, Halifax Regional Water Commission's Audited Financial Statements prepared using International Financial Reporting Standards.

BACKGROUND

Halifax Regional Water Commission (HRWC) is required to submit Board-approved audited financial statements to the Halifax Regional Municipality (HRM) and the Nova Scotia Utility and Review Board (NSUARB).

DISCUSSION

Attached are the financial statements for the year ended March 31, 2016, presented in two formats.

HRWC is a fully regulated government business enterprise, falling under the jurisdiction of the Nova Scotia Utility and Review Board (NSUARB). The NSUARB requires that HRWC file Financial Statements and rate applications with the Board based on the NSUARB Handbook for Accounting and Reporting for Water Utilities.

ITEM # 4.1

HRWC Board

June 30, 2016

The Accounting Standards Board (AcSB) set a mandatory transition date for rate regulated entities to conform to International Financial Reporting Standards (IFRS) as of January 1, 2015. Therefore, the first set of IFRS compliant financial statements for the Commission is as of March 31, 2016 with comparative financial statements at March 31, 2015.

The differing requirements of the standards results in two unique sets of financial statements. The internal financial statements, as regularly presented at Board meetings, aligns with the NSUARB Handbook. The external financial statements align with IFRS and were prepared in conjunction with the annual audit by Grant Thornton. Included in the notes and schedules of the audited statements is information on the conversion to IFRS as well as the financial results under the NSUARB standards. The external format also includes the report of the auditor, Grant Thornton. The internal NSUARB statements are reviewed as part of the audit but are considered supplementary information and not subject to the auditor's opinion due to the differing standards.

The underlying activities and operating results are similar under the two standards. The key differences are:

- 1) IFRS includes depreciation on contributed assets in the income statement, resulting in higher depreciation expense,
- 2) IFRS includes the amortization of contributed capital in the income statement, resulting in higher non-operating revenue,
- 3) IFRS requires componentization of assets records and shorter useful lives, resulting in higher depreciation expense,
- 4) IFRS does not permit the appropriation of long term debt principle payments in the income statement, resulting in lower non-operating expenses,
- 5) IFRS requires the reporting of the full actuarial liability of employee future benefits as Other Comprehensive Income. This may result in either positive or negative impacts on income, and
- 6) IFRS requires contributed capital be treated as a long-term liability, resulting in much higher long-term liabilities and much lower equity.

The on-site field work portion of the annual audit by Grant Thornton began May 2nd. The audit timing was coordinated with HRM's presentation of its statements. Significant additional effort was required to complete the changes necessary for the conversion to IFRS.

The following discussion of the operating results is based on the internal NSUARB form statements except where noted. The results reflect direct operating costs by department and allocations among water, wastewater and stormwater for common costs shared across all the services provided by HRWC.

Balance Sheet - Page 1

ITEM # 4.1

HRWC Board

June 30, 2016

The cash balance of \$46.5 million is up \$7.2 million from the prior year. The payment of the annual Dividend to HRM of \$4.5 million and capital project payments reduced the cash balance in March.

The Customer charges and contractual receivables of \$31.8 million has increased \$2.2 million (7.2%) which is attributable to higher customer rates. The total of \$9.6 million in amounts receivable from HRM is up \$5.8 million. The balance includes \$5.9 million in capital project related items and \$1.9 million for the Stormwater Right of Way charge, the latter of which was settled April 1. The liquidity on the balance sheet (ratio of current assets divided by current liabilities) is 1.91, up from the ratio of 1.60 last year.

Utility Plant in Service assets net of Accumulated Depreciation is \$1.0 billion, which is \$24.5 million higher than last year. A total of 284 Capital Work Orders were closed during the year, primarily in the final two months, representing \$84.4 million in Plant In Service Additions. This was offset by Retirements of Plant In Service of \$1.4 million and Depreciation of \$36.0 million. The Lakeside Pumping Station Diversion project was the largest capital project completed in the fiscal year, with a value of \$24.6 million. The Kearney Lake Road Trunk Sewer and Pump Stations and various Bedford West development subdivider projects and Capital Cost Contribution projects were also significant additions and reflect the growth in the Bedford West area.

Capital Asset Additions	
	Cumulative
	'000
Lakeside Pumping Station Diversion	\$24,580
KLR Trunk Sewer & Pump Stations	\$13,681
Bedford West Subdivider and CCCs	\$8,472
Cow Bay Road Deep Storm Sewer	\$5,960
All other projects	\$31,723
Total	\$84,415

Figures used in the various tables throughout the report may contain differences due to Excel rounding.

Capital Assets Under Construction	
	Cumulative
	'000
MacDonald Bridge Transmission Main	\$2,345
Aerotech Wastewater Treatment Facility	\$1,475
Belmont Pump Station & Forcemain	\$1,409
All other projects	\$13,299
Total	\$18,529

Capital Plant Under Construction of \$18.5 million is down \$22.9 million. Capital Plant Under Construction varies from year to year and is impacted by the timing of some of the larger capital projects. The tables to the right highlight the major projects undertaken during the fiscal year:

Trade liabilities of \$16.7 million have increased \$2.0 million when compared to the prior year. Liabilities to HRM decreased by \$2.4 million to \$4.6 million. The amount owing to HRM includes capital billings for various cost shared and integrated projects (\$0.7 million), the accrued balance of the valve box and manhole adjustment work (\$2.6 million), the new stormwater Right of Way billings (\$1.1 million), plus other miscellaneous operating and capital accruals.

The accumulated Regional Development Charge (RDC) balance is \$4.4 million. Since the charge was implemented in July 2014, \$10.4 million has been collected while \$6.0 million was used as a funding source for the Lakeside Pumping Station Diversion project. A total of \$1.3 million remains in the legacy reserves.

ITEM # 4.1

HRWC Board

June 30, 2016

The Accrued Post Retirement Benefits, Accrued Long Service Award, Deferred Pension Liability and Supplementary Employee Retirement Plan (SERP) have been updated for the annual adjustments required by the actuaries. The Deferred Pension Liability is \$54.3 million. This has increased substantially from what was reported in past years because the underlying accounting for reporting the pension liability is now based on IFRS and reflects the full actuarial liability of the plan. On the audited statements, the liability is an improvement of \$10.7 million from \$65.0 million in the previous year whereas on the internal statements the liability was \$10.8 million in the previous year. For rate setting purposes, the NSUARB considers Pension costs on a cash basis.

Long Term Debt is up \$7.6 million from last year, with new debt of \$28.3 million offset by repayments of \$19.9 million. The debt service ratio, which is the ratio of debt related costs (including principal and interest payments and amortization of debt discount) divided by operating revenue, is an indicator of the ability to make debt payments. The debt service ratio is 22.3%, up slightly from 21.3% last year as a result of debt servicing costs growing slightly greater than revenues. This is well below the maximum 35% ratio allowed under the blanket guarantee agreement with HRM.

Total Debt by Service		
	2015/16	2014/15
	'000	'000
Water	\$72,355	\$69,039
Wastewater	\$156,090	\$153,749
Stormwater	\$11,699	\$8,923
Combined	\$240,144	\$231,711

Debt Servicing Ratio by Service		
	YTD Debt Servicing Cost Ratio	
	2015/16	2014/15
Water	19.8%	19.4%
Wastewater	25.3%	24.1%
Stormwater	15.6%	12.0%
Combined	22.3%	21.3%

Consolidated Income Statement - Page 2

Consolidated operating revenue of \$131.7 million is \$1.3 million (1.1%) greater than revenue reported for the same year-to-date period last year. Consolidated operating expenses of \$96.2 million are \$1.9 million (2.0%) higher than the same period last year.

Summarized Consolidated Operating Results				
	Actual YTD	Actual YTD		
	2015/16	2014/15		
	'000	'000	\$ Change	% Change
Operating Revenue	\$131,716	\$130,320	\$1,396	1.1%
Operating Expenses	\$96,243	\$94,387	\$1,856	2.0%
Operating Profit (Loss)	\$35,473	\$35,933	(\$460)	-1.3%
Non Operating Revenue	\$3,370	\$3,129	\$242	7.7%
Non Operating Expenditure	\$33,961	\$32,166	\$1,795	5.6%
Net Surplus (Deficit)	\$4,883	\$6,896	(\$2,013)	-29.2%

ITEM # 4.1

HRWC Board

June 30, 2016

The Net Profit for the year is \$4.9 million, down somewhat from the profit of \$6.9 million in the prior year but above the \$0.9 million profit forecast provided with the December Operating Results. The improvement as compared to the forecast is attributable to operating costs being lower than anticipated.

Variances from Forecasted Results by Category			
	Actuals	Forecast	
	Mar 2016	Dec 2015	Change
	'000	'000	'000
Operating Revenue	\$131,716	\$131,031	\$685
Operating Expenses	(\$96,243)	(\$99,298)	\$3,055
Non-Operating Revenue	\$3,370	\$3,182	\$188
Non-Operating Expense	(\$33,961)	(\$34,000)	\$39
Net Surplus (Deficit)	\$4,883	\$915	\$3,968

Year to Date Operating Results by Service		
	2015/16	2014/15
	'000	'000
Water	\$1,130	\$244
Wastewater	\$1,632	\$3,709
Stormwater	\$2,120	\$2,942
Net Surplus (Deficit)	\$4,883	\$6,896

The cumulative Operating Surplus was \$2.9 million at the beginning of the fiscal year. As a result of the Operating Profit, the cumulative Operating Surplus/Deficit as at March 31, 2016 is a surplus of \$7.8 million.

Water Operations - Page 3

Water Operations show a profit of \$1.1 million, up from the profit of \$0.2 million in the prior year. Metered Sales revenue is up \$3.6 million (9.1%). Billed consumption was down 1.7% compared to the prior year. Factoring in the accrued balance, consumption is down 0.5%.

Metered Sales Revenue consists of consumption and base charge components. Water consumption revenue is up 11.8% over the prior year, which reflects the increase in water rates and decline in consumption. The water consumption rate increased 15.6% as of May 2015. Base charge revenue is up 1.1% as Base Charge rates increased between 1.0% and 8.3%.

Operating Expenses are greater than last year by \$1.3 million (3.6%), although most categories are below budget. Depreciation and Water Supply & Treatment show the greatest increases over the prior year. Administration & Pension is below budget as a result of the adjustment to the Pension Plan Expense. The Pension Plan benefitted from the restructuring of the plan in 2015 and the subsequent actuarial valuation.

Investment Income and Financial Expenses are higher than the previous year, reflecting higher levels of debt and cash balances.

Wastewater Operations - Page 4

Wastewater Operations show a \$1.6 million profit, compared to a \$3.7 million profit the previous year. Wastewater revenue has decreased \$1.1 million (1.6%) as compared to the prior year as Wastewater base rates remained the same, the consumption rate was slightly lower and consumption declined.

ITEM # 4.1

HRWC Board

June 30, 2016

Wastewater Metered Sales consists of a volumetric discharge component and a base charge component. For most customers, the discharge component is based on the metered water consumption, and the volumes and revenue reflect the decline in water consumption. The discharge rate in effect decreased 1.2% as of May 2015. Billed discharge volume has declined 2.0%. Base charge rates have not increased, however base charge revenue is up 2.6% from an increase in customers of 0.4% and the change in the accrued base charge revenue balance. Other revenue categories are on par with forecasts and the prior year.

Operating expenses saw a slight increase of \$0.4 million (0.7%) over the previous year. Depreciation increased by \$1.7 million, but this was offset by decreases in Wastewater Collection (down \$0.6 million) and Wastewater Treatment (down \$1.0 million).

Financial Revenue is on par with the prior year while Financial Expenses are up \$0.5 million. Debt servicing costs are higher as a result of additional debt, but lower interest rates on new debt are mitigating the financial impact.

Stormwater Operations - Page 5

Stormwater Operations show a profit of \$2.1 million, a decrease from the \$2.9 million profit for the same period last year. Stormwater Revenue is down \$0.3 million from the prior year. The change is attributable to a decline in Site Generated Charge revenue as exemptions continued to be received and processed.

Operating expenses are up slightly as compared to the prior year, though well below budget. Stormwater Collection is the largest expense component and is up \$0.2 million.

Financial Expenses are up 26.5% (\$0.4 million) and will continue to grow as further upgrades are put into service.

Regulated and Unregulated Operations - Page 7

Activities regulated by the NSUARB show a profit of \$3.9 million, down from the profit of \$6.4 million in the prior year. Revenues increased \$1.4 million following the rate increases that took effect this year. Operating Expenses increased \$1.9 million over the prior year while Financial Expenses increased the same amount.

Unregulated activities show a profit of \$1.0 million, ahead of the profit of \$0.5 million in the prior year. The improvement is a result of higher energy generation activities and slightly lower expenses.

Results by Activity		
	2015/16	2014/15
	'000	'000
Regulated Activities	\$3,859	\$6,400
Unregulated Activities	\$1,024	\$496
Net Surplus (Deficit)	\$4,883	\$6,896

ATTACHMENT

Audited Financial Statements for the twelve (12) months ended March 31, 2016 (IFRS format)

Unaudited Financial Statements for the twelve (12) months ended March 31, 2016 (NSUARB format)

Financial Information Graph of Revenue and Expenses for 2015/2016

Report prepared by: *Original Signed By:* _____

Warren Brake, Manager, Accounting, B.Comm, CPA, CGA

Financial Statements

Halifax Regional Water Commission

March 31, 2016

DRAFT

Contents

	Page
Independent auditor's report	1
Statements of earnings	2
Statements of comprehensive earnings	3
Statements of financial position	4
Statements of cash flows	5
Statements of equity	6
Notes to the financial statements	7-23
Schedules	
A Schedule of utility plant in service	
Water	24
Wastewater	25
Stormwater	26
B Schedule of long term debt	27-28
C Schedule of operations for water service	29
D Schedule of operations for wastewater service	30
E Schedule of operations for stormwater service	31
F Regulated and unregulated activities	
Schedule of regulated activities	32
Schedule of unregulated activities	33
G Nova Scotia Utility and Review Board information	34

DRAFT

Halifax Regional Water Commission

Statements of earnings

Year ended March 31, 2016 (in thousands)

	<u>2016</u>	<u>2015</u>
Operating revenues		
Water service	\$ 43,193	\$ 39,583
Wastewater service	66,601	67,770
Stormwater service	10,595	10,951
Fire protection	8,032	8,953
Private fire protection services	679	558
Other operating revenue	<u>2,617</u>	<u>2,505</u>
	<u>131,717</u>	<u>130,320</u>
Operating expenditures (note 14)		
Water supply and treatment	8,623	8,090
Water transmission and distribution	9,094	9,139
Wastewater collection	10,577	11,210
Stormwater collection	4,237	3,992
Wastewater treatment	19,285	20,296
Engineering and information services	7,018	6,770
Environmental services	2,370	2,656
Customer service	4,450	4,121
Administration and pension	9,681	9,649
Depreciation and amortization	<u>36,341</u>	<u>34,912</u>
	<u>111,676</u>	<u>110,835</u>
Earnings from operations before financial and other revenues and expenditures	<u>20,041</u>	<u>19,485</u>
Financial and other revenues		
Interest	883	836
Contributed capital	13,533	12,792
Other	<u>2,487</u>	<u>2,294</u>
	<u>16,903</u>	<u>15,922</u>
Financial and other expenditures		
Interest on long term debt	8,889	8,958
Amortization of debt discount	186	163
Grant in lieu of taxes	4,528	4,340
Other	<u>198</u>	<u>513</u>
	<u>13,801</u>	<u>13,974</u>
Earnings for the year before regulatory deferral account balance amortization	<u>23,143</u>	<u>21,433</u>
Regulatory deferral account balance amortization (note 5)	<u>(192)</u>	<u>(192)</u>
Earnings for the year	<u>\$ 22,951</u>	<u>21,241</u>

See accompanying notes to the financial statements.

Halifax Regional Water Commission

Statements of comprehensive earnings

Year ended March 31 (in thousands)

2016

2015

Earnings for the year	\$	22,951	\$	21,241
Other comprehensive income (loss)				
Items that will not be reclassified subsequently to earnings:				
Re-measurement on defined benefit plans		<u>10,389</u>		<u>(16,205)</u>
Total comprehensive earnings for the year	\$	<u>33,340</u>	\$	<u>5,036</u>

DRAFT

See accompanying notes to the financial statements.

Halifax Regional Water Commission

Statements of financial position

March 31 (in thousands)

	March 31 2016	March 31 2015	April 1 2014
Assets			
Current			
Cash and cash equivalents	\$ 46,478	\$ 39,271	\$ 38,290
Receivables			
Customer charges and contractual	15,641	14,181	9,927
Unbilled service revenues	16,171	15,479	13,510
Halifax Regional Municipality	9,558	3,743	818
Inventory	1,684	1,528	1,445
Prepays	862	915	694
	<u>90,394</u>	<u>75,117</u>	<u>64,684</u>
Intangible assets (note 11)	10,201	10,672	11,480
Capital work in progress	18,529	41,423	10,676
Utility plant in service (note 12)	1,044,733	997,419	993,727
Total assets	<u>1,163,857</u>	<u>1,124,631</u>	<u>1,080,567</u>
Regulatory deferral account balance (note 5)	<u>3,580</u>	<u>3,772</u>	<u>3,964</u>
Total assets and regulatory deferral account debit balances	<u>\$ 1,167,437</u>	<u>\$ 1,128,403</u>	<u>\$ 1,084,531</u>
Liabilities			
Current			
Payables and accruals			
Trade	\$ 16,686	\$ 15,612	\$ 21,143
Interest on long term debt	2,229	2,137	2,026
Halifax Regional Municipality	4,584	6,973	3,796
Contractor and customer deposits	193	198	190
Current portion of deferred contributed capital	12,526	21,603	19,637
Current portion of long term debt (note 13)	23,195	22,374	28,139
Unearned revenue	389	511	118
	<u>59,802</u>	<u>69,408</u>	<u>75,049</u>
Deferred contributed capital	709,716	691,477	684,837
Long term debt (note 13)	215,794	208,231	186,964
Employee benefit obligation – pension plan (note 4)	54,265	65,005	48,307
Employee benefit obligation – post-retirement benefits (note 4)	466	458	868
Employee benefit obligation – pre-retirement benefits (note 4)	3,724	3,494	3,212
	<u>1,043,767</u>	<u>1,038,073</u>	<u>999,237</u>
Equity			
Accumulated other comprehensive (loss) (page 5)	(43,936)	(54,325)	(38,120)
Accumulated surplus (page 5)	167,606	144,655	123,414
	<u>123,670</u>	<u>90,330</u>	<u>85,294</u>
	<u>\$ 1,167,437</u>	<u>\$ 1,128,403</u>	<u>\$ 1,084,531</u>

Contingent liabilities (note 3)

Commitments (note 6)

Approved by the Board

Commissioner

Commissioner

See accompanying notes to the financial statements.

Halifax Regional Water Commission

Statements of changes in equity

Year ended March 31 (in thousands)

	Accumulated other comprehensive <u>(loss)</u>	Accumulated <u>surplus</u>	<u>Total</u>
Balance at April 1, 2014	\$ (38,120)	\$ 123,414	\$ 85,294
Earnings for the year	-	21,241	21,241
Other comprehensive loss	<u>(16,205)</u>	<u>-</u>	<u>(16,205)</u>
Comprehensive (loss) for the year	<u>(16,205)</u>	<u>21,241</u>	<u>5,036</u>
Balance at March 31, 2015	<u>\$ (54,325)</u>	<u>\$ 144,655</u>	<u>\$ 90,330</u>
Balance at March 31, 2015	<u>\$ (54,325)</u>	<u>\$ 144,655</u>	<u>\$ 90,330</u>
Earnings for the year	-	22,951	22,951
Other comprehensive income	<u>10,389</u>	<u>-</u>	<u>10,389</u>
Comprehensive earnings for the year	<u>10,389</u>	<u>22,951</u>	<u>33,340</u>
Balance at March 31, 2016	<u>\$ (43,936)</u>	<u>\$ 167,606</u>	<u>\$ 123,670</u>

See accompanying notes to the financial statements.

Halifax Regional Water Commission

Statement of cash flows

Year ended March 31 (in thousands)

2016

2015

Increase (decrease) in cash and cash equivalents

	2016	2015
Operating		
Comprehensive earnings for the year	\$ 33,340	\$ 5,036
Depreciation and amortization	23,934	23,395
Employee benefit obligations	(10,504)	16,571
Gains on disposal of plant in service	158	445
	<u>46,928</u>	<u>45,447</u>
Change in non-cash operating working capital items (note 7)	<u>(9,420)</u>	<u>(11,294)</u>
	<u>37,508</u>	<u>34,153</u>
Financing		
Proceeds from issuance of long term debt	28,307	43,730
Contributed capital	5,013	7,095
Debt issue costs	(49)	(90)
Principal repayment on Harbour Solutions long term debt	(6,500)	(16,500)
Principal repayments of long term debt	(13,373)	(11,639)
	<u>13,398</u>	<u>22,596</u>
Investing		
Deferred capital contributions	4,148	3,187
Proceeds from sale of plant in service	90	482
Purchase of capital work in progress	(10,321)	(33,331)
Purchase of utility plant in service	(37,616)	(26,106)
	<u>(43,699)</u>	<u>(55,768)</u>
Net change in cash and cash equivalents	7,207	981
Cash and cash equivalents, beginning of year	<u>39,271</u>	<u>38,290</u>
Cash and cash equivalents, end of year	<u>\$ 46,478</u>	<u>\$ 39,271</u>

See accompanying notes to the financial statements.

Halifax Regional Water Commission

Notes to the financial statements

March 31, 2016 (in thousands)

1. Nature of operations

The Halifax Regional Water Commission (the Commission) is a public utility owned and controlled by the Halifax Regional Municipality (HRM). The Commission is responsible for the supply of municipal water, wastewater and stormwater services to the residents of the HRM. The Commission's principal place of business is P.O. Box 8388 Station A, 450 Cowie Hill Road, Halifax, Nova Scotia. The Commission is exempt from income tax.

2. Summary of significant accounting policies

(a) Statement of compliance

The financial statements have been prepared in accordance with International Financial Reporting Standards (IFRS) issued by the International Accounting Standards Board (IASB). The principal accounting policies applied in the preparation of these financial statements are set out below. These policies have been consistently applied to all years presented, unless otherwise stated. These are the Commission's first annual financial statements prepared in accordance with IFRS.

An explanation of how the transition from the Accounting and Reporting Handbook for Water Utilities (Handbook) to IFRS as at April 1, 2014 (the date of transition) has affected the reported statement of financial position, earnings and comprehensive income and cash flows of the Commission is provided in note 15.

The financial statements were authorized for issue by the Board on June 30, 2016.

(b) Basis of measurement

The Commission's financial statements are prepared on the historical cost basis, except for certain financial instruments measured at fair value. The financial statements are presented in Canadian dollars and all values are rounded to the nearest thousand. The financial statements are presented in accordance with International Accounting Standards (IAS) 1 "Presentation of Financial Statements".

(c) Regulation

In matters of administrative policy relating to customers, rates, capital expenditures, depreciation rates and accounting matters, the Commission is subject to the jurisdiction of the Nova Scotia Utility and Review Board (NSUARB). Rates charged to and collected from customers are designed to recover costs of providing the regulated services. Halifax Water is required to prepare submissions in accordance with the Handbook issued by the NSUARB. There are differences in the accounting treatment of certain transactions from IFRS including the accounting of principal debt payments, employee future benefits, depreciation and amortization, and gains and losses on the disposal of plant in service and accumulated surplus.

Regulatory assets represent costs incurred that have been deferred as approved by the NSUARB and will be recovered through future rates collected from customers. Halifax Water's regulatory asset is disclosed in note 5.

(d) Utility plant in service

Utility plant in service (note 12) is recorded at cost, being the purchase price and directly attributable cost of acquisition or construction, including interest capitalized during construction. Contributions for capital expenditures are treated as deferred contributed capital on the statement of financial position and amortized over the estimated useful lives of the assets. Structures and land taken out of service are removed from utility plant in service and placed in plant not in service at cost less accumulated depreciation. Losses or gains related to assets retired, demolished or sold are charged or credited to the statement of earnings.

Halifax Regional Water Commission

Notes to the financial statements

March 31, 2016 (in thousands)

2. Summary of significant accounting policies (continued)

(e) Cash and cash equivalents

Cash and cash equivalents consists of cash on hand and balances with banks.

(f) Depreciation

Depreciation is provided using the straight-line method over the estimated useful lives of the assets.

The estimated useful lives for the major classifications of utility plant in service are as follows:

Hydrants	50 to 80 years
Meters	20 to 25 years
Office equipment and furniture and transportation equipment	3 to 10 years
Pumping equipment	5 to 30 years
Purification and treatment equipment	20 to 50 years
SCADA equipment	5 to 25 years
Services and laterals	50 to 60 years
Structures and improvements	50 to 100 years
Tools and work equipment	5 to 30 years
Water, wastewater and stormwater mains	60 to 100 years

Depreciation commences in the year an asset is put in service and ready for its intended use. In the year of acquisition, depreciation is calculated at 50% of the above rates unless a project is significant, in which case depreciation is prorated for the number of months the asset was in use. The Commission does not maintain a depreciation fund. The Commission has received NSUARB approval for exemption from setting up a depreciation fund as long as net depreciable additions to plant exceed the depreciation charged.

(g) Inventory

Cost of inventory is comprised of direct materials and supplies. Inventories are valued at the lower of cost and net realizable value with cost being determined on a weighted average moving cost method.

(h) Revenues and expenditures

All revenues and expenditures are recorded on an accrual basis. Revenues relating to supplying water, wastewater and stormwater services are recorded based on cyclical billings and include an estimated amount for amounts not yet billed. Fire protection revenue is recorded based on approved rates. Other revenues are recorded at the time that services are performed, the amount can be measured reliably and collection is reasonably assured.

(i) Long term debt

Debt issue costs are deferred and amortized over the term of the debt to which it relates.

Halifax Regional Water Commission

Notes to the financial statements

March 31, 2016 (in thousands)

2. Summary of significant accounting policies (continued)

(j) Use of estimates and critical accounting judgments

In preparing the Commission's financial statements, management is required to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements and reported amounts of revenue and expenditures during the period. Significant estimates and assumptions are not limited to, but include the following:

- At year end, revenue from water, stormwater and wastewater services has been earned, but not yet billed due to the timing of the billing cycles. Management estimates the unbilled revenue accrual based on historic billing trends.
- Management assumptions are used in the actuarial determination of employee benefit obligations, such as standard rates of inflation, mortality, discount rates, and anticipation of future salary increases.
- Useful lives of utility plant in service are reviewed at each reporting date based on expected patterns of usage and historical information.
- Recognition and measurement of provisions and contingencies.

Actual results could differ from these estimates.

(k) Financial instruments

The Commission initially recognizes and measures its financial assets and liabilities at fair value.

All financial instruments are classified into one of five categories: fair value through profit and loss, held to maturity, loans and receivables, available for sale financial assets, or other financial liabilities. All financial instruments are initially measured in the statement of financial position at fair value. Financial instruments subsequently measured at amortized cost include transaction costs.

Subsequent measurement and changes in fair value will depend on their initial classification, as follows:

- Fair value through profit and loss financial instruments are measured at fair value and changes in fair value are recognized in net earnings;
- Available for sale financial assets are measured at fair value with changes in fair value recorded in other comprehensive income until the financial asset is derecognized or impaired at which time the amounts would be recorded in profit or loss; and
- Loans and receivables, held to maturity investments, and other financial liabilities are measured at amortized cost using the effective interest method.

The Commission's financial assets and liabilities are classified and measured as follows:

<u>Asset/Liability</u>	<u>Classification</u>	<u>Measurement</u>
Cash and cash equivalents	Loans and receivables	Amortized cost
Receivables	Loans and receivables	Amortized cost
Receivable from HRM	Loans and receivables	Amortized cost
Payables and accruals	Other financial liabilities	Amortized cost
Long term debt	Other financial liabilities	Amortized cost
Deposits	Other financial liabilities	Amortized cost

(l) Provisions

A provision is recognized in the statement of financial position when the Commission has a legal or constructive obligation as a result of a past event, and it is probable that an outflow of economic benefits will be required to settle the obligation. If the effect is material, provisions are determined by discounting the expected future cash flows at a rate that reflects current market assessment of the time value of money and, where appropriate, the risks specific to the obligation.

Halifax Regional Water Commission

Notes to the financial statements

March 31, 2016 (in thousands)

2. Summary of significant accounting policies (continued)

(m) Impairments

At the end of each reporting period, the Commission reviews the carrying amounts of its tangible and intangible assets to determine whether there is an indication of an impairment loss. If any such indication exists, the recoverable amount of the assets is estimated in order to determine the extent of impairment loss (if any). The recoverable amount of any asset is the higher of its fair value less costs to sell and its value in use. Where it is not possible to estimate the recoverable amount of an individual asset, the impairment test is carried out on the asset's cash-generating unit (CGU), which is the lowest group of assets to which the asset belongs for which there are separately identifiable cash inflows that are largely independent of the cash inflows from other assets. The Commission has three CGU's (water, wastewater and stormwater) for which impairment testing is performed.

If the recoverable amount of the asset is estimated to be less than its carrying amount, the carrying amount of the asset is reduced to its recoverable amount. An impairment loss is recognized immediately in earnings. When an impairment loss is subsequently reversed, the carrying amount of the assets is increased to the revised estimate of its recoverable amount, but so that the increased carrying amount does not exceed the carrying amount that would have been determined had no impairment loss been recognized for the asset in prior years.

(n) Intangibles

Intangible assets include consist of land access easements, water removal rights, studies, and capital master plans and are recorded at cost less accumulated amortization. Land rights include payment for easements and right of use over land and have an indefinite useful life. Intangibles with finite useful lives are amortized annually over the estimated useful lives. The expected useful lives are as follows:

Intangible assets	10 to 30 years
-------------------	----------------

(o) Employee benefits obligations

The Commission accrues in its accounts, annually, the estimated liabilities for pensions and other employee benefits.

Pension benefits

The Commission provides employment, post-retirement and pre-retirement benefits through defined benefit plans and defined contribution plans.

The cost of pension benefits for defined contribution pension plans are expensed at the time active employees are compensated.

The defined benefit plans sponsored by the Commission determine the amount of pension benefits employees will receive on retirement by reference to length of service and salary levels. Obligations associated with defined benefit plans reside with the Commission, even if plan assets for funding the plan are set aside.

The liability recognized in the statement of financial position for defined benefit plans is the present value of the defined benefit obligation at the end of the reporting date less the fair value of plan assets.

Management estimates the defined benefit obligation annually with assistance from an independent actuary using the projected unit credit method. The defined benefit obligation uses estimates for inflation, medical cost trends, mortality, and anticipated salary levels. The discount factor used to present value estimated future cash flows is determined with reference to high quality corporate bonds that have terms to maturity approximating the terms of the related pension liability.

Halifax Regional Water Commission

Notes to the financial statements

March 31, 2016 (in thousands)

2. Summary of significant accounting policies (continued)

Gains and losses resulting from re-measurements of the net defined benefit liability are charged to other comprehensive income in the period in which they arise. Service costs are recognized immediately into earnings.

Net interest cost related to pension obligations and returns on plan assets are included in salary and benefits on the statement of earnings.

Short-term employee benefits

Short-term employee benefit obligations that are due to be settled wholly within twelve months after the end of the annual reporting period in which the employees render the related service are measured on an undiscounted basis and are expensed as the related service is provided.

(p) Regulatory deferral account balance

The Commission has early adopted IFRS 14 Regulatory Deferral Accounts and has continued to apply the accounting policies it applied in accordance with the Handbook for the recognition, measurement and impairment of assets and liabilities arising from rate regulation. These are referred to as regulatory deferral account balances.

Explanation of recognized amounts

Regulatory deferral account balances are recognized and measured at cost less amortization. They are assessed for impairment on the same basis as other non-financial assets as described below.

Management continually assesses the likelihood of recovery of regulatory assets. If recovery through future rates is no longer considered probable, the amounts would be charged to the results of operations in the period that the assessment is made.

(q) Future accounting standards

At the date of authorization of these financial statements, certain new IFRS standards, amendments and interpretations to existing standards have been published by the IASB, but are not yet effective and have not been adopted early by the Commission.

Management anticipates that all of the relevant pronouncements will be adopted in the Commission's accounting policies for the first period beginning after the effective date of the pronouncement. Information on new standards, amendments and interpretations that are expected to be relevant to the Commission's financial statements is provided below.

IFRS 15 Revenue from Contracts with Customers

The IASB released a new standard IFRS 15 Revenue from Contracts with Customers which replaces IAS 18 Revenue, IAS 11 Construction Contracts and certain revenue-related interpretations. The new standard provides a single, principle based five-step model to be applied to all contracts with customers requiring an entity to recognize revenue 1) in a manner that depicts the transfer of goods or services to customers and 2) at an amount that reflects the consideration the entity expects to be entitled to in exchange for those goods or services.

IFRS 15 is effective for annual periods beginning on or after January 1, 2018. Management is assessing the impact of this new standard on the financial statements.

IFRS 9 Financial Instruments

The IASB has replaced IAS 39 Financial Instruments: Recognition and Measurement in its entirety with a new standard IFRS 9 Financial Instruments. The final version of the standard introduces a new approach to financial asset classification, replaces the "incurred loss" impairment model with a more forward-looking expected loss model and substantially revises hedge accounting.

Halifax Regional Water Commission

Notes to the financial statements

March 31, 2016 (in thousands)

(q) Future accounting standards (continued)

The new standard IFRS 9 is effective for annual periods beginning on or after January 1, 2018. Management is assessing the impact of this revised standard on the financial statements.

IFRS 16 Leases

The IASB issued IFRS 16, Leases, which replaces IAS 17, Leases. IFRS 16 provides a single lessee accounting model, requiring the recognition of assets and liabilities for all leases, unless the lease term is twelve months or less or the underlying asset has a low value. Lessor accounting remains largely unchanged from IAS 17.

The new standard IFRS 16 is effective for annual periods beginning on or after January 1, 2019. Management is assessing the impact of this revised standard on the financial statements.

3. Contingent liabilities

As a condition of a prior year sale of a property, the Commission indemnified the purchaser from claims or actions resulting from migration of halocarbons. The environmental risk is assessed to be low and the likelihood of any related liability is not determinable.

The Commission has been named along with the contractor for a flooding incident that occurred as a result of an overflow of wastewater at a pumping station associated with the Halifax Harbour Solutions Project (HHSP). The claim is being defended by the Commission's insurer and management believes exposure in this regard is minimal.

There are active claims against the Commission; however, the likelihood of actual liability is not determinable at this time. If the Commission's defense of active claims is unsuccessful, the potential exposure would be \$2,000 - \$2,500.

4. Employee benefit obligations

Retirement benefit plan – employees transferred from HRM

The Commission is responsible for funding the employer share of the contributions to the HRM pension plan for certain employees that transferred from HRM as of August 1, 2007. HRM administers this defined benefit pension plan and the Commission reimburses HRM for the pension costs related to the Commission's proportionate share of the employees covered under the plan. Due to the nature of the plan, the Commission does not have sufficient information to account for the plan as a defined benefit; therefore, the multiemployer defined benefit plan is accounted for in the same manner as a defined contribution plan. An expense is recorded in the period when the Commission is obligated to make contributions for services rendered by the employee. During 2016, the Commission funded \$627 (2015 - \$692) in contributions to the plan.

Defined benefit plans and other long term employment benefits

For all other employees, the Commission maintains a defined benefit pension plan and offers post-retirement health and insurance benefits to all of its employees. The pension plan provides pensions based upon length of service and best five years' earnings. This defined benefit pension plan is funded by employer and employee contributions, each contributing 12.95% of regular employee earnings effective January 1, 2014. As of January 1, 2016, the pension plan was amended with employees currently contributing 10.65%. The employer contributes 13.29% of payroll which include 9.85% toward current service cost and 3.44% toward going concern special payments.

Halifax Regional Water Commission

Notes to the financial statements

March 31, 2016 (in thousands)

4. Employee benefit obligations (continued)

Employees who retired prior to July 1, 1998 have extended health benefits coverage for life and drug coverage until age 65. Employees who retired after July 1, 1998 and before December 31, 2008 have coverage for drug, extended health, dental and life insurance until age 65 on a 50/50 cost shared basis (100% basis for employees who retired after December 31, 2008). Extended health coverage for these retirees and their spouses after the age of 65 is available on an optional basis at 100% retiree cost and drug coverage is available through the provincially managed drug program.

The Commission also has a non-funded pre-retirement benefit that is accrued annually, but is payable on retirement, termination or death if the employee has at least 10 years of continuous service. The benefit is equal to three days' pay for each completed year of service, up to a maximum of six month's salary and can be taken as a lump sum payment at the date of retirement in lieu of pre-retirement leave.

Information about the Commission's plans, based on an actuarial extrapolation as at March 31, 2016, is as follows:

	Pension Plan		Post-retirement benefits		Pre-retirement benefits	
	2016	2015	2016	2015	2016	2015
Change in accrued benefit obligation						
Balance, beginning of year	\$ 157,296	\$ 125,427	\$ 458	\$ 868	\$ 3,494	\$ 3,212
Current service cost	5,777	4,317	-	-	274	257
Interest cost	5,938	5,722	11	30	130	147
Past service cost	(2,787)	-	-	-	-	-
Contributions by plan participants	3,274	2,893	-	-	-	-
Benefit payments	(4,496)	(3,774)	(65)	(66)	(254)	(133)
Remeasurements – actuarial (gains)/ losses from changes in demographic assumptions	(1,101)	-	(21)	(224)	-	-
Remeasurements – actuarial (gains)/ losses from changes in financial/experience assumptions	(11,268)	22,711	83	(150)	80	11
Balance, end of year	<u>152,633</u>	<u>157,296</u>	<u>466</u>	<u>458</u>	<u>3,724</u>	<u>3,494</u>
Change in fair value of plan assets						
Balance, beginning of year	92,291	77,120	-	-	-	-
Interest income	3,644	3,589	-	-	-	-
Administrative expenses	(163)	(182)	-	-	-	-
Actual return on plan assets	(1,896)	6,314	-	-	-	-
Benefit payments	(4,496)	(3,774)	(65)	(66)	(254)	(133)
Contributions: Employee	3,273	2,894	-	-	-	-
Employer	5,715	6,330	65	66	254	133
Balance, end of year	<u>98,368</u>	<u>92,291</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Accrued benefit liability at March 31	<u>\$ 54,265</u>	<u>\$ 65,005</u>	<u>\$ 466</u>	<u>\$ 458</u>	<u>\$ 3,724</u>	<u>\$ 3,494</u>

Halifax Regional Water Commission

Notes to the financial statements

March 31, 2016 (in thousands)

4. Employee benefit obligations (continued)

Administration and pension expense includes pension expense of \$5,448 (2015 - \$6,631).

The significant actuarial assumptions adopted in measuring the Commission's accrued benefit obligations are as follows:

	2016	2015	2016	2015	2016	2015
	Pension Plan	Pension Plan	Post- Retirement Benefits	Post- Retirement Benefits	Pre- Retirement Benefit	Pre- Retirement Benefit
Discount rate	4.00%	3.70%	2.90%	2.60%	3.50%	3.70%
Expected return on plan assets	4.00%	3.70%	2.90%	2.60%	3.50%	3.50%
Rate of compensation increase	3.75%	3.75%	N/A	N/A	3.75%	3.75%
Expenses for life benefits as a % of claims	N/A	N/A	10.00%	10.00%	N/A	N/A
Health benefit inflation per year	N/A	N/A	7.43%	4.50-7.70%	N/A	N/A
Dental benefit inflation per year	N/A	N/A	4.50%	4.50%	N/A	N/A

The measurement date used to determine the Plan assets and the accrued benefit obligation was March 31, 2016. The most recent valuation was completed January 1, 2016. The next review is scheduled for January 1, 2019.

The estimated employer contributions expected to be paid into the defined benefit plan and supplemental plan for the next fiscal year are \$2,287.

5. Regulatory deferral account balance

In June 2011, the NSUARB granted the Commission approval to defer depreciation charges on certain assets transferred in 2010 from HRM relating to the Halifax Harbour Solutions Project (HHSP). Depreciation of \$2,078 was deferred in each of fiscal 2011 and 2012. As a result, the Commission recognized a \$4,156 regulatory deferral account. In absence of rate regulation, this regulatory deferral account balance would have been expensed as depreciation in fiscal 2011 and 2012. In May 2012, the NSUARB granted approval of the amortization of this deferral account over the remaining useful lives of the underlying assets, beginning in 2014. The expense recognized in 2016 is \$192 (2015 - \$192). IFRS 14 permits a first-time adopter of IFRS to continue to account, with some limited changes, for 'regulatory deferral account balances' in accordance with its previous GAAP, both on initial adoption of IFRS and in subsequent financial statements.

	2016	2015
Beginning balance	\$ 3,772	\$ 3,964
Amortization	(192)	(192)
Ending balance	\$ 3,580	\$ 3,772

Halifax Regional Water Commission

Notes to the financial statements

March 31, 2016 (in thousands)

6. Commitments

An agreement with HRM for renewal of the dividend/grant in lieu of taxes for fiscal years 2011 to 2015 for water services was approved by the NSUARB as part of the January 1, 2011 rate decision. There was no dividend/grant in lieu of taxes approved for wastewater/stormwater. The Commission is committed to a payment of \$4,578 for the 2017 fiscal year.

At March 31, 2016, the Commission had \$74,515 in expenditures from current and past approved capital budgets not yet expended.

7. Supplemental cash flow information

	<u>2016</u>	<u>2015</u>
Changes in non-cash operating working capital items		
Receivables, customer charges and contractual	\$ (2,152)	\$ (6,223)
Payable to/receivable from HRM, net	(8,204)	252
Inventory	(156)	(83)
Prepays	53	(221)
Payables and accruals, trade	1,074	(5,531)
Accrued interest on long term debt	92	111
Contractor and customer deposits	(5)	8
Unearned revenue	(122)	393
	<u>\$ (9,420)</u>	<u>\$ (11,294)</u>

Interest paid during the year was \$8,889 (2015 - \$8,958).

8. Capital management

The Commission's objective when managing capital is to ensure sufficient liquidity to support its financial obligations and execute its operating and capital plans. The Commission monitors and makes adjustments to its capital structure through additional borrowings of long term debt which are used to finance capital projects.

The Commission considers its total capitalization to include all long term debt and total equity. The calculation is set out as follows:

	<u>2016</u>	<u>2015</u>
Long term debt (current portion)	\$ 23,195	\$ 22,374
Long term debt	<u>215,794</u>	<u>208,231</u>
Funded debt	238,989	230,605
Equity	<u>123,670</u>	<u>90,330</u>
Capital under management	<u>\$ 362,659</u>	<u>\$ 320,935</u>

The Commission is a regulated utility and is subject to the regulations of the NSUARB. As part of this regulation, the Commission must obtain approval by the NSUARB for all borrowings. The Commission has obtained regulatory approval for all borrowings during the fiscal year. The Commission is not subject to financial borrowing covenants.

Halifax Regional Water Commission

Notes to the financial statements

March 31, 2016 (in thousands)

9. Financial instruments and risk management

The Commission applies a three-tier hierarchy framework for disclosing fair value of financial instruments, based on whether the inputs into the various valuation techniques are observable or unobservable. Observable techniques reflect market data obtained from independent sources, while unobservable inputs reflect management assumptions. Changes in valuation techniques of financial instruments may result in transfers of assigned levels. The hierarchy of input is as follows:

Level I	Quoted prices in active markets for identical assets or liabilities;
Level II	Inputs other than quoted prices included in Level I that are observable, either directly or indirectly; and
Level III	Inputs that are not based on observable market data.

The carrying values of current assets and current liabilities approximate their fair value due to the relatively short period to maturity of these financial instruments. Loans and receivables are carried at amortized cost. The fair value of variable rate long term debt is assumed to approximate its carrying value. Fair value has been estimated by discounting future cash flows at a rate offered for borrowings of similar maturities and credit quality at year end.

There were no transfers between classes of the fair value hierarchy during the year.

The Commission is exposed to risks as a result of holding financial instruments. Management considers and evaluates those risks on an on-going basis to ensure that the risks are appropriately managed. These potential risks include credit risk, interest risk, market risk and liquidity risk.

Credit risk

Credit risk arises from the possibility that the Commission's customers may experience financial difficulty and be unable to fulfill their obligations. The Commission's maximum exposure to credit risk corresponds to the cash and customer charges and contractual accounts receivable. However, the Commission's customers are numerous and diverse, which reduces the concentration of credit risk.

An analysis of the Commission's receivables and continuity of the Commission's provision for impairment losses on receivables is as follows:

	<u>2016</u>	<u>2015</u>
Receivables		
Customer charges, contractual and unbilled	\$ 33,754	\$ 31,432
Less: allowance for doubtful accounts	<u>(1,941)</u>	<u>(1,772)</u>
	<u>\$ 31,813</u>	<u>\$ 29,660</u>

The credit quality of financial assets that are neither past due nor impaired are assessed with reference to historical information and includes the following considerations; new customers, existing customers and payment patterns / history.

Interest risk

Interest risk arises from the possibility that changes in interest rates will cause the Commission a potential loss. All of the Commission's long term debt is at varying fixed rates and has staggered maturity dates which reduce the interest rate risk.

Halifax Regional Water Commission

Notes to the financial statements

March 31, 2016 (in thousands)

9. Financial instruments and risk management (continued)

Market risk

Market risk arises from the possibility that the value of an investment will fluctuate as a result of changes in market prices. These changes could affect the market value of the investments in the Commission's employees' pension plan and consequently the plan's deficit. The risk is mitigated by the pension plan diversifying the types of investments in its portfolio.

Liquidity risk

Liquidity risk arises from the possibility of the Commission not being able to meet its cash requirements in a timely and cost effective manner. The Commission manages this risk by closely monitoring the cash on hand in comparison to upcoming cash commitments.

10. Related party transactions

The immediate parent and ultimate controlling party of the Commission is the HRM.

The Commission is obligated to make payments on debt, held in the name of HRM, associated with wastewater and stormwater assets which were transferred to the Commission in 2007 and subsequent years.

Amounts receivable from and payable to HRM have normal credit terms.

A Service Level Agreement outlining the terms for exchange of services between the Commission and HRM was executed during the year. The Commission had the following related party transactions with HRM:

- The Commission recorded revenue for provision of water, wastewater and stormwater services to HRM in the amount of \$4,705 (2015 - \$4,726).
- The Commission recorded fire protection revenue from HRM of \$8,032 (2015 - \$8,953).
- The Commission paid a grant in lieu of tax of \$4,528 (2015 - \$4,340).
- The debt issued by the Commission was covered by a blanket guarantee from HRM subject to the Commission maintaining a debt service ratio of less than 35%.
- A Memorandum of Agreement was executed between the Commission and HRM, and subsequently approved by the NSUARB approving the exchange of certain responsibilities regarding intrusion of tree roots in sewer laterals, and adjustments of appurtenances such as manholes and valve boxes.

Compensation of key management personnel

Members of the Board of Commissioners and Executive Management team are deemed to be key management personnel. It is the Board of Commissioners and Executive Management team who have the responsibility for planning, directing and controlling the activities of the Commission.

The following is compensation expense for key management personnel:

	<u>2016</u>	<u>2015</u>
Short term benefits	\$ 1,481	\$ 1,379
Post-employment benefits	<u>233</u>	<u>266</u>
Total compensation	<u>\$ 1,714</u>	<u>\$ 1,645</u>

Halifax Regional Water Commission

Notes to the financial statements

March 31, 2016 (in thousands)

11. Intangible assets	<u>2016</u>	<u>2015</u>
Cost		
Beginning balance, April 1	\$ 11,669	\$ 11,480
Additions	<u>563</u>	<u>189</u>
Total cost, March 31	<u>12,232</u>	<u>11,669</u>
Accumulated depreciation		
Beginning balance, April 1	997	-
Depreciation	<u>1,034</u>	<u>997</u>
Total accumulated depreciation, March 31	<u>2,031</u>	<u>997</u>
Net book value	<u>\$ 10,201</u>	<u>\$ 10,672</u>

12. Utility plant in service

	<u>Land</u>	<u>Structures and improvements</u>	<u>Treatment and network equipment</u>	<u>Distribution and collection network</u>	<u>Tolls and work equipment</u>	<u>Total</u>
Cost						
Beginning balance, April 1, 2015	\$ 18,983	\$ 199,526	\$ 204,678	\$ 597,781	\$ 7,838	\$ 1,028,804
Additions	1,605	7,418	10,041	59,495	5,275	83,834
Disposals	<u>(70)</u>	<u>-</u>	<u>(535)</u>	<u>-</u>	<u>(822)</u>	<u>(1,427)</u>
Total cost, March 31, 2016	<u>20,518</u>	<u>206,944</u>	<u>214,182</u>	<u>657,276</u>	<u>12,291</u>	<u>1,111,211</u>
Accumulated depreciation						
Beginning balance, April 1, 2015	-	10,690	11,254	9,877	(436)	31,388
Depreciation	<u>-</u>	<u>10,871</u>	<u>11,460</u>	<u>10,650</u>	<u>2,112</u>	<u>35,093</u>
Total accumulated depreciation March 31, 2016	<u>-</u>	<u>21,561</u>	<u>22,714</u>	<u>20,527</u>	<u>1,676</u>	<u>66,481</u>
Net book value, March 31, 2016	<u>\$ 20,518</u>	<u>\$ 185,383</u>	<u>\$ 191,468</u>	<u>\$ 636,749</u>	<u>\$ 10,615</u>	<u>\$ 1,044,733</u>

	<u>Land</u>	<u>Structures and improvements</u>	<u>Treatment and network equipment</u>	<u>Distribution and collection network</u>	<u>Tools and work equipment</u>	<u>Total</u>
Cost						
Beginning balance, April 1, 2014	\$ 19,126	\$ 197,173	\$ 201,767	\$ 567,078	\$ 8,583	\$ 993,727
Additions	54	2,394	10,792	31,391	2,424	47,055
Disposals	<u>(197)</u>	<u>(41)</u>	<u>(7,883)</u>	<u>(688)</u>	<u>(3,169)</u>	<u>(11,978)</u>
Total cost, March 31, 2015	<u>18,983</u>	<u>199,526</u>	<u>204,676</u>	<u>597,781</u>	<u>7,838</u>	<u>1,028,804</u>
Accumulated depreciation						
Beginning balance, April 1, 2014	-	-	-	-	-	-
Depreciation	<u>-</u>	<u>10,690</u>	<u>11,254</u>	<u>9,877</u>	<u>(436)</u>	<u>31,385</u>
Total accumulated depreciation March 31, 2015	<u>-</u>	<u>10,690</u>	<u>11,254</u>	<u>9,877</u>	<u>(436)</u>	<u>31,385</u>
Net book value, March 31, 2015	<u>\$ 18,983</u>	<u>\$ 188,836</u>	<u>\$ 193,422</u>	<u>\$ 587,904</u>	<u>\$ 8,274</u>	<u>\$ 997,419</u>

Halifax Regional Water Commission

Notes to the financial statements

March 31, 2016 (in thousands)

13. Long-term debt	<u>Interest rates</u>	<u>2016</u>	<u>2015</u>
Payable to Municipal Finance Corporation (MFC)			
Water	1.200% to 8.000%	\$ 72,356	\$ 69,039
Halifax Harbour Solutions	0.900% to 4.329%	9,100	9,750
Wastewater/stormwater	1.200% to 4.500%	88,228	78,333
Stormwater	1.200% to 4.114%	11,699	8,923
		<u>181,383</u>	<u>166,045</u>
Payable to Halifax Regional Municipality			
MFC Wastewater/stormwater	1.200% to 4.940%	58,762	65,666
		<u>240,145</u>	<u>231,711</u>
Less: debt issue costs		<u>(1,156)</u>	<u>(1,106)</u>
		<u>238,989</u>	<u>230,605</u>
Less: amount payable within one year		<u>(23,195)</u>	<u>(22,374)</u>
		<u>\$ 215,794</u>	<u>\$ 208,231</u>

The debentures are repayable in fixed annual or semi-annual principal instalments plus interest payable semi-annually. Principal instalments for the next five years are as follows:

2017	\$ 23,195
2018	\$ 21,036
2019	\$ 21,576
2020	\$ 16,206
2021	\$ 15,980

14. Operating expenditures by nature	<u>2016</u>	<u>2015</u>
Salaries and benefits	\$ 34,854	\$ 38,590
Training	409	450
Contract services	16,556	14,011
Electricity	6,964	6,749
Professional services	3,878	3,809
Operating supplies	12,674	12,314
Depreciation and amortization	36,341	34,912
	<u>\$ 111,676</u>	<u>\$ 110,835</u>

Halifax Regional Water Commission

Notes to the financial statements

March 31, 2016 (in thousands)

15. Explanation of transition to IFRS

This is the first year that the Commission has presented its financial statements under IFRS. The accounting policies set out in note 2 have been applied in preparing the financial statements for the year ended March 31, 2016, the comparative information presented in these financial statements for the year ended March 31, 2015, and in the preparation of an opening IFRS statement of financial position as at April 1, 2014, (the Commission's date of transition to IFRS). An explanation of how the transition from the Handbook to IFRS has affected the financial position, equity, financial performance and cash flows is set out in the following tables and the accompanying notes.

The IFRS 1 applicable exemptions and exceptions applied in the conversion from the Handbook to IFRS are as follows:

Deemed cost for utility plant in service and intangible assets

The Commission has elected the deemed cost exemption applicable to entities subject to rate regulation as described under IFRS 1. The election permits the Commission, at the date of transition to IFRS, to use the previous Handbook carrying amount of items of utility plant in service and intangible assets as deemed cost (thereby eliminating any accumulated depreciation balances existing at the date of transition); hence there will be no impact on equity for opening balances of utility plant in service and intangible assets at the date of transition. In accordance with the election, the Commission has tested these items of utility plant in service and intangible assets at the date of transition to IFRS for impairment and no such losses were identified.

Effect on the statement of financial position

Note	March 31, 2015 (Date of last Handbook statements)			April 1, 2014 (Date of transition)		
	Handbook	Effect of transition to IFRS	IFRS	Handbook	Effect of transition to IFRS	IFRS
Assets						
Current						
Cash and cash equivalents	\$ 39,271	\$ -	\$ 39,271	\$ 38,290	\$ -	\$ 38,290
Receivables						
Customer charges and contractual	29,660	-	29,660	23,437	-	23,437
Halifax Regional Municipality	3,743	-	3,743	818	-	818
Inventory	1,528	-	1,528	1,445	-	1,445
Prepays	915	-	915	694	-	694
	75,117	-	75,117	64,684	-	64,684
Regulatory asset	3,772	-	3,772	3,964	-	3,964
Capital work in progress	41,423	-	41,423	10,676	-	10,676
Intangible assets	-	10,672	10,672	-	11,480	11,480
Utility plan in service	1,013,765	(16,346)	997,419	1,005,207	(11,480)	993,727
	<u>\$ 1,134,077</u>	<u>\$ (5,674)</u>	<u>\$ 1,128,403</u>	<u>\$ 1,084,531</u>	<u>\$ -</u>	<u>\$ 1,084,531</u>

Halifax Regional Water Commission

Notes to the financial statements

March 31, 2016 (in thousands)

15. Explanation of transition to IFRS (continued)

Effect on the statement of financial position (continued)

	Note	March 31, 2015 (Date of last Handbook statements)			April 1, 2014 (Date of transition)		
		Handbook	Effect of transition to IFRS	IFRS	Handbook	Effect of transition to IFRS	IFRS
Liabilities							
Current							
Payables and accruals							
Trade	a	\$ 14,645	\$ 967	\$ 15,612	\$ 20,202	\$ 941	\$ 21,143
Interest on long term debt		2,137	-	2,137	2,026	-	2,026
Halifax Regional Municipality		6,973	-	6,973	3,796	-	3,796
Contractor and customer deposits		198	-	198	190	-	190
Current portion of deferred contributed capital	d	-	21,603	21,603	-	19,637	19,637
Current portion of long term debt		22,374	-	22,374	28,139	-	28,139
Unearned revenue		511	-	511	118	-	118
		<u>46,838</u>	<u>22,570</u>	<u>69,408</u>	<u>54,471</u>	<u>20,578</u>	<u>75,049</u>
Deferred contributed capital	d	-	691,477	691,477	-	684,837	684,837
Long term debt		208,231	-	208,231	186,964	-	186,964
Employee benefit obligation - pension liability	a	10,796	54,209	65,005	10,234	38,073	48,307
Employee benefit obligation - post-retirement benefits	a	604	(146)	458	617	251	868
Employee benefit obligation - pre-retirement benefit	a	3,425	69	3,494	3,159	53	3,212
		<u>269,894</u>	<u>768,179</u>	<u>1,038,073</u>	<u>255,445</u>	<u>743,792</u>	<u>999,237</u>
Equity							
Accumulated other comprehensive (loss)	a	-	(54,325)	(54,325)	-	(38,120)	(38,120)
Accumulated surplus	b, c, d	864,183	(719,528)	144,655	829,086	(705,672)	123,414
		<u>864,183</u>	<u>(773,853)</u>	<u>90,330</u>	<u>829,086</u>	<u>(743,792)</u>	<u>85,294</u>
		<u>\$ 1,134,077</u>	<u>\$ (5,674)</u>	<u>\$ 1,128,403</u>	<u>\$ 1,084,531</u>	<u>\$ -</u>	<u>\$ 1,084,531</u>

Halifax Regional Water Commission

Notes to the financial statements

March 31, 2016 (in thousands)

15. Explanation of transition to IFRS (continued)

Effect on the statement of earnings and comprehensive earnings

		March 31, 2015 (Date of last Handbook statements)		
	Note	Handbook	Effect of transition to IFRS	IFRS
Operating revenues				
Water service		\$ 39,583	\$ -	\$ 39,583
Wastewater service		67,770	-	67,770
Stormwater service		10,951	-	10,951
Fire protection		8,953	-	8,953
Private fire protection services		558	-	558
Other operating revenue		<u>2,505</u>	-	<u>2,505</u>
		<u>130,320</u>	-	<u>130,320</u>
Expenses				
Water supply and treatment		8,090	-	8,090
Water transmission and distribution		9,139	-	9,139
Wastewater collection		11,210	-	11,210
Stormwater collection		3,992	-	3,992
Wastewater treatment		20,296	-	20,296
Engineering and information services		6,770	-	6,770
Environmental services		2,656	-	2,656
Customer service		4,121	-	4,121
Administration and pension	a	10,072	(423)	9,649
Depreciation and amortization	c, d	<u>18,042</u>	<u>17,062</u>	<u>35,104</u>
		<u>94,388</u>	<u>16,639</u>	<u>111,027</u>
Earnings from operations before financial and other revenues and expenditures		<u>35,932</u>	<u>(16,639)</u>	<u>19,293</u>
Financial and other revenues				
Interest		836	-	836
Contributed capital	d	-	12,792	12,792
Other		<u>2,294</u>	-	<u>2,294</u>
		<u>3,130</u>	<u>12,792</u>	<u>15,922</u>
Expenses				
Interest on long term debt		8,958	-	8,958
Repayment of long term debt	b	18,638	(18,638)	-
Amortization of debt discount		163	-	163
Grant in lieu of taxes		4,340	-	4,340
Other	c, d	<u>68</u>	<u>445</u>	<u>513</u>
		<u>32,167</u>	<u>(18,193)</u>	<u>13,974</u>
Earnings for the year		<u>6,895</u>	<u>14,346</u>	<u>21,241</u>
Comprehensive earnings				
Remeasurement on defined benefit plans	a	-	(16,205)	(16,205)
Total comprehensive earnings		<u>\$ 6,895</u>	<u>\$ (1,859)</u>	<u>\$ 5,036</u>

Halifax Regional Water Commission

Notes to the financial statements

March 31, 2016 (in thousands)

15. Explanation of transition to IFRS (continued)

Notes to the reconciliations

a. *Employee benefit obligation*

Under IFRS, the Commission recognizes actuarial gains and losses for defined benefit plans in other comprehensive income in the period in which they arise. Under the Handbook, actuarial gains and losses for post-employment defined benefit plans were deferred and subject to amortization under the 'corridor method', and actuarial gains and losses for other-long term employee benefits were deferred and amortized over a period that was linked to the type of benefit. The effect of the change was an increase of \$38,377 to employee benefit obligations. For the year ended March 31, 2015, the Commission recorded additional expenses of (\$423) and (\$16,205) to other administration and pension and comprehensive income, respectively, related to its employee benefit obligations. In addition, short term employee benefits were recorded which were not previously recorded under the Handbook.

b. *Debt servicing*

Under IFRS, the principle portion of debt servicing is not recognized in net earnings. Under the Handbook, the debt servicing was recognized as an expense in the statement of net earnings.

c. *Utility plant in service and intangibles*

Utility plant in service has been componentized in additional detail with the adoption of IFRS, specifically buildings and treatment plants. Some depreciation rates are higher with the componentization, reflecting shorter useful lives and increased depreciation which has increased the depreciation expense and accumulated depreciation. Additionally, depreciation will commence for pre-1985 assets that were not previously depreciated under the Handbook. As a result, accumulated depreciation has increased on adoption of IFRS. In addition, intangibles have been reclassified from utility plant in service.

d. *Deferred contributed capital*

Under IFRS, contributions of utility plant in service are recorded as deferred contributed capital and are recognized as revenue on a straight-line basis over the useful life of the contributed asset in the statement of earnings. As a result, an adjustment was made to reallocate contributed capital in equity to deferred contributed capital on the statement of financial position.

Halifax Regional Water Commission

Schedule of utility plant in service

Schedule A

Year ended March 31, 2016 (in thousands)

Water

	Land	Structures and improvements	Pumping equipment	Purification equipment	SCADA equipment	Transmission and distribution mains	Services	Meters	Hydrants	Aerotech and small systems	Tools and work equipment	Total
Cost												
Beginning balance, April 1, 2015												
Cost	\$ 14,524	\$ 63,207	\$ 3,438	\$ 9,641	\$ 1,278	\$ 265,628	\$ 28,284	\$ 9,446	\$ 15,262	\$ 7,775	\$ 4,107	\$ 422,590
Additions	701	1,446	-	553	170	9,918	1,081	626	587	68	2,301	17,451
Disposals	(70)	-	-	-	-	-	-	(506)	-	-	(121)	(697)
Total cost, March 31, 2016	<u>15,155</u>	<u>64,653</u>	<u>3,438</u>	<u>10,194</u>	<u>1,448</u>	<u>275,546</u>	<u>29,365</u>	<u>9,566</u>	<u>15,849</u>	<u>7,843</u>	<u>6,287</u>	<u>439,344</u>
Accumulated depreciation												
Beginning balance, April 1, 2015	-	3,507	255	898	86	3,888	871	344	279	385	673	11,186
Depreciation	-	3,413	250	919	114	4,167	897	260	288	385	1,233	11,926
Total accumulated depreciation, March 31, 2016	-	6,920	505	1,817	200	8,055	1,768	604	567	770	1,906	23,112
Net book value, March 31, 2016	<u>\$ 15,155</u>	<u>\$ 57,733</u>	<u>\$ 2,933</u>	<u>\$ 8,377</u>	<u>\$ 1,248</u>	<u>\$ 267,491</u>	<u>\$ 27,597</u>	<u>\$ 8,962</u>	<u>\$ 15,282</u>	<u>\$ 7,073</u>	<u>\$ 4,381</u>	<u>\$ 416,232</u>
Cost												
Beginning balance, April 1, 2014												
Cost	\$ 14,667	\$ 62,160	\$ 3,438	\$ 9,376	\$ 812	\$ 249,654	\$ 27,133	\$ 8,813	\$ 14,775	\$ 7,556	\$ 3,828	\$ 402,212
Additions	54	1,060	-	265	466	16,662	1,151	1,021	487	219	956	22,341
Disposals	(197)	(13)	-	-	-	(688)	-	(388)	-	-	(677)	(1,963)
Total cost, March 31, 2015	<u>14,524</u>	<u>63,207</u>	<u>3,438</u>	<u>9,641</u>	<u>1,278</u>	<u>265,628</u>	<u>28,284</u>	<u>9,446</u>	<u>15,262</u>	<u>7,775</u>	<u>4,107</u>	<u>422,590</u>
Accumulated depreciation												
Beginning balance, April 1, 2014	-	-	-	-	-	-	-	-	-	-	-	-
Depreciation	-	3,507	255	898	86	3,888	871	344	279	385	673	11,186
Total accumulated depreciation, March 31, 2015	-	3,507	255	898	86	3,888	871	344	279	385	673	11,186
Net book value, March 31, 2015	<u>\$ 14,524</u>	<u>\$ 59,700</u>	<u>\$ 3,183</u>	<u>\$ 8,743</u>	<u>\$ 1,192</u>	<u>\$ 261,740</u>	<u>\$ 27,413</u>	<u>\$ 9,102</u>	<u>\$ 14,983</u>	<u>\$ 7,390</u>	<u>\$ 3,434</u>	<u>\$ 411,404</u>

Utility plant in service under IFRS differs from the Handbook due to exclusion of intangible assets, componentization of certain assets and useful lives for depreciation.

Halifax Regional Water Commission

Schedule of utility plant in service

Schedule A

Year ended March 31, 2016 (in thousands)

Wastewater

	Land	Structures and improvements	Pumping equipment	Treatment equipment	SCADA equipment	Collection system	Laterals	Tools and work equipment	Aerotech and small systems	Total
Cost										
Beginning balance, April 1, 2015										
Cost	\$ 4,459	\$ 127,703	\$ 9,945	\$ 130,711	\$ 7,214	\$ 203,592	\$ 13,064	\$ 2,406	\$ 9,968	\$ 509,062
Additions	870	5,782	6,599	799	441	33,495	2,500	2,343	198	53,027
Disposals	-	-	(29)	-	-	-	-	(701)	-	(730)
Total cost, March 31, 2016	<u>5,329</u>	<u>133,485</u>	<u>16,515</u>	<u>131,510</u>	<u>7,655</u>	<u>237,087</u>	<u>15,564</u>	<u>4,048</u>	<u>10,166</u>	<u>561,359</u>
Accumulated depreciation										
Beginning balance, April 1, 2015	-	7,048	5,173	2,962	384	3,365	246	(1,281)	490	18,388
Depreciation	-	7,285	434	7,913	403	3,630	298	624	494	21,081
Total accumulated depreciation, March 31, 2016	-	14,334	5,607	10,875	787	6,995	544	(657)	984	39,469
Net book value, March 31, 2016	<u>\$ 5,329</u>	<u>\$ 119,151</u>	<u>\$ 10,908</u>	<u>\$ 120,635</u>	<u>\$ 6,868</u>	<u>\$ 230,092</u>	<u>\$ 15,020</u>	<u>\$ 4,705</u>	<u>\$ 9,182</u>	<u>\$ 521,890</u>
Cost										
Beginning balance, April 1, 2014										
Cost	\$ 4,459	\$ 127,129	\$ 2,643	\$ 138,154	\$ 6,498	\$ 199,298	\$ 10,359	\$ 3,840	\$ 9,704	\$ 502,084
Additions	-	574	7,302	52	716	4,294	2,705	1,058	264	16,965
Disposals	-	-	-	(7,495)	-	-	-	(2,492)	-	(9,987)
Total cost, March 31, 2015	<u>4,459</u>	<u>127,703</u>	<u>9,945</u>	<u>130,711</u>	<u>7,214</u>	<u>203,592</u>	<u>13,064</u>	<u>2,406</u>	<u>9,968</u>	<u>509,062</u>
Accumulated depreciation										
Beginning balance, April 1, 2014	-	-	-	-	-	-	-	-	-	-
Depreciation	-	7,048	5,173	2,962	384	3,365	246	(1,281)	490	18,387
Total accumulated depreciation, March 31, 2015	-	7,048	5,173	2,962	384	3,365	246	(1,281)	490	18,387
Net book value, March 31, 2015	<u>\$ 4,459</u>	<u>\$ 120,655</u>	<u>\$ 4,772</u>	<u>\$ 127,749</u>	<u>\$ 6,830</u>	<u>\$ 200,227</u>	<u>\$ 12,818</u>	<u>\$ 3,687</u>	<u>\$ 9,478</u>	<u>\$ 490,675</u>

Utility plant in service under IFRS differs from the Handbook due to exclusion of intangible assets, componentization of certain assets and useful lives for depreciation.

Halifax Regional Water Commission

Schedule of utility plant in service

Schedule A

Year ended March 31, 2016 (in thousands)

Stormwater

	Structures and improvements	Collection system	Laterals	Tools and work equipment	Total
Cost					
Beginning balance, April 1, 2015					
Cost	\$ 8,617	\$ 84,754	\$ 2,459	\$ 1,325	\$ 97,155
Additions	188	11,168	1,367	634	13,357
Disposals	-	-	-	-	-
Total cost, March 31, 2016	<u>8,805</u>	<u>95,922</u>	<u>3,826</u>	<u>1,959</u>	<u>110,512</u>
Accumulated depreciation					
Beginning balance, April 1, 2015	136	1,459	48	172	1,815
Depreciation	173	1,593	65	255	2,086
Total accumulated depreciation, March 31, 2016	<u>309</u>	<u>3,052</u>	<u>113</u>	<u>427</u>	<u>3,901</u>
Net book value, March 31, 2016	<u>\$ 8,496</u>	<u>\$ 92,870</u>	<u>\$ 3,713</u>	<u>\$ 1,532</u>	<u>\$ 106,611</u>
Cost					
Beginning balance, April 1, 2014					
Cost	\$ 7,885	\$ 78,468	\$ 2,166	\$ 915	\$ 89,434
Additions	760	6,286	293	410	7,749
Disposals	(28)	-	-	-	(28)
Total cost, March 31, 2015	<u>8,617</u>	<u>84,754</u>	<u>2,459</u>	<u>1,325</u>	<u>97,155</u>
Accumulated depreciation					
Beginning balance, April 1, 2014	-	-	-	-	-
Depreciation	136	1,459	48	172	1,815
Total accumulated depreciation, March 31, 2015	<u>136</u>	<u>1,459</u>	<u>48</u>	<u>172</u>	<u>1,815</u>
Net book value, March 31, 2015	<u>\$ 8,481</u>	<u>\$ 83,295</u>	<u>\$ 2,411</u>	<u>\$ 1,153</u>	<u>\$ 95,340</u>

During the year, \$491 of interest was capitalized to Utility Plant in Service (2015 - \$373).

	Water	Wastewater	Stormwater	Total
Net book value, March 31, 2016	\$ 416,232	\$ 521,890	\$ 106,611	\$ 1,044,733
Net book value, March 31, 2015	\$ 411,404	\$ 490,675	\$ 95,340	\$ 997,419

Utility plant in service under IFRS differs from the Handbook due to exclusion of intangible assets, componentization of certain assets and useful lives for depreciation.

Halifax Regional Water Commission

Schedule of long term debt

Schedule B

Year ended March 31, 2016 (in thousands)

	<u>Interest rate</u>	<u>Final Maturity</u>	<u>Balance Remaining</u>	
			<u>2016</u>	<u>2015</u>
Payable to Municipal Finance Corporation				
Water				
Debenture 23 A 1	4.250% to 6.125%	2018	\$ 800	\$ 900
Debenture 25 A 1	2.970% to 4.560%	2016	2,500	2,750
Debenture 96 A 1	5.500% to 8.000%	2016	2,200	160
Debenture 26 A 1	4.350% to 4.880%	2016	80	2,400
Debenture 27 A 1	4.650% to 5.010%	2017	2,165	3,175
Debenture 28 A 1	3.750% to 5.088%	2018	10,383	1,400
Debenture 98 A 1	5.625% to 6.125%	2019	900	13,448
Debenture 99 A 1	6.500% to 6.750%	2019	1,300	1,125
Debenture 30 B 1	1.550% to 3.870%	2020	875	1,050
Debenture 31 A 1	1.630% to 4.221%	2021	900	1,050
Debenture 32 A 1	1.636% to 3.480%	2022	1,400	1,600
Debenture 32 C 1	1.510% to 3.160%	2022	9,124	9,661
Debenture 33 A 1	1.330% to 3.489%	2023	9,101	9,607
Debenture 33 B 1	1.285% to 4.114%	2023	6,671	7,041
Debenture 34 B 1	1.200% to 3.190%	2024	12,989	13,672
Debenture 35 B 1		2025	10,967	-
Halifax Harbour Solutions				
Debenture 29 A 1	0.900% to 4.329%	2019	9,100	9,750
Wastewater/stormwater				
Debenture 30 A 1	1.510% to 4.500%	2020	2,550	2,720
Debenture 32 A 1	1.636% to 3.480%	2022	2,037	2,157
Debenture 32 B 1	1.380% to 3.156%	2022	27,200	28,800
Debenture 32 C 1	1.510% to 3.160%	2022	3,906	4,136
Debenture 33 A 1	1.330% to 3.489%	2023	15,174	16,017
Debenture 33 B 1	1.285% to 4.114%	2023	9,804	10,348
Debenture 34 A 1	1.245% to 3.347%	2024	5,291	5,569
Debenture 34 B 1	1.200% to 3.190%	2024	8,157	8,586
Debenture 35 B 1		2025	14,110	-
Stormwater				
Debenture 33 A 1	1.330% to 3.489%	2023	486	513
Debenture 33 B 1	1.285% to 4.114%	2023	2,375	2,507
Debenture 34 B 1	1.200% to 3.190%	2024	5,608	5,903
Debenture 35 B 1		2025	3,230	-
			<u>181,383</u>	<u>166,045</u>
Payable to Halifax Regional Municipality				
Municipal Finance Corporation – Wastewater/stormwater				
Debenture 24 B 1	2.840% to 5.940%	2024	49,500	55,000
Debenture 25 A 1	2.970% to 4.560%	2015	-	174
Debenture 25 B 1	3.630% to 4.830%	2020	-	34
Debenture 26 A 1	4.350% to 4.880%	2016	126	251
Debenture 26 B 1	4.265% to 4.410%	2016	5	10
Debenture 27 A 1	4.650% to 5.010%	2017	131	197
Debenture 34 B 1	1.200% to 3.190%	2024	9,000	10,000
			<u>58,762</u>	<u>65,666</u>
			<u>240,145</u>	<u>231,711</u>
Less: debt issue costs			1,156	1,106
			<u>238,989</u>	<u>230,605</u>
Less: amount payable within one year			23,195	22,374
			<u>\$ 215,794</u>	<u>\$ 208,231</u>

Halifax Regional Water Commission
Schedule of long term debt

Schedule B

Year ended March 31, 2016 (in thousands)

The debentures are repayable in fixed annual or semi-annual principal instalments plus interest payable semi-annually. Principal instalments for the next five years are as follows:

2017	\$	23,195
2018	\$	21,036
2019	\$	21,576
2020	\$	16,206
2021	\$	15,980

DRAFT

Halifax Regional Water Commission

Schedule of operations for water service

Schedule C

Year ended March 31, 2016 (in thousands)

	<u>2016</u>	<u>2015</u>
Operating revenues		
Water service	\$ 43,193	\$ 39,583
Fire protection	8,032	8,953
Private fire protection services	679	558
Other operating revenue		
Bulk water stations	265	286
Customer late payment fees	198	189
Miscellaneous	181	128
	<u>52,548</u>	<u>49,697</u>
Operating expenditures		
Water supply and treatment	8,232	7,909
Water transmission and distribution	9,485	9,319
Engineering and information services	3,528	3,490
Environmental services	505	656
Customer service	2,268	2,101
Administration and pension	4,919	5,163
Depreciation	8,411	7,387
	<u>37,348</u>	<u>36,025</u>
Earnings from operations before financial and other revenues and expenditures	<u>15,200</u>	<u>13,672</u>
Financial and other revenues		
Interest	442	417
Other	434	218
	<u>876</u>	<u>635</u>
Financial and other expenditures		
Interest on long term debt	2,531	2,553
Repayment of long term debt	7,766	7,020
Amortization of debt discount	90	83
Grant in lieu of taxes	4,528	4,340
Other	29	67
	<u>14,944</u>	<u>14,063</u>
Earnings for the year	<u>\$ 1,132</u>	<u>\$ 244</u>

Schedules are presented in accordance with the NSUARB Accounting and Reporting Handbook for Water Utilities (Handbook).

Halifax Regional Water Commission
Schedule of operations for wastewater service

Schedule D

Year ended March 31, 2016 (in thousands)

	<u>2016</u>	<u>2015</u>
Operating revenues		
Wastewater service	\$ 66,601	\$ 67,770
Other operating revenue		
Leachate and other contract revenue	424	431
Septage tipping fees	648	608
Overstrength surcharge	135	140
Customer late payment fees	238	236
Miscellaneous	382	384
	<u>68,428</u>	<u>69,569</u>
Operating expenditures		
Wastewater collection	10,578	11,211
Wastewater treatment	19,286	20,296
Engineering and information services	3,010	2,723
Environmental services	1,134	1,353
Customer service	1,877	1,677
Administration and pension	4,095	4,074
Depreciation	11,975	10,242
	<u>51,955</u>	<u>51,576</u>
Earnings from operations before financial and other revenues and expenditures	<u>16,473</u>	<u>17,993</u>
Financial and other revenues		
Interest	441	419
Other	2,054	2,074
	<u>2,495</u>	<u>2,493</u>
Financial and other expenditures		
Interest on long term debt	5,786	5,930
Repayment of long term debt	11,462	10,770
Amortization of debt discount	89	76
	<u>17,337</u>	<u>16,776</u>
Earnings for the year	<u>\$ 1,631</u>	<u>\$ 3,710</u>

Schedules are presented in accordance with the NSUARB Accounting and Reporting Handbook for Water Utilities (Handbook).

Halifax Regional Water Commission

Schedule of operations for stormwater service

Schedule E

Year ended March 31, 2016 (in thousands)

	<u>2016</u>	<u>2015</u>
Operating revenues		
Stormwater site generated service	\$ 6,713	\$ 7,070
Stormwater right-of-way service	3,881	3,881
Other operating revenue		
Customer late payment fees	63	12
Miscellaneous	82	91
	<u>10,739</u>	<u>11,054</u>
Operating expenditures		
Stormwater collection	4,236	3,992
Engineering and information services	480	557
Environmental services	729	647
Customer service	305	343
Administration and pension	666	834
Depreciation	523	412
	<u>6,939</u>	<u>6,785</u>
Earnings from operations before financial and other and other expenditures	<u>3,800</u>	<u>4,269</u>
Financial and other expenditures		
Interest on long term debt	571	475
Repayment of long term debt	1,100	848
Amortization of debt discount	8	4
	<u>1,679</u>	<u>1,327</u>
Earnings for the year	<u>\$ 2,121</u>	<u>\$ 2,942</u>

Schedules are presented in accordance with the NSUARB Accounting and Reporting Handbook for Water Utilities (Handbook).

Halifax Regional Water Commission

Schedule of regulated activities

Schedule F

Year ended March 31, 2016 (in thousands)

	<u>2016</u>	<u>2015</u>
Operating revenues		
Water service	\$ 43,193	\$ 39,583
Wastewater service	66,601	67,770
Stormwater service	10,594	10,951
Public fire protection	8,032	8,953
Private fire protection services	679	558
Other operating revenue	<u>1,262</u>	<u>1,167</u>
	<u>130,361</u>	<u>128,982</u>
Operating expenditures		
Water supply and treatment	9,308	8,982
Water transmission and distribution	10,534	10,289
Wastewater collection	9,537	10,175
Stormwater collection	4,186	3,925
Wastewater treatment	17,421	18,446
Engineering and information services	7,018	6,770
Environmental services	2,369	2,656
Customer service	4,415	4,093
Administration and pension	9,660	10,042
Depreciation	<u>20,903</u>	<u>18,036</u>
	<u>95,351</u>	<u>93,414</u>
Earnings from operations before financial and other revenues and expenditures	<u>35,010</u>	<u>35,568</u>
Financial and other revenues		
Interest	883	836
Other	<u>2,055</u>	<u>2,096</u>
	<u>2,938</u>	<u>2,932</u>
Financial and other expenditures		
Interest on long term debt	8,889	8,958
Repayment of long term debt	20,328	18,638
Amortization of debt discount	186	163
Grant in lieu of taxes	4,528	4,340
Other	<u>158</u>	<u>-</u>
	<u>34,089</u>	<u>32,099</u>
Earnings for the year	<u>\$ 3,859</u>	<u>\$ 6,401</u>

Schedules are presented in accordance with the NSUARB Accounting and Reporting Handbook for Water Utilities (Handbook).

Halifax Regional Water Commission

Schedule of unregulated activities

Schedule F

Year ended March 31, 2016 (in thousands)

	<u>2016</u>	<u>2015</u>
Operating revenues		
Dewatering	\$ 210	\$ 210
Septage tipping fees	648	608
Leachate treatment and contract revenue	424	431
Airplane effluent	51	69
Other operating revenue	<u>219</u>	<u>30</u>
	<u>1,552</u>	<u>1,348</u>
Operating expenditures		
Water supply and treatment	10	12
Wastewater treatment	822	898
Other	68	119
Depreciation	<u>6</u>	<u>6</u>
	<u>906</u>	<u>1,035</u>
Earnings from operations before financial and other revenues and expenditures	<u>646</u>	<u>313</u>
Financial and other revenues		
Other	<u>248</u>	<u>252</u>
Financial and other expenditures		
Other	<u>(128)</u>	<u>67</u>
Earnings for the year	<u>\$ 1,022</u>	<u>\$ 498</u>

Schedules are presented in accordance with the NSUARB Accounting and Reporting Handbook for Water Utilities (Handbook).

Halifax Regional Water Commission Nova Scotia Utility and Review Board information

Schedule G

Year ended March 31, 2016 (in thousands)

Return on rate base	2016	2015
Rate of return on rate base for water service	3.64%	3.21%
Rate of return on rate base for wastewater service	6.18%	6.82%
Rate of return on rate base for stormwater service	15.45%	21.26%

Special purpose reserves

	Wastewater & Stormwater Reserves	RDC Water Reserve	RDC Wastewater Reserve	Other Capital Reserves	2016 Total	2015 Total
Reserve, beginning of year	\$ 19,211	\$ 136	\$ 5,316	\$ 212	\$ 24,875	\$ 18,030
Contributions and interest	-	638	4,374	-	5,012	7,095
Expenditures	(15,573)	-	(6,037)	(207)	(21,817)	(250)
Reserve, end of year	\$ <u>3,638</u>	\$ <u>774</u>	\$ <u>3,653</u>	\$ <u>5</u>	\$ <u>8,070</u>	\$ <u>24,875</u>

Summarized consolidated operating results

	Actual 2016	Actual 2015
Operating revenues	\$ 131,716	\$ 130,320
Operating expenditures	<u>96,243</u>	<u>94,387</u>
Earnings from operations before financial and other revenues and expenditures	35,473	35,933
Non-operating revenues	3,370	3,219
Non-operating expenditures	<u>33,961</u>	<u>32,166</u>
Earnings for the year	\$ <u>4,882</u>	\$ <u>6,896</u>

Schedules are presented in accordance with the NSUARB Accounting and Reporting Handbook for Water Utilities (Handbook).

ITEM # 4.1

HRWC BOARD

June 30, 2016

Page 1 of 6

Attachment 2

**HALIFAX WATER
UNAUDITED BALANCE SHEET
AS OF MARCH 31, 2016**

	2016 '000	2015 '000
ASSETS		
Cash	\$46,478	\$39,271
Amounts Receivable		
Customers & Contractual	\$31,812	\$29,659
Halifax Regional Municipality	\$9,558	\$3,743
Materials & Supplies	\$1,684	\$1,528
Prepaid Expenses	\$862	\$914
	<u>\$90,394</u>	<u>\$75,115</u>
Regulatory Asset	\$3,580	\$3,772
Plant in Service - Water	\$584,609	\$567,439
Plant in Service - Wastewater/Stormwater	\$827,348	\$761,551
Less: Accumulated Depreciation - Water	\$176,738	\$151,112
Accumulated Depreciation - Wastewater/Stormwater	\$196,941	\$164,111
	<u>\$1,041,859</u>	<u>\$1,017,539</u>
Assets Under Construction	\$18,529	\$41,423
	<u>\$1,060,387</u>	<u>\$1,058,962</u>
Unamortized Debt Discount & Issue Expense	\$1,155	\$1,106
	<u><u>\$1,151,936</u></u>	<u><u>\$1,135,184</u></u>
LIABILITIES & CAPITAL		
Trade	\$16,686	\$14,646
Interest on Long Term Debt	\$2,229	\$2,137
Halifax Regional Municipality	\$4,584	\$6,973
Contractor & Customer Deposits	\$193	\$198
Unearned Revenue	\$389	\$511
Current Portion of Deferred Contributed Capital	\$0	\$0
Current Portion of LT Debt	\$23,195	\$22,374
	<u>\$47,275</u>	<u>\$46,839</u>
Accrued Post-Retirement Benefits	\$466	\$604
Accrued Pre-Retirement Benefit	\$3,723	\$3,425
Deferred Pension Liability	\$54,265	\$10,796
Deferred Contributed Capital	\$0	\$0
Special Purpose Reserves not allocated to projects	\$1,252	\$5,477
Regional Development Charge	\$4,427	\$5,452
Long Term Debt-Water	\$62,042	\$58,888
Long Term Debt-Wastewater/Stormwater	\$154,907	\$150,449
Total Liabilities	<u>\$328,358</u>	<u>\$281,930</u>
Capital Surplus	\$735,474	\$823,992
Committed Reserves	\$2,391	\$13,946
Operating Surplus used to Fund Capital	\$12,380	\$12,380
Operating Surplus	\$68,452	(3,959)
Excess (Deficiency) of Revenue over Expenditure - Consolidated	\$4,883	\$6,896
Total Capital & Surplus	<u>\$823,578</u>	<u>\$853,254</u>
	<u><u>\$1,151,936</u></u>	<u><u>\$1,135,184</u></u>

ITEM # 4.1

HRWC BOARD

June 30, 2016

Page 2 of 6

HALIFAX WATER
UNAUDITED INCOME STATEMENT - CONSOLIDATED
APRIL 1/15 - MARCH 31/16 (12 MONTHS)
100.00%

ACTUAL (CURRENT MONTH)		DESCRIPTION	ACTUAL (YEAR TO DATE)		APR 1/15	APR 1/15	% of FORECAST
THIS YEAR '000	LAST YEAR '000		THIS YEAR '000	LAST YEAR '000	MAR 31/16 BUDGET*	MAR 31/16 FORECAST	
\$11,543	\$12,122	OPERATING REVENUE	\$131,716	\$130,320	\$129,905	\$131,071	100.49%
\$7,371	\$7,206	OPERATING EXPENSES	\$96,243	\$94,387	\$103,614	\$97,304	98.91%
\$4,171	\$4,916	OPERATING PROFIT	\$35,473	\$35,933	\$26,291	\$33,767	105.05%
		FINANCIAL REVENUE					
\$40	\$69	INVESTMENT INCOME	\$883	\$836	\$660	\$890	99.20%
\$167	\$167	PNS FUNDING HHSP DEBT	\$2,000	\$2,000	\$2,000	\$2,000	100.00%
\$203	\$27	MISCELLANEOUS	\$487	\$293	\$447	\$322	151.51%
\$410	\$262		\$3,370	\$3,129	\$3,107	\$3,212	104.94%
		FINANCIAL EXPENSES					
\$838	\$758	LONG TERM DEBT INTEREST	\$8,889	\$8,958	\$8,440	\$8,830	100.66%
\$1,800	\$1,667	LONG TERM DEBT PRINCIPAL	\$20,328	\$18,638	\$20,626	\$20,334	99.97%
\$17	\$15	AMORTIZATION DEBT DISCOUNT	\$186	\$163	\$172	\$187	99.80%
\$377	\$362	DIVIDEND/GRANT IN LIEU OF TAXES	\$4,528	\$4,340	\$4,579	\$4,528	100.00%
\$25	\$61	MISCELLANEOUS	\$29	\$67	\$30	\$10	307.95%
\$3,058	\$2,863		\$33,961	\$32,166	\$33,847	\$33,890	100.21%
\$1,524	\$2,315	NET PROFIT (LOSS) BEFORE OTHER COMPREHENSIVE INCOME	\$4,883	\$6,896	(\$4,449)	\$3,089	158.04%
\$0	\$0	OTHER COMPREHENSIVE INCOME	\$0	\$0	\$0	\$0	
\$1,524	\$2,315	NET PROFIT (LOSS) AVAILABLE FOR CAPITAL EXPENDITURES	\$4,883	\$6,896	(\$4,449)	\$3,089	158.04%

ITEM # 4.1

HRWC BOARD

June 30, 2016

Page 3 of 6

HALIFAX WATER
UNAUDITED INCOME STATEMENT - WATER OPERATIONS
APRIL 1/15 - MARCH 31/16 (12 MONTHS)
100.00%

ACTUAL (CURRENT MONTH)		DESCRIPTION	ACTUAL (YEAR TO DATE)		APR 1/15	APR 1/15	% of FORECAST
THIS YEAR	LAST YEAR		THIS YEAR	LAST YEAR	MAR 31/16	MAR 31/16	
'000	'000		'000	'000	BUDGET*	FORECAST	
REVENUE							
\$3,600	\$3,321	METERED SALES	\$43,193	\$39,583	\$42,743	\$42,743	101.05%
\$669	\$746	FIRE PROTECTION	\$8,032	\$8,953	\$8,032	\$8,032	100.00%
\$62	\$51	PRIVATE FIRE PROTECTION SERVICES	\$679	\$558	\$1,069	\$654	103.79%
\$10	\$6	BULK WATER STATIONS	\$265	\$286	\$309	\$264	100.59%
\$12	\$20	CUSTOMER LATE PAY./COLLECTION FEES	\$198	\$189	\$343	\$190	104.18%
\$8	\$15	MISCELLANEOUS	\$181	\$128	\$150	\$195	92.63%
\$4,362	\$4,158		\$52,548	\$49,698	\$52,646	\$52,078	100.90%
EXPENSES							
\$867	\$749	WATER SUPPLY & TREATMENT	\$7,543	\$7,112	\$8,134	\$7,317	103.08%
\$640	\$1,035	TRANSMISSION & DISTRIBUTION	\$8,405	\$8,341	\$9,155	\$8,285	101.45%
\$117	\$49	SMALL SYSTEMS (inc. Contract Systems)	\$1,080	\$978	\$792	\$950	113.66%
\$50	\$83	SCADA, CONTROL & PUMPING	\$689	\$797	\$806	\$765	90.15%
\$406	\$348	ENGINEERING & INFORMATION SERVICES	\$3,528	\$3,490	\$3,809	\$3,476	101.47%
\$47	\$53	ENVIRONMENTAL SERVICES	\$505	\$656	\$628	\$600	84.22%
\$235	\$215	CUSTOMER SERVICE	\$2,268	\$2,101	\$2,227	\$2,225	101.93%
(\$814)	(\$212)	ADMINISTRATION & PENSION	\$4,919	\$5,163	\$6,089	\$6,003	81.94%
\$1,011	\$395	DEPRECIATION	\$8,411	\$7,387	\$8,573	\$8,273	101.67%
\$2,558	\$2,714		\$37,348	\$36,026	\$40,213	\$37,895	98.56%
\$1,804	\$1,444	OPERATING PROFIT	\$15,200	\$13,672	\$12,433	\$14,183	107.17%
FINANCIAL REVENUE							
\$22	\$33	INVESTMENT INCOME	\$442	\$417	\$330	\$445	99.36%
\$198	\$23	MISCELLANEOUS	\$434	\$218	\$374	\$264	164.25%
\$220	\$55		\$876	\$635	\$704	\$709	123.52%
FINANCIAL EXPENSES							
\$210	\$217	LONG TERM DEBT INTEREST	\$2,531	\$2,553	\$2,108	\$2,573	98.39%
\$705	\$646	LONG TERM DEBT PRINCIPAL	\$7,766	\$7,020	\$7,969	\$7,772	99.93%
\$8	\$7	AMORTIZATION DEBT DISCOUNT	\$90	\$83	\$97	\$90	100.15%
\$377	\$362	DIVIDEND/GRANT IN LIEU OF TAXES	\$4,528	\$4,340	\$4,579	\$4,528	100.00%
\$25	\$61	MISCELLANEOUS	\$29	\$67	\$30	\$10	307.95%
\$1,325	\$1,294		\$14,945	\$14,063	\$14,782	\$14,972	99.82%
\$699	\$206	NET PROFIT (LOSS) AVAILABLE FOR CAPITAL EXPENDITURES	\$1,130	\$244	(\$1,646)	(\$80)	1511.33%

HALIFAX WATER
UNAUDITED INCOME STATEMENT - WASTEWATER OPERATIONS
APRIL 1/15 - MARCH 31/16 (12 MONTHS)
100.00%

ACTUAL (CURRENT MONTH)		DESCRIPTION	ACTUAL (YEAR TO DATE)		APR 1/15	APR 1/15	% of FORECAST
THIS YEAR	LAST YEAR		THIS YEAR	LAST YEAR	MAR 31/16	MAR 31/16	
'000	'000		'000	'000	BUDGET*	FORECAST	
REVENUE							
\$5,479	\$5,731	METERED SALES	\$66,601	\$67,770	\$65,505	\$66,405	100.30%
\$8	\$12	WASTEWATER OVERSTRENGTH AGREEMENTS	\$135	\$140	\$174	\$139	97.34%
\$39	(\$44)	LEACHATE	\$331	\$257	\$379	\$329	100.58%
\$8	\$95	CONTRACT REVENUE	\$93	\$174	\$86	\$86	108.92%
\$17	\$17	DEWATERING FACILITY/SLUDGE LAGOON	\$210	\$210	\$210	\$210	99.99%
\$10	\$10	AIRLINE EFFLUENT	\$51	\$69	\$78	\$58	88.23%
\$35	\$18	SEPTAGE TIPPING FEES	\$648	\$608	\$800	\$650	99.70%
\$14	\$25	CUSTOMER LATE PAY./COLLECTION FEES	\$238	\$236	\$210	\$250	95.27%
\$9	\$4	MISCELLANEOUS	\$121	\$105	\$121	\$121	99.92%
\$5,621	\$5,869		\$68,428	\$69,568	\$67,562	\$68,247	100.27%
EXPENSES							
\$763	\$1,146	WASTEWATER COLLECTION	\$9,537	\$10,175	\$9,717	\$9,189	103.79%
\$1,952	\$1,818	WASTEWATER TREATMENT PLANTS	\$17,421	\$18,446	\$18,640	\$17,020	102.35%
\$118	\$117	SMALL SYSTEMS	\$1,059	\$982	\$1,136	\$1,101	96.19%
\$26	\$37	DEWATERING FACILITY/ SLUDGE MGM'T	\$414	\$491	\$767	\$514	80.50%
\$12	\$2	BIOSOLIDS TREATMENT	\$102	\$64	\$101	\$101	100.96%
\$36	\$39	LEACHATE CONTRACT	\$290	\$313	\$328	\$298	97.26%
\$85	\$95	SCADA, CONTROL & PUMPING	\$1,041	\$1,036	\$1,191	\$1,076	96.76%
\$347	\$272	ENGINEERING & INFORMATION SERVICES	\$3,010	\$2,723	\$3,493	\$3,195	94.19%
\$97	\$114	ENVIRONMENTAL SERVICES	\$1,134	\$1,353	\$1,343	\$1,307	86.77%
\$194	\$172	CUSTOMER SERVICE	\$1,877	\$1,677	\$1,844	\$1,842	101.86%
(\$662)	(\$209)	ADMINISTRATION & PENSION	\$4,095	\$4,074	\$5,042	\$4,971	82.39%
\$1,218	\$592	DEPRECIATION	\$11,975	\$10,242	\$11,674	\$11,174	107.16%
\$4,185	\$4,196		\$51,954	\$51,576	\$55,277	\$51,789	100.32%
\$1,436	\$1,673	OPERATING PROFIT	\$16,474	\$17,991	\$12,285	\$16,458	100.09%
FINANCIAL REVENUE							
\$18	\$36	INVESTMENT INCOME	\$441	\$419	\$330	\$445	99.04%
\$167	\$167	PNS FUNDING HHSP DEBT	\$2,000	\$2,000	\$2,000	\$2,000	100.00%
\$5	\$5	MISCELLANEOUS	\$54	\$74	\$73	\$58	93.23%
\$190	\$207		\$2,494	\$2,494	\$2,403	\$2,503	99.67%
FINANCIAL EXPENSES							
\$577	\$493	LONG TERM DEBT INTEREST	\$5,786	\$5,930	\$5,798	\$5,683	101.81%
\$993	\$933	LONG TERM DEBT PRINCIPAL	\$11,462	\$10,770	\$11,747	\$11,462	99.99%
\$8	\$7	AMORTIZATION DEBT DISCOUNT	\$89	\$76	\$66	\$88	100.26%
\$0	\$0	MISCELLANEOUS	\$0	\$0	\$0	\$0	#DIV/0!
\$1,578	\$1,433		\$17,337	\$16,776	\$17,612	\$17,234	100.60%
\$47	\$447	NET PROFIT (LOSS) AVAILABLE FOR CAPITAL EXPENDITURES	\$1,632	\$3,709	(\$2,924)	\$1,727	94.48%

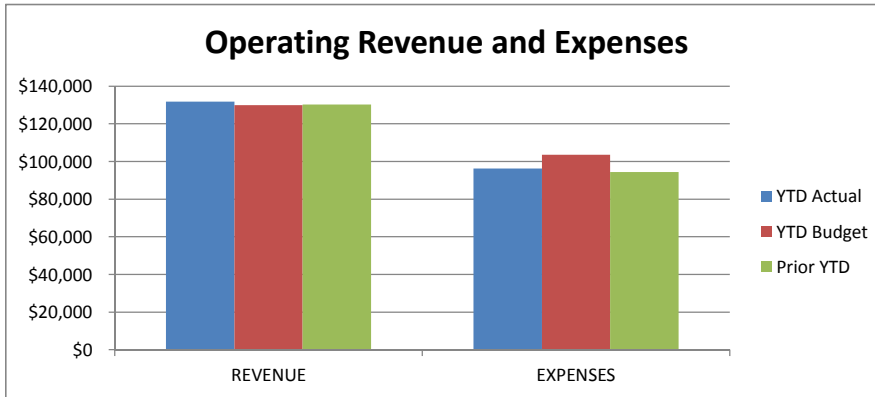
HALIFAX WATER
UNAUDITED INCOME STATEMENT - STORMWATER OPERATIONS
APRIL 1/15 - MARCH 31/16 (12 MONTHS)
100.00%

ACTUAL (CURRENT MONTH)		DESCRIPTION	ACTUAL (YEAR TO DATE)		APR 1/15	APR 1/15	% of FORECAST
THIS YEAR	LAST YEAR		THIS YEAR	LAST YEAR	MAR 31/16 BUDGET*	MAR 31/16 FORECAST	
'000	'000		'000	'000	'000	'000	
REVENUE							
\$1,226	\$1,770	STORMWATER SITE GENERATED SERVICE	\$6,713	\$7,070	\$5,715	\$6,715	99.98%
\$323	\$323	STORMWATER RIGHT OF WAY SERVICE	\$3,881	\$3,881	\$3,881	\$3,881	100.00%
\$4	\$1	CUSTOMER LATE PAY./COLLECTION FEES	\$63	\$12	\$10	\$69	91.95%
\$7	\$1	MISCELLANEOUS	\$82	\$91	\$91	\$81	101.68%
\$1,560	\$2,095		\$10,740	\$11,055	\$9,697	\$10,746	99.95%
EXPENSES							
\$494	\$179	STORMWATER COLLECTION	\$4,202	\$3,955	\$5,017	\$4,576	91.83%
\$3	\$4	SCADA, CONTROL & PUMPING	\$34	\$37	\$28	\$26	132.92%
\$47	\$56	ENGINEERING & INFORMATION SERVICES	\$480	\$557	\$568	\$520	92.44%
\$62	\$57	ENVIRONMENTAL SERVICES	\$729	\$647	\$825	\$824	88.53%
\$32	\$35	CUSTOMER SERVICE	\$305	\$343	\$300	\$300	101.86%
(\$108)	(\$43)	ADMINISTRATION & PENSION	\$666	\$834	\$820	\$809	82.31%
\$99	\$9	DEPRECIATION	\$523	\$412	\$565	\$565	92.51%
\$628	\$296		\$6,941	\$6,785	\$8,123	\$7,620	91.09%
\$932	\$1,799	OPERATING PROFIT	\$3,799	\$4,270	\$1,573	\$3,126	121.55%
FINANCIAL REVENUE							
\$0	\$0	INVESTMENT INCOME	\$0	\$0	\$0	\$0	#DIV/0!
\$0	\$0	MISCELLANEOUS	\$0	\$0	\$0	\$0	#DIV/0!
\$0	\$0		\$0	\$0	\$0	\$0	#DIV/0!
FINANCIAL EXPENSES							
\$52	\$47	LONG TERM DEBT INTEREST	\$571	\$475	\$534	\$574	99.38%
\$102	\$88	LONG TERM DEBT PRINCIPAL	\$1,100	\$848	\$910	\$1,100	99.99%
\$1	\$1	AMORTIZATION DEBT DISCOUNT	\$8	\$4	\$9	\$9	91.36%
\$154	\$136		\$1,679	\$1,327	\$1,453	\$1,683	99.74%
\$778	\$1,663	NET PROFIT (LOSS) AVAILABLE FOR CAPITAL EXPENDITURES	\$2,120	\$2,942	\$120	\$1,442	147.00%

HALIFAX WATER
UNAUDITED INCOME STATEMENT - REGULATED AND UNREGULATED OPERATIONS
APRIL 1/15 - MARCH 31/16 (12 MONTHS)
100.00%

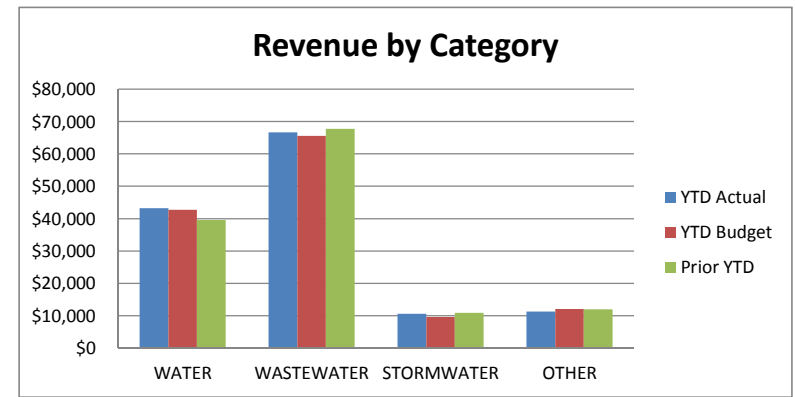
DESCRIPTION	ACTUAL (YEAR TO DATE)		APR 1/15	APR 1/15	% of FORECAST
	THIS YEAR	LAST YEAR	MAR 31/16 BUDGET*	MAR 31/16 FORECAST	
REGULATED ACTIVITIES					
REVENUE					
METERED SALES	\$116,507	\$114,422	\$113,963	\$115,863	100.56%
FIRE PROTECTION	\$8,032	\$8,953	\$8,032	\$8,032	100.00%
PRIVATE FIRE PROTECTION	\$679	\$558	\$1,069	\$654	103.79%
STORMWATER SERVICE	\$3,881	\$3,881	\$3,881	\$3,881	100.00%
OTHER OPERATING REVENUE	\$1,262	\$1,167	\$1,386	\$1,287	98.05%
	\$130,361	\$128,982	\$128,331	\$129,717	100.50%
EXPENSES					
WATER SUPPLY & TREATMENT	\$7,543	\$7,112	\$8,134	\$7,317	103.08%
TRANSMISSION & DISTRIBUTION	\$8,405	\$8,341	\$9,155	\$8,285	101.45%
WASTEWATER & STORMWATER COLLECTION	\$13,723	\$14,100	\$14,734	\$13,765	99.69%
WASTEWATER TREATMENT PLANTS	\$17,421	\$18,446	\$18,640	\$17,020	102.35%
SMALL SYSTEMS	\$2,129	\$1,948	\$1,913	\$2,036	104.56%
SCADA, CONTROL & PUMPING	\$1,765	\$1,870	\$2,025	\$1,866	94.55%
ENGINEERING & INFORMATION SERVICES	\$7,018	\$6,770	\$7,870	\$7,191	97.58%
ENVIRONMENTAL SERVICES	\$2,369	\$2,656	\$2,796	\$2,731	86.74%
CUSTOMER SERVICE	\$4,415	\$4,093	\$4,337	\$4,332	101.92%
ADMINISTRATION & PENSION	\$9,660	\$10,042	\$11,931	\$11,763	82.13%
DEPRECIATION	\$20,903	\$18,036	\$20,811	\$20,011	104.46%
	\$95,350	\$93,415	\$102,345	\$96,318	99.00%
FINANCIAL REVENUE					
INVESTMENT INCOME	\$883	\$836	\$660	\$890	99.20%
MISCELLANEOUS	\$2,055	\$2,096	\$2,111	\$2,071	99.21%
	\$2,938	\$2,932	\$2,771	\$2,961	99.20%
FINANCIAL EXPENSES					
LONG TERM DEBT INTEREST	\$8,889	\$8,958	\$8,440	\$8,830	100.66%
LONG TERM DEBT PRINCIPAL	\$20,328	\$18,638	\$20,626	\$20,334	99.97%
AMORTIZATION DEBT DISCOUNT	\$186	\$163	\$172	\$187	99.80%
DIVIDEND/GRANT IN LIEU OF TAXES	\$4,528	\$4,340	\$4,579	\$4,528	100.00%
MISCELLANEOUS	\$158	\$0	\$0	\$0	#DIV/0!
	\$34,089	\$32,099	\$33,818	\$33,880	100.62%
NET PROFIT (LOSS) AVAILABLE FOR CAPITAL EXPENDITURES	\$3,859	\$6,400	(\$5,061)	\$2,480	155.61%
UNREGULATED ACTIVITIES					
REVENUE					
SEPTAGE TIPPING FEES	\$648	\$608	\$800	\$650	99.70%
LEACHATE	\$331	\$257	\$379	\$329	100.58%
CONTRACT REVENUE	\$93	\$174	\$86	\$86	108.92%
DEWATERING	\$210	\$210	\$210	\$210	99.99%
AIRLINE EFFLUENT	\$51	\$69	\$78	\$58	88.23%
ENERGY PROJECTS	\$198	\$9	\$115	\$30	654.95%
MISCELLANEOUS	\$21	\$21	\$21	\$21	101.96%
	\$1,553	\$1,347	\$1,689	\$1,384	112.19%
EXPENSES					
WATER SUPPLY & TREATMENT	\$10	\$12	\$15	\$15	67.89%
WASTEWATER TREATMENT	\$822	\$898	\$1,196	\$913	90.01%
ENERGY PROJECTS	\$13	\$63	\$9	\$9	139.88%
SPONSORSHIPS & DONATIONS	\$55	\$56	\$56	\$56	98.45%
DEPRECIATION	\$6	\$6	\$2	\$2	0.00%
	\$906	\$1,036	\$1,278	\$995	91.05%
FINANCIAL REVENUE					
MISCELLANEOUS	\$248	\$252	\$229	\$229	107.99%
	\$248	\$252	\$229	\$229	107.99%
FINANCIAL EXPENSES					
MISCELLANEOUS	(\$128)	\$67	\$30	\$10	-1352.14%
	(\$128)	\$67	\$30	\$10	-1352.14%
NET PROFIT (LOSS) AVAILABLE FOR CAPITAL EXPENDITURES	\$1,024	\$496	\$611	\$610	167.93%
NET PROFIT (LOSS) AVAILABLE FOR TOTAL CAPITAL EXPENDITURES (REG & UNREG)	\$4,883	\$6,896	(\$4,449)	\$3,089	158.04%

HALIFAX WATER
 UNAUDITED FINANCIAL INFORMATION
 APRIL 1/15 - MARCH 31/16 (12 MONTHS)
 '000



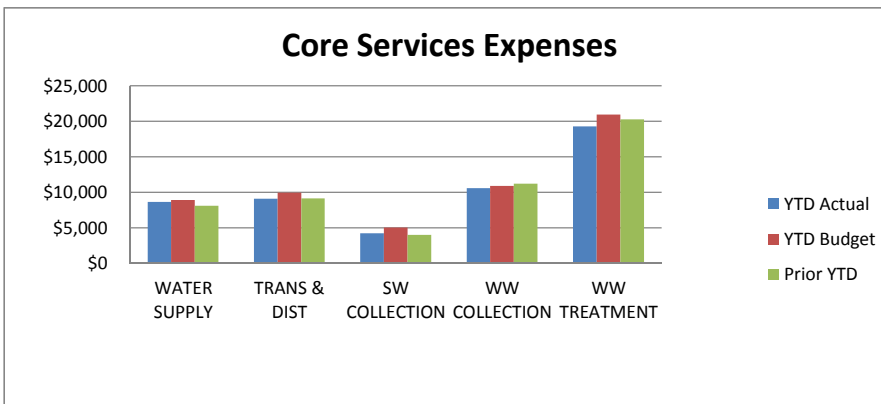
OPERATING REVENUE AND EXPENSES

	YTD Actual	YTD Budget	Prior YTD	% of Budget
REVENUE	\$131,716	\$129,905	\$130,320	101.39%
EXPENSES	\$96,243	\$103,614	\$94,387	92.89%
	\$35,473	\$26,291	\$35,933	134.92%



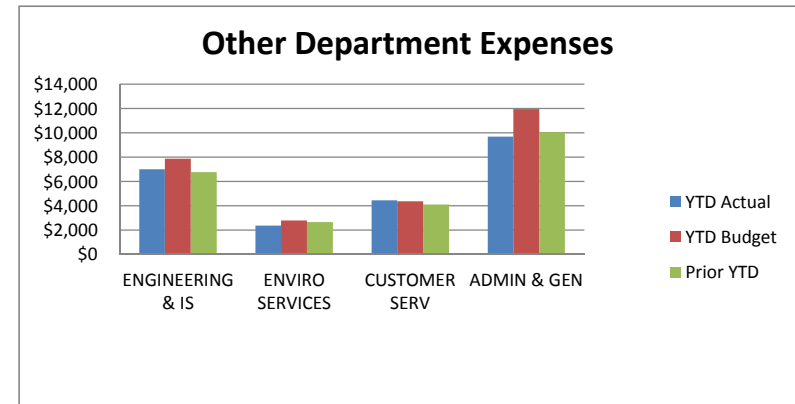
REVENUE BY CATEGORY

	YTD Actual	YTD Budget	Prior YTD
WATER	\$43,193	\$42,743	\$39,583
WASTEWATER	\$66,601	\$65,505	\$67,770
STORMWATER	\$10,595	\$9,596	\$10,951
OTHER	\$11,328	\$12,061	\$12,017
	\$131,716	\$129,905	\$130,320



CORE SERVICES EXPENSES

	YTD Actual	YTD Budget	Prior YTD	% of Budget
WATER SUPPLY	\$8,623	\$8,927	\$8,090	96.60%
TRANS & DIST	\$9,094	\$9,961	\$9,139	91.30%
SW COLLECTION	\$4,237	\$5,045	\$3,992	83.98%
WW COLLECTION	\$10,578	\$10,908	\$11,211	96.98%
WW TREATMENT	\$19,285	\$20,972	\$20,296	91.96%
	\$51,817	\$55,812	\$52,728	92.84%



OTHER DEPARTMENT EXPENSES

	YTD Actual	YTD Budget	Prior YTD
ENGINEERING & IS	\$7,018	\$7,870	\$6,770
ENVIRO SERVICES	\$2,369	\$2,796	\$2,656
CUSTOMER SERV	\$4,450	\$4,372	\$4,121
ADMIN & GEN	\$9,680	\$11,951	\$10,071
	\$23,517	\$26,989	\$23,618

TO: Ray Ritcey, Chair and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: *Original Signed By:*

Jamie Hannam, P. Eng.
Director, Engineering & Information Services

APPROVED: *Original Signed By:*

Carl Yates M.A.Sc., P. Eng., General Manager

DATE: June 15, 2016

SUBJECT: **Geizer 158 Reservoir Rehabilitation – Floor Replacement**

ORIGIN

The Halifax Water 2016/17 Capital Budget. Original Halifax Water Board approval - January 30, 2016.

RECOMMENDATION

It is recommended that the Halifax Water Board approve the additional funding of \$2,750,000 to complete the Geizer 158 Reservoir Rehabilitation project at a total revised cost of \$4,920,000 including net HST.

BACKGROUND

On January 30, 2016, the Halifax Water Board approved funding in the amount of \$2,170,000 for the Geizer 158 Reservoir Rehabilitation. The project was tendered in March and subsequently awarded to MacDonald Applicators Ltd. at a tendered price of \$1,711,189 including net HST.

The work involved full sandblasting, preparation and recoating of the tank interior as well as a cleaning and recoating of the tank exterior.

MacDonald Applicators Ltd. began work in the first week of May. During the course of sandblasting the floor, corrosion holes were found in the floor plate and there were indications of widespread, severe corrosion on the underside of the steel floor plate. Prior

ITEM # 5.1

HRWC Board

June 30, 2016

to the sandblasting, there was no indication of problems but as the sandblasting removed the paint, it also removed the rust from the holes in the plate. Eventually as sandblasting work proceeded; over 200 corrosion holes were found.

As part of the investigation of the problem, a sample of the floor was cut out and removed. Attachment 1 shows the topside of the plate after sandblasting and the underside of plate after the surface was pressure-washed. The corrosion is severe and widespread throughout the tank floor.

The Geizer 158 Reservoir was constructed in 1986. The steel plate floor sits on an approximately 75mm layer of sandy, granular material. The foundation for the tank was excavated within the pyritic slate bedrock, which left a small berm around the perimeter of the tank. The original tank was constructed with a shallow 100mm diameter subdrain system to collect and convey the runoff from within the berm area. Based on the investigations of Halifax Water's Consulting Engineer, Jim Fleming, P. Eng., it was determined that runoff/groundwater had been making its way under the tank, through the pyritic bedrock and had created corrosive conditions at the underside of the steel plate.

Heavy rains during the week of June 13-17, 2016 confirmed this groundwater movement. Additional investigations also confirmed that the corrosion is limited to the floor plates only. The steel annular ring that supports the tank wall is in good condition and had been protected from corrosion by its contact with the poured-in-place concrete foundation wall.

Initially, grouting of the floor had been planned as a remedial measure. Unfortunately, after the widespread corrosion was confirmed, there was no opportunity for remedial or protective measures to extend the life of the floor. None of the alternative measures that were considered (grouting, sealing, membranes) had any certainty of providing a guaranteed water-tight solution with any extended life.

The only recommended rehabilitation option is to install a new steel floor. The Geizer 158 reservoir is the highest and largest storage tank in the water distribution system in the West Region. Time is of the essence in getting the reservoir restored to its operational role.

Halifax Water, its Consulting Engineer, and its contractor have been actively developing a floor replacement plan.

DISCUSSION

Based on industry best practice and the recommendations of Halifax Water's consultant, the recommended solution includes the removal of the existing floor plate, the removal and replacement of the existing sand bedding and the installation of a new steel plate floor complete with a 3 mil coating of inorganic zinc on the underside of the plate to

ITEM # 5.1

HRWC Board

June 30, 2016

protect against the corrosive conditions. Grading and drainage improvements would also be carried out to intercept and convey water away from the reservoir.

McDonald Applicators has been working with industry specialists to obtain competitive quotes for the necessary floor replacement work. MacDonald Applicators has been co-operating with Halifax Water to fully identify the scope of work for the floor replacement as it represents a significant change to the scope of the existing contract.

Four competitive bids were received. MacDonald Applicators has submitted a Change Order Request for the floor replacement work and the necessary adjustments to the current scope to accommodate the floor replacement work. The estimated cost of the floor replacement work is \$2.25 million dollars.

In addition to the floor replacement work, MacDonald Applicators has encountered a number of unforeseen circumstances that have led to valid claims for delay and extra work. These include the additional work to remove the excessive thickness of the existing paint from the inside of the tank. The existing coating was applied in significantly greater thickness (3x normal) than what is typically specified. The additional thickness of paint has taken much longer to remove and delayed the project. The only positive to be noted about the additional paint thickness, is that it helped bridge the corrosion voids in the floor and avoided a potential undermining of the structure.

Additional costs also relate to the grouting work that was started on the floor, and unavoidable delays to the work in the current contract as a result of investigation of the corrosion of the floor and repair solutions. Some of the work and preparation that had been completed on the floor will need to be redone following the floor replacement. Halifax Water's consultant is onsite and is tracking these contract extras.

The estimated cost of the Geizer 158 Reservoir Rehabilitation project, as originally approved, is \$2,170,000 including net HST.

The estimated cost of the floor replacement work is approximately \$2,250,000, inclusive of net HST.

The estimated cost of the contract extras relating to removal of additional paint, and contract delays resulting from the floor replacement is approximately \$500,000, inclusive of net HST.

It is recommended that the Board approve the additional funding of \$2,750,000 to complete the reservoir rehabilitation project at a total revised cost of \$4,920,000 including net HST. The additional work will add approximately 8 weeks to the schedule.

ITEM # 5.1

HRWC Board

June 30, 2016

BUDGET IMPLICATIONS

The additional funding requested was not anticipated and was not identified in the 2016/2017 Capital Budget.

The MacDonald Bridge Transmission main project was approved for \$7,715,000 to be spent over the 2015/2016 and 2016/2017 fiscal years. Only \$2,349,000 has been spent to date. The full amount is not expected to be spent until the end of 2017. It is proposed that the necessary funding (\$2,750,000) to complete the rehabilitation of the reservoir be made up from the unspent, approved funding for the MacDonald Bridge Transmission main project. The necessary funds required for the Bridge project will be identified and included in the upcoming 2017/2018 Capital Budget.

The proposed expenditure meets the “No Regrets – Unavoidable Needs” approach of the 2012 Integrated Resource Plan. The proposed work meets the NR-UN criteria of “Required to ensure integrity and safety” due to the poor condition of the reservoir coatings.

ALTERNATIVES

There are no recommended alternatives.

ATTACHMENT

1. Photo of Tank Floor & Underside of Tank
2. Geizer 158 Rehabilitation Floor Replacement - Cost Estimate
3. Geizer 158 Reservoir Rehabilitation - Substrate Preparation - Additional Work Cost Estimate

Report Prepared By:

Original Signed By:

Tom Gorman, Manager Water Infrastructure, 902-490-4176

Financial Reviewed By:

Original Signed By:

Cathie O’Toole, MBA, CPA/CGA, Director, Corporate Services
902-490-3685

ITEM # 5.1
HRWC Board
June 30, 2016
ATTACHMENT 1



Tank Floor



Underside of Tank

ITEM # 5.1**HRWC Board****June 30, 2016****ATTACHMENT 2**

Geizer 158 Rehabilitation
Floor Replacement - Cost Estimate - June 24, 2016

SUMMARY BUDGET	
Category Description	Total Project Cost Estimate \$
Contractor (New Tank Floor)	\$1,880,000
Contractor (Misc. Contract Extras)	\$460,000
Material/Supplies	\$0
Professional Fees	\$0
Engineering and Design - Consulting	\$60,000
Communications	\$0
Equipment Purchase or Rental	\$0
HW Inspection	\$5,000
HW Operations Time	\$2,500
Hazard Assessment	\$0
Contingency	\$117,000
SUB-TOTAL	\$2,525,000
Net HST (4.286%)	\$108,200
SUB-TOTAL	\$2,632,700
Interest & Overhead (4%)	\$105,308
TOTAL	\$2,738,008
ROUNDED TOTAL	\$2,740,000

ITEM # 5.1
HRWC Board
June 30, 2016
ATTACHMENT 3

Geizer 158 Reservoir Rehabilitation
Substrate Preparation - Additional Work
Cost Estimate – June 24, 2016

SUMMARY BUDGET	
Category Description	Total Project Cost Estimate \$
Contractor (Misc. Contract Extras relating to Substrate preparation)	\$460,000
SUB-TOTAL	\$460,000
Net HST (4.286%)	\$19,716
SUB-TOTAL	\$479,716
Interest & Overhead (4%)	\$19,189
TOTAL	\$498,904
ROUNDED TOTAL	\$500,000

TO: Colleen Purcell, CA, Chair and Members of the
Halifax Regional Water Commission Board

SUBMITTED BY: *Original Signed By:*

Jamie Hannam, P.Eng.
Director of Engineering & Information Services

APPROVED: *Original Signed By:*

Carl Yates, M.A.Sc., P. Eng. - General Manager

DATE: June 23, 2016

SUBJECT: **Capital Project Spending Summary - 2015/16**

ORIGIN

NSUARB requirement for reconciliation of Capital Budget expenditures.

RECOMMENDATION

It is recommended that the Halifax Water Board approve the individual project over expenditures as identified within “*Capital Project Spending Summary, April 1, 2015 – March 31, 2016*” and direct staff to forward the subset of projects “over \$250,000” to the NSUARB for information and approval.

BACKGROUND

The HRWC Board and the NSUARB approve annual Capital Budget plans for required capital projects and equipment. The specific funding for individual projects are further approved by the General Manager, HRWC Board, and the NSUARB as required based on total project cost, as per the Capital Funding Approval Policy.

DISCUSSION

During the 2015/16 fiscal year, a series of capital projects were completed, placed in service, and “closed out” from a fiscal work order perspective. These projects were

funded from the 2015/16 Capital Budget and previous year's capital budgets for projects with multi-year delivery time lines.

The first attached report entitled, "Capital Project Spending Summary, April 1, 2015 to March 31, 2016", identifies all capital projects funded from the Halifax Water Capital Budget that were completed prior to March 31, 2016. For water projects, the total expenditure for these completed projects totals \$12,458,765, with an aggregate net deficit of \$327,747, or 2.7% relative to the total funding approvals. For wastewater projects, the total expenditure for these completed projects totals \$34,990,047, with an aggregate net surplus of \$3,737,711, or 9.6% relative to budget. For stormwater projects, the total expenditures for these completed projects totals \$5,565,229, with an aggregate net surplus of \$173,771, or 3.0% relative to the total funding approvals.

The second attached report entitled, "Capital Project Spending Summary – Projects Over \$250,000, April 1, 2015 to March 31, 2016", identifies all capital projects funded from the Halifax Water Capital Budget that were completed prior to March 31, 2016 that required specific NSUARB approval based on the \$250,000 project value threshold. For water projects, the total expenditure for these completed projects totals \$7,287,548 with an aggregate net deficit of \$218,548, or 3.0% relative to the total funding approvals. For wastewater projects, the total expenditure for these completed projects totals \$30,794,876 with an aggregate net surplus of \$2,954,199, or 8.7% relative to the total funding approvals. For stormwater projects, the total expenditure for these completed projects totals \$3,370,440 with an aggregate net surplus of \$272,660, or 7.4% relative to the total funding approvals. The "Projects Over \$250,000" will be forwarded to the NSUARB as part of our annual financial submission requirements.

Halifax Water's Capital Funding Policy requires all material funding increases for capital projects to be approved at the time of the funding need. This process promotes fiscal accountability and improves management of available funds.

However, the Board will note that a variety of the projects from the 2015/16 Summary Report were completed with final expenditures greater than the original budget. Staff is seeking HRWC Board approval for these expenditures with funding available from the identified surpluses as per the BUDGET IMPLICATIONS section of this report.

BUDGET IMPLICATIONS

Water capital projects, closed during the fiscal year 2015/16, represent an approved total budget of \$12,131,018 and compares with the actual total project costs of \$12,458,765, a net difference of \$327,747. The aggregate difference represents a deficit, and requires additional funding. The funding is available from two sources:

Item #5.2
HRWC Board
June 30, 2016

1. \$165,000 is available from the GIS Data Plan East (Water) project (Capital Work Order 300002190) which has been delayed and re-budgeted for within the 2016/17 capital budget, and
2. \$162,747 is available from the Water Services accumulated operating surplus within the 2015/16 fiscal year.

Wastewater capital projects, closed during the fiscal year 2015/16, represent an approved total budget of \$38,727,758 and compares with the actual total project costs of \$34,990,047, a net difference of \$3,737,711. The aggregate difference represents a surplus, which is utilized for capital funding sources for future years, and for funding 2015/16 and previous years' projects which are not yet completed.

Stormwater capital projects, closed during the fiscal year 2015/16, represent an approved total budget of \$5,739,000 and compares with the actual total project costs of \$5,565,229, a net difference of \$173,771. The aggregate difference represents a surplus, which is utilized for capital funding sources for future years, and for funding 2015/16 and previous years' capital projects which are not yet completed.

ATTACHMENTS

Attachment 1 - Capital Project Spending Summary, April 1, 2015 - March 31, 2016

Attachment 2 - Capital Project Spending Summary – Projects over \$250,000, April 1, 2015 - March 31, 2016

Attachment 3 - Capital Budget 2015/2016 – Cancelled or Deferred Project List

Report Prepared by:	<u>Original Signed By:</u> Corey Ellis, B. Comm., CPA, CGA, Accountant 490-2796
Financial Reviewed by:	<u>Original Signed By:</u> Cathie O'Toole, MBA, CPA, CGA, Director, Corporate Services/CFO

Capital Project Spending Summary

**ITEM #5.2
HRWC BOARD
30-Jun-16
ATTACHMENT 1**

April 1, 2015 - March 31, 2016

Project Number	Project Name	HRWC Board Approval Date	NSUARB Approval Date	Amount Spent: Cumulative to March 31/16	Project Budget	Over Budget	(Under Budget)
300001166	STUDIES & LEGAL - BEDFORD W	5-Jan-09	N/A	\$0.00	\$5,000.00	\$0.00	(\$5,000.00)
300001439	SCADA MASTER PLAN IMPLEMENT	29-Jun-10	7-Oct-10	\$675,564.25	\$673,000.00	\$2,564.25	\$0.00
300001622	WIND DEV - ROADWAY & SITE A	3-Apr-12	N/A	\$0.00	\$24,518.00	\$0.00	(\$24,518.00)
300001661	ASSET MGMT IMPLEMENTATION (	18-Jul-12	8-May-13	\$358,605.61	\$334,000.00	\$24,605.61	\$0.00
300001702	MACDONALD BRIDGE TRANS MAIN	15-Nov-12	N/A	\$0.00	\$0.00	\$0.00	\$0.00
300001727	COMPUTERIZED MAINTENANCE MG	6-Feb-13	N/A	\$53,569.60	\$50,000.00	\$3,569.60	\$0.00
300001752	JD KLINE FILTER VALVE ACTUA	21-Mar-13	N/A	\$36,870.27	\$45,000.00	\$0.00	(\$8,129.73)
300001754	CSE CHLORINE CHAMBER STORAG	21-Mar-13	N/A	\$104,616.74	\$118,000.00	\$0.00	(\$13,383.26)
300001762	JD KLINE WSP GEOSMIN TREATM	18-Mar-13	N/A	\$57,786.52	\$75,000.00	\$0.00	(\$17,213.48)
300001789	HIGHWAY #7 BOOSTER STN UPGR	19-Apr-13	N/A	\$246,422.34	\$317,000.00	\$0.00	(\$70,577.66)
300001790	POST - IRP PLANNING 12/13	30-Apr-13	N/A	\$0.00	\$5,000.00	\$0.00	(\$5,000.00)
300001814	BENNERLY LAKE WSP - HVAC SYS	27-Jun-13	N/A	\$0.00	\$0.00	\$0.00	\$0.00
300001844	CMMS PHASE 1 (W) 13/14	18-Jul-13	20-Sep-13	\$371,106.99	\$371,000.00	\$106.99	\$0.00
300001882	CSE RETROFIT AKERLEY RESERV	10-Mar-14	N/A	\$0.00	\$0.00	\$0.00	\$0.00
300001886	COW BAY RD BRIDGE (W) IP 14	30-Jan-15	31-Mar-14	\$165,536.41	\$40,000.00	\$125,536.41	\$0.00
300001888	CSE RETROFIT GEIZER 158 RES	10-Mar-14	N/A	\$0.00	\$0.00	\$0.00	\$0.00
300001890	RECHLORINATION STATION UPGR	10-Mar-14	N/A	\$25,938.75	\$22,000.00	\$3,938.75	\$0.00
300001900	MAIN RD TRANS MAIN RENEWAL	10-Mar-14	15-Apr-15	\$1,734,131.17	\$1,750,000.00	\$0.00	(\$15,868.83)
300001910	MISC EQUIPMENT REPLACEMENT	30-Jan-15	1-Apr-14	\$11,801.99	\$30,000.00	\$0.00	(\$18,198.01)
300001911	LEAK DETECTION EQUIPMENT -	30-Jan-15	1-Apr-14	\$9,225.82	\$10,000.00	\$0.00	(\$774.18)
300001912	PIPE LOCATOR EQUIPMENT - WE	30-Jan-15	1-Apr-14	\$9,065.12	\$10,000.00	\$0.00	(\$934.88)
300001913	TRAV-L VAC UNIT - WEST 14/1	30-Jan-15	1-Apr-14	\$0.00	\$21,000.00	\$0.00	(\$21,000.00)
300001914	ASPHALT CUTTING TRAILER - E	30-Jan-15	1-Apr-14	\$7,824.09	\$15,000.00	\$0.00	(\$7,175.91)
300001918	NETWORK INFRASTRUCTURE 14/1	30-Jan-15	1-Apr-14	\$118,145.40	\$100,000.00	\$18,145.40	\$0.00
300001921	CRITICAL VALVE REPLACE COGS	13-Mar-13	N/A	\$105,003.62	\$106,000.00	\$0.00	(\$996.38)
300001924	CARLISLE DRIVE PRV REPLACEM	27-Mar-13	N/A	\$226,748.92	\$231,000.00	\$0.00	(\$4,251.08)
300001926	BULK FILL STN - CARD READER	27-Mar-13	N/A	\$88,790.69	\$103,000.00	\$0.00	(\$14,209.31)
300001927	PRV CHAMBER OCEANVIEW BEDFO	27-Mar-13	N/A	\$215,513.90	\$218,000.00	\$0.00	(\$2,486.10)
300001928	CHEMICAL FEED PUMPS RECHLOR	7-Apr-14	N/A	\$10,999.17	\$11,000.00	\$0.00	(\$0.83)
300001932	LAKE MAJOR WSP REPLACE CONT	7-Apr-14	N/A	\$25,520.12	\$24,000.00	\$1,520.12	\$0.00
300001934	LAKE MAJOR WSP HVAC AT LOW	7-Apr-14	N/A	\$0.00	\$4,000.00	\$0.00	(\$4,000.00)
300001936	CHLORINE ANALYZERS	7-Apr-14	N/A	\$22,980.11	\$18,000.00	\$4,980.11	\$0.00
300001962	ASSET REGISTRY (W)	13-Jun-14	19-Jun-14	\$203,854.68	\$199,000.00	\$4,854.68	\$0.00
300001964	GIS DATA COLLECTION - DARTM	15-Apr-14	27-Jun-14	\$238,269.59	\$175,000.00	\$63,269.59	\$0.00
300001965	GIS DATA COLLECTION - DARTM	15-Apr-14	27-Jun-14	\$221,794.77	\$175,000.00	\$46,794.77	\$0.00
300001966	GIS DATA COLLECTION - BEDFO	15-Apr-14	27-Jun-14	\$202,919.83	\$150,000.00	\$52,919.83	\$0.00
300001990	MACDONALD BRIDGE TRANS MAIN	N/A	N/A	\$0.00	\$0.00	\$0.00	\$0.00
300002012	BASE TOPO SURVEY FOR 2015 C	27-Oct-14	N/A	\$0.00	\$0.00	\$0.00	\$0.00
300002020	PENHORN DR/SARNIA AVE (W) 1	28-Nov-14	15-Apr-15	\$520,485.70	\$587,000.00	\$0.00	(\$66,514.30)
300002021	KEMPT RD (W) IP 15/16	28-Nov-14	15-Apr-15	\$386,546.94	\$380,000.00	\$6,546.94	\$0.00

Capital Project Spending Summary

**ITEM #5.2
HRWC BOARD
30-Jun-16
ATTACHMENT 1**

April 1, 2015 - March 31, 2016

Project Number	Project Name	HRWC Board Approval Date	NSUARB Approval Date	Amount Spent: Cumulative to March 31/16	Project Budget	Over Budget	(Under Budget)
300002022	PEPPERELL ST (W) 15/16	28-Nov-14	15-Apr-15	\$368,319.69	\$371,000.00	\$0.00	(\$2,680.31)
300002023	RICHMOND AVE (W) IP 15/16	28-Nov-14	15-Apr-15	\$265,935.78	\$152,000.00	\$113,935.78	\$0.00
300002024	MACALPINE AVE (W) IP 15/16	28-Nov-14	15-Apr-15	\$278,983.64	\$232,000.00	\$46,983.64	\$0.00
300002025	DRYSDALE ROAD (W) IP 15/16	28-Nov-14	15-Apr-15	\$254,835.00	\$208,000.00	\$46,835.00	\$0.00
300002026	BRUNSWICK ST (W) IP 15/16	28-Nov-14	15-Apr-15	\$0.00	\$0.00	\$0.00	\$0.00
300002027	RHULAND ST (W) IP 15/16	28-Nov-14	15-Apr-15	\$129,532.84	\$150,000.00	\$0.00	(\$20,467.16)
300002028	FIRST AVE, BEDFORD (W) IP 1	28-Nov-14	15-Apr-15	\$307,181.82	\$310,000.00	\$0.00	(\$2,818.18)
300002029	ALDER CRESCENT (W) IP 15/16	28-Nov-14	15-Apr-15	\$123,349.04	\$150,000.00	\$0.00	(\$26,650.96)
300002031	COLLINS PARK - HWY 2 (W) IP 15/16	28-Nov-14	15-Apr-15	\$0.00	\$0.00	\$0.00	\$0.00
300002032	LAKE MAJOR CHLORINATOR REPL	21-Jan-15	N/A	\$183,434.30	\$185,000.00	\$0.00	(\$1,565.70)
300002034	BENNER LAKE WSP - INSULATI	4-Dec-14	N/A	\$59,126.73	\$66,000.00	\$0.00	(\$6,873.27)
300002039	UNINTERRUPTABLE POWER SUPPL	3-Feb-15	N/A	\$80,359.47	\$110,000.00	\$0.00	(\$29,640.53)
300002040	ACCESS CONTROL UPGRADES LAK	12-Feb-15	N/A	\$14,313.48	\$15,000.00	\$0.00	(\$686.52)
300002041	LAKE MAJOR DAM EMERGENCY FI	20-Feb-15	12-Jun-15	\$423,081.43	\$500,000.00	\$0.00	(\$76,918.57)
300002062	NOISE CORRELATOR LEAK DETEC	12-Mar-15	N/A	\$13,301.75	\$16,000.00	\$0.00	(\$2,698.25)
300002063	HARE LANE WM RENEWAL 15/16	23-Feb-15	N/A	\$50,364.85	\$51,000.00	\$0.00	(\$635.15)
300002064	RHULAND ST WM RENEWAL 15/16	23-Feb-15	N/A	\$0.00	\$0.00	\$0.00	\$0.00
300002065	ROSEBANK AVE WM RENEWAL 15/	23-Feb-15	N/A	\$193,310.80	\$230,000.00	\$0.00	(\$36,689.20)
300002066	WATERSHED LAND ACQ - BENNER	28-May-15	27-Jan-16	\$701,027.05	\$650,000.00	\$51,027.05	\$0.00
300002069	CRITICAL VALVE REPLACEMENT	4-May-15	N/A	\$0.00	\$0.00	\$0.00	\$0.00
300002075	GASTON RD CIRCUMFERENTIAL T	24-Mar-15	N/A	\$83,262.16	\$120,000.00	\$0.00	(\$36,737.84)
300002081	DISTRIBUTION SYSTEM VALVE R	30-Jan-15	9-Jun-15	\$118,704.85	\$125,000.00	\$0.00	(\$6,295.15)
300002082	HYDRANT REPLACEMENT PROGRAM	30-Jan-15	9-Jun-15	\$105,570.84	\$75,000.00	\$30,570.84	\$0.00
300002083	SERVICE LINE RENEWAL PROGRA	30-Jan-15	9-Jun-15	\$322,287.70	\$190,000.00	\$132,287.70	\$0.00
300002085	DESKTOP COMPUTER REPLACEMEN	30-Jan-15	9-Jun-15	\$88,533.72	\$90,000.00	\$0.00	(\$1,466.28)
300002097	METER REPLACEMENT PROGRAM 1	11-Sep-15	9-Oct-15	\$625,782.75	\$625,000.00	\$782.75	\$0.00
300002113	COWIE HILL 450 2ND FLOOR RE	22-May-15	27-Jul-15	\$34,783.58	\$37,500.00	\$0.00	(\$2,716.42)
300002119	CSE RETROFIT - TITUS & EVAN	24-Mar-15	N/A	\$51,935.97	\$65,000.00	\$0.00	(\$13,064.03)
300002120	SURVEY EQUIPMENT GPS TOTAL	30-Jan-15	9-Jun-15	\$15,031.00	\$13,000.00	\$2,031.00	\$0.00
300002121	FLEET UPGRADE PROGRAM (W)	30-Jan-15	9-Jun-15	\$539,277.63	\$398,000.00	\$141,277.63	\$0.00
300002122	LAKE MJR ENTRANCE RD CULVER	24-Mar-15	N/A	\$0.00	\$0.00	\$0.00	\$0.00
300002128	JD KLINE - PARKING LOT RESU	29-Sep-15	N/A	\$96,489.70	\$100,000.00	\$0.00	(\$3,510.30)
300002131	REPLACE CONTACTORS IN THE M	30-Apr-15	N/A	\$27,188.00	\$26,000.00	\$1,188.00	\$0.00
300002132	LAKE MAJOR BUTTERFLY VALVE	24-Mar-15	N/A	\$0.00	\$0.00	\$0.00	\$0.00
300002136	LM WSP CHEMICAL FEED PUMPS	5-May-15	N/A	\$19,457.98	\$20,000.00	\$0.00	(\$542.02)
300002137	LM WSP - LIME DOSING SYSTEM	5-Jun-15	N/A	\$9,504.25	\$10,000.00	\$0.00	(\$495.75)
300002139	LM WSP CHLORINE ANALYZER &	4-May-15	N/A	\$11,683.51	\$12,000.00	\$0.00	(\$316.49)
300002141	CHLORINE VACUUM REGULATOR	30-Apr-15	N/A	\$132,287.25	\$138,000.00	\$0.00	(\$5,712.75)
300002148	BL WSP ZETA POTENTIAL METER	24-Mar-15	N/A	\$41,633.68	\$72,000.00	\$0.00	(\$30,366.32)
300002151	TRUCK MOUNTED VALVE EXERCIS	30-Jan-15	9-Jun-15	\$27,870.43	\$30,000.00	\$0.00	(\$2,129.57)

Capital Project Spending Summary

**ITEM #5.2
HRWC BOARD
30-Jun-16
ATTACHMENT 1**

April 1, 2015 - March 31, 2016

Project Number	Project Name	HRWC Board Approval Date	NSUARB Approval Date	Amount Spent: Cumulative to March 31/16	Project Budget	Over Budget	(Under Budget)
300002152	UPGRADE TO CORRELATOR	30-Jan-15	9-Jun-15	\$0.00	\$2,000.00	\$0.00	(\$2,000.00)
300002153	GPS/TOTAL STATION FOR WATER	30-Jan-15	9-Jun-15	\$25,391.38	\$28,000.00	\$0.00	(\$2,608.62)
300002159	MAIN ST (W) IP 15/16	21-Jan-15	15-Apr-15	\$0.00	\$0.00	\$0.00	\$0.00
300002160	SACKVILLE CROSS RD BRIDGE (	21-Jan-15	15-Apr-15	\$111,202.13	\$100,000.00	\$11,202.13	\$0.00
300002161	TOTAL STATION SURVEY UNIT	22-Apr-15	N/A	\$26,319.57	\$26,000.00	\$319.57	\$0.00
300002187	LEAK DETECTION EQUIPMENT 15	30-Jan-15	9-Jun-15	\$19,189.36	\$16,000.00	\$3,189.36	\$0.00
300002311	TRENCH BOX - EAST REGION OP	19-Jan-16	N/A	\$17,655.62	\$20,000.00	\$0.00	(\$2,344.38)
300002434	NORTH PRESTON RESERVIOR MIX	20-Apr-16	N/A	\$5,625.01	\$0.00	\$5,625.01	\$0.00
Water Capital Difference				\$12,458,764.85	\$12,131,018.00	\$946,608.51	(\$618,861.66)
						\$327,746.85	
600000361	ELLENVALE HOLDING TANK	28-May-09	26-Jun-09	\$61,304.82	\$235,000.00	\$0.00	(\$173,695.18)
600000427	LOCKVIEW-MACPHERSON WWTF UP	7-Jun-10	N/A	\$175,439.52	\$198,303.70	\$0.00	(\$22,864.18)
600000456	LATERAL CARD DATABASE CONVE	7-Oct-10	N/A	\$550,856.97	\$449,964.00	\$100,892.97	\$0.00
600000602	SEWER LATERAL LINING TRENCH	26-Apr-12	2-May-14	\$1,076,180.45	\$1,113,500.00	\$0.00	(\$37,319.55)
600000620	CN QUINPOOL BRIDGE STRUCTUR	24-May-12	N/A	\$0.00	\$55,000.00	\$0.00	(\$55,000.00)
600000635	HALIFAX WWTF - VARIOUS UPGR	24-Jul-12	N/A	\$213,436.38	\$215,000.00	\$0.00	(\$1,563.62)
600000638	INTERCOLONIAL RD - STORM &	10-Aug-12	19-Apr-13	\$875,774.49	\$922,175.00	\$0.00	(\$46,400.51)
600000665	COW BAY RD DEEP STORM SEWER	25-Oct-12	N/A	\$0.00	\$0.00	\$0.00	\$0.00
600000686	LAKESIDE PS - DIVERSION TO	3-Oct-12	19-Dec-12	\$24,580,281.66	\$25,918,000.00	\$0.00	(\$1,337,718.34)
600000692	WET WEATHER MGMT PLANNING P	1-Apr-16	N/A	\$126,236.28	\$125,000.00	\$1,236.28	\$0.00
600000707	SEWER LINING PROGRAM 13/14	N/A	N/A	\$0.00	\$0.00	\$0.00	\$0.00
600000712	COMPUTERIZED MAINTENANCE MG	6-Feb-13	N/A	\$52,932.33	\$50,000.00	\$2,932.33	\$0.00
600000727	DARTMOUTH WWTF HHSP UPGRADE	18-Mar-13	N/A	\$112,597.38	\$113,000.00	\$0.00	(\$402.62)
600000728	HERRING COVE WWTF HHSP UPGR	18-Mar-13	N/A	\$147,661.68	\$148,400.00	\$0.00	(\$738.32)
600000729	HALIFAX WWTF HHSP UPGRADES	18-Mar-13	N/A	\$172,119.18	\$173,000.00	\$0.00	(\$880.82)
600000740	SCADA MASTER PLAN IMLEM. (	19-Nov-12	1-Mar-13	\$351,830.56	\$365,000.00	\$0.00	(\$13,169.44)
600000762	ASSET MGMT IMPLEMENTATION (	18-Jul-12	8-May-13	\$85,619.98	\$110,600.00	\$0.00	(\$24,980.02)
600000783	MILL COVE SOUTH SIDE CLARIF	26-Jul-13	N/A	\$0.00	\$5,000.00	\$0.00	(\$5,000.00)
600000804	CMMS - PHASE 1 (WW) 13/14	18-Jul-13	20-Sep-13	\$300,389.27	\$296,800.00	\$3,589.27	\$0.00
600000844	KILLARNEY PUMPING STATION -	13-Jan-14	N/A	\$12,857.45	\$15,000.00	\$0.00	(\$2,142.55)
600000847	WET WEATHER MGMT - STEWART	5-Feb-14	N/A	\$0.00	\$0.00	\$0.00	\$0.00
600000848	WET WEATHER MGMT - CRESCENT	5-Feb-14	N/A	\$0.00	\$0.00	\$0.00	\$0.00
600000849	WET WEATHER MGMT - COW BAY	5-Feb-14	N/A	\$0.00	\$0.00	\$0.00	\$0.00
600000881	DWWTF - VARIABLE FREQUENCY	26-Feb-14	N/A	\$0.00	\$80,000.00	\$0.00	(\$80,000.00)
600000882	DWWTF - DOMESTIC HOT WATER	26-Feb-14	N/A	\$0.00	\$7,000.00	\$0.00	(\$7,000.00)
600000883	HWWTF - VARIABLE FREQUENCY	26-Feb-14	N/A	\$0.00	\$2,000.00	\$0.00	(\$2,000.00)
600000884	HCWWTF - VARIABLE FREQUENCY	26-Feb-14	N/A	\$0.00	\$35,000.00	\$0.00	(\$35,000.00)
600000885	HCWWTF - DOMESTIC HOT WATER	26-Feb-14	N/A	\$0.00	\$7,200.00	\$0.00	(\$7,200.00)
600000889	LATERAL LINING EQUIPMENT 14	30-Jan-15	1-Apr-14	\$36,472.85	\$50,000.00	\$0.00	(\$13,527.15)

Capital Project Spending Summary

**ITEM #5.2
HRWC BOARD
30-Jun-16
ATTACHMENT 1**

April 1, 2015 - March 31, 2016

Project Number	Project Name	HRWC Board Approval Date	NSUARB Approval Date	Amount Spent: Cumulative to March 31/16	Project Budget	Over Budget	(Under Budget)
600000894	NETWORK INFRASTRUCTURE (WW)	30-Jan-15	1-Apr-14	\$70,822.72	\$80,000.00	\$0.00	(\$9,177.28)
600000902	BELMONT WWTF DECOMMISSIONIN	27-Mar-13	N/A	\$0.00	\$0.00	\$0.00	\$0.00
600000912	BIOSOLIDS CHP PROJECT	N/A	N/A	\$0.00	\$5,000.00	\$0.00	(\$5,000.00)
600000914	ALDER CRESCENT COLLECTION S	22-May-14	N/A	\$0.00	\$0.00	\$0.00	\$0.00
600000917	15/16 INTEGRATED PROJECT CC	28-May-14	N/A	\$0.00	\$0.00	\$0.00	\$0.00
600000919	NORTH PARK UPGRADE (WW) IP	24-Apr-14	N/A	\$183,076.68	\$193,000.00	\$0.00	(\$9,923.32)
600000920	WW PS UPGRADE PROG - VARIOU	24-Apr-14	6-Jun-14	\$286,473.37	\$460,000.00	\$0.00	(\$173,526.63)
600000942	ASSET REGISTRY (WW)	19-Jun-14	N/A	\$153,203.40	\$159,200.00	\$0.00	(\$5,996.60)
600000944	BIOSOLIDS PROCESSING FAC UP	19-Jun-14	N/A	\$152,692.63	\$150,000.00	\$2,692.63	\$0.00
600000946	SCADA CONTROL SYSTEM ENHANC	19-Jun-14	N/A	\$89,125.39	\$100,000.00	\$0.00	(\$10,874.61)
600001003	HC WWTF VENTILATION HEAT RE	19-Sep-14	N/A	\$231,244.07	\$240,000.00	\$0.00	(\$8,755.93)
600001004	SECURITY UPGRADE PROGRAM (W	22-Sep-14	N/A	\$55,479.40	\$50,000.00	\$5,479.40	\$0.00
600001010	DARTMOUTH WWTF PERM ACCESS	9-Oct-14	N/A	\$17,055.31	\$18,000.00	\$0.00	(\$944.69)
600001011	MAIN STREET SEWER MAIN REPL	27-Nov-14	N/A	\$191,833.71	\$186,000.00	\$5,833.71	\$0.00
600001015	PENHORN DRIVE 2015 (WW) IP	3-Nov-14	N/A	\$36,271.03	\$99,000.00	\$0.00	(\$62,728.97)
600001016	SARNIA AVENUE 2015 (WW) IP	3-Nov-14	N/A	\$21,659.22	\$47,000.00	\$0.00	(\$25,340.78)
600001017	RICHMOND STREET 2015 (WW) I	3-Nov-14	N/A	\$101,614.19	\$119,000.00	\$0.00	(\$17,385.81)
600001020	GRIT PUMPS - MILL COVE WWTF	28-Nov-14	N/A	\$27,776.96	\$30,000.00	\$0.00	(\$2,223.04)
600001021	HCWWTF WASTE OIL BOILER	1-Dec-14	N/A	\$47,532.09	\$50,000.00	\$0.00	(\$2,467.91)
600001024	WINBRIDGE LEGAL COSTS	9-Jan-15	N/A	\$0.00	\$5,000.00	\$0.00	(\$5,000.00)
600001025	UNINTERRUPTABLE POWER SUPPL	3-Feb-15	N/A	\$65,134.68	\$88,000.00	\$0.00	(\$22,865.32)
600001026	EAST REGION WW EQUIP REHAB	12-Feb-15	N/A	\$90,798.76	\$90,000.00	\$798.76	\$0.00
600001029	DARTMOUTH WWTF VFD SCRUBBER	12-Feb-15	N/A	\$110,781.95	\$144,381.00	\$0.00	(\$33,599.05)
600001030	HERRING COVE WWTF VFD SCRUB	12-Feb-15	N/A	\$76,062.80	\$126,334.00	\$0.00	(\$50,271.20)
600001043	TIMBERLEA WWTF ALUM TANK -	6-Mar-15	N/A	\$62,526.72	\$50,000.00	\$12,526.72	\$0.00
600001044	DWWTF MCC 190 VENTILATION U	10-Mar-15	N/A	\$53,237.60	\$50,000.00	\$3,237.60	\$0.00
600001047	WET WEATHER MANAGEMENT PROG	1-Apr-16	N/A	\$0.00	\$0.00	\$0.00	\$0.00
600001052	MANHOLE RENEWALS - EAST 15/	30-Jan-15	9-Jun-15	\$0.00	\$10,000.00	\$0.00	(\$10,000.00)
600001053	MANHOLE RENEWALS - WEST 15/	30-Jan-15	9-Jun-15	\$9,528.06	\$10,000.00	\$0.00	(\$471.94)
600001054	MANHOLE RENEWALS - CENTRAL	30-Jan-15	9-Jun-15	\$0.00	\$9,000.00	\$0.00	(\$9,000.00)
600001055	LATERAL REPLACEMENTS - EAST	30-Jan-15	9-Jun-15	\$591,618.06	\$496,700.00	\$94,918.06	\$0.00
600001056	LATERAL REPLACEMENTS - WEST	30-Jan-15	9-Jun-15	\$460,148.90	\$496,700.00	\$0.00	(\$36,551.10)
600001057	LATERAL REPLACEMENTS - CENT	30-Jan-15	9-Jun-15	\$117,775.03	\$496,600.00	\$0.00	(\$378,824.97)
600001060	SEWER LINING PROGRAM	22-Apr-15	26-Jun-15	\$496,654.55	\$805,000.00	\$0.00	(\$308,345.45)
600001061	ALDER CRES COLLECTION SYSTE	21-Jan-15	15-Apr-15	\$592,762.96	\$645,000.00	\$0.00	(\$52,237.04)
600001074	WW PUMP STATION UPGRADE PRO	23-Mar-16	N/A	\$35,613.67	\$70,000.00	\$0.00	(\$34,386.33)
600001097	WASTEWATER OPERATIONS EQUIP	30-Jan-15	9-Jun-15	\$32,776.87	\$120,000.00	\$0.00	(\$87,223.13)
600001100	DESKTOP COMPUTER REPLACEMEN	30-Jan-15	9-Jun-15	\$70,826.48	\$72,000.00	\$0.00	(\$1,173.52)
600001124	COWIE HILL 450 2ND FLOOR RE	7-Jan-16	N/A	\$27,826.87	\$30,000.00	\$0.00	(\$2,173.13)
600001129	SURVEY EQUIPMENT GPS TOTAL	30-Jan-15	9-Jun-15	\$12,016.38	\$10,400.00	\$1,616.38	\$0.00

Capital Project Spending Summary

**ITEM #5.2
HRWC BOARD
30-Jun-16
ATTACHMENT 1**

April 1, 2015 - March 31, 2016

Project Number	Project Name	HRWC Board Approval Date	NSUARB Approval Date	Amount Spent: Cumulative to March 31/16	Project Budget	Over Budget	(Under Budget)
600001130	FLEET UPGRADE PROGRAM (WW)	30-Jan-15	9-Jun-15	\$387,674.93	\$988,000.00	\$0.00	(\$600,325.07)
600001133	UV BALLASTS REPLACEMENT - M	9-Apr-15	N/A	\$33,802.29	\$40,000.00	\$0.00	(\$6,197.71)
600001135	LATERAL CAMERA	24-Apr-15	N/A	\$0.00	\$9,000.00	\$0.00	(\$9,000.00)
600001137	WHYNETTE PLACE (WW) IP 15/1	21-Jan-15	15-Apr-15	\$52,163.07	\$52,000.00	\$163.07	\$0.00
600001138	CROSS ROAD (WW) IP 15/16	21-Jan-15	15-Apr-15	\$86,404.90	\$99,000.00	\$0.00	(\$12,595.10)
600001139	DEWHURST DRIVE (WW) IP 15/1	21-Jan-15	15-Apr-15	\$46,034.34	\$47,000.00	\$0.00	(\$965.66)
600001140	HOMES RD BRIDGE (WW) IP 15/	21-Jan-15	15-Apr-15	\$0.00	\$71,000.00	\$0.00	(\$71,000.00)
600001141	LAHEY ROAD (WW) IP 15/16	21-Jan-15	15-Apr-15	\$0.00	\$82,000.00	\$0.00	(\$82,000.00)
600001142	PEPPERELL ST (WW) IP 15/16	21-Jan-15	15-Apr-15	\$57,259.40	\$62,000.00	\$0.00	(\$4,740.60)
600001144	FIRST AVE (WW) IP 15/16	21-Jan-15	15-Apr-15	\$16,538.56	\$52,000.00	\$0.00	(\$35,461.44)
600001145	SACKVILLE CROSS RD BRIDGE (	21-Jan-15	15-Apr-15	\$116,410.01	\$135,000.00	\$0.00	(\$18,589.99)
600001146	CUNNINGHAM (WW) IP 15/16	21-Jan-15	15-Apr-15	\$0.00	\$18,000.00	\$0.00	(\$18,000.00)
600001147	SKYVUE TERRACE (WW) IP 15/1	21-Jan-15	15-Apr-15	\$93,804.99	\$99,000.00	\$0.00	(\$5,195.01)
600001148	DWWTF LOCAL UV SYSTEM DISCONNECTS	4-May-15	N/A	\$20,198.63	\$22,500.00	\$0.00	(\$2,301.37)
600001149	FLOW MONITORING FOR MODEL C	N/A	N/A	\$0.00	\$0.00	\$0.00	\$0.00
600001241	WWTF CCTV UPGRADES	13-Nov-15	N/A	\$45,426.47	\$50,000.00	\$0.00	(\$4,573.53)
N/A	GIS DATA COLLECTION - DARTM	15-Apr-14	27-Jun-14	\$190,615.67	\$140,000.00	\$50,615.67	\$0.00
N/A	GIS DATA COLLECTION - DARTM	15-Apr-14	27-Jun-14	\$177,435.82	\$140,000.00	\$37,435.82	\$0.00
N/A	GIS DATA COLLECTION - BEDFO	15-Apr-14	27-Jun-14	\$162,335.86	\$120,000.00	\$42,335.86	\$0.00
Wastewater Capital Difference				\$34,990,046.70	\$38,727,757.70	\$366,304.53	(\$4,104,015.53)
							(\$3,737,711.00)
700000442	ASSET MGMT IMPLEMENTATION (	18-Jul-12	8-May-13	\$63,387.56	\$63,400.00	\$0.00	(\$12.44)
700000484	CMMS - PHASE 1 (SW)	18-Jul-13	20-Sep-13	\$75,500.89	\$74,200.00	\$1,300.89	\$0.00
700000542	GRAFTON & ARGYLE ST SEWER S	15-Apr-14	N/A	\$253,184.56	\$250,000.00	\$3,184.56	\$0.00
700000546	NETWORK INFRASTRUCTURE SW 1	30-Jan-15	1-Apr-14	\$17,955.69	\$20,000.00	\$0.00	(\$2,044.31)
700000565	ELLENVALE RUN RETAINING WAL	19-Feb-14	1-May-14	\$33,321.01	\$350,000.00	\$0.00	(\$316,678.99)
700000581	COW BAY RD DEEP STORM SEWER	14-Mar-14	23-Jun-14	\$2,074,128.66	\$2,305,500.00	\$0.00	(\$231,371.34)
700000582	ASSET REGISTRY (SW)	13-Jun-14	19-Jun-14	\$38,310.32	\$39,800.00	\$0.00	(\$1,489.68)
700000585	METROPOLITAN AVE SW IMPROVE	27-Feb-14	7-Jul-14	\$991,505.38	\$950,000.00	\$41,505.38	\$0.00
700000626	LITTLE SACKVILLE RIVER FLOO	N/A	N/A	\$0.00	\$5,000.00	\$0.00	(\$5,000.00)
700000627	PENHORN DRIVE 2015 SW IP	3-Nov-14	N/A	\$14,443.60	\$16,000.00	\$0.00	(\$1,556.40)
700000642	UNINTERRUPTABLE POWER SUPPL	3-Feb-15	N/A	\$16,232.61	\$22,000.00	\$0.00	(\$5,767.39)
700000661	MANHOLE RENEWALS - EAST 15/	30-Jan-15	9-Jun-15	\$14,874.35	\$9,000.00	\$5,874.35	\$0.00
700000662	MANHOLE RENEWALS - WEST 15/	30-Jan-15	9-Jun-15	\$0.00	\$9,000.00	\$0.00	(\$9,000.00)
700000663	MANHOLE RENEWALS - CENTRAL	30-Jan-15	9-Jun-15	\$0.00	\$8,000.00	\$0.00	(\$8,000.00)
700000664	CATCHBASIN RENEWALS - EAST	30-Jan-15	9-Jun-15	\$18,918.62	\$9,000.00	\$9,918.62	\$0.00
700000665	CATCHBASIN RENEWALS - WEST	30-Jan-15	9-Jun-15	\$4,942.79	\$9,000.00	\$0.00	(\$4,057.21)
700000666	CATCHBASIN RENEWALS - CENTR	30-Jan-15	9-Jun-15	\$24,281.61	\$8,000.00	\$16,281.61	\$0.00
700000667	LATERAL REPLACEMENTS - EAST	30-Jan-15	9-Jun-15	\$0.00	\$18,000.00	\$0.00	(\$18,000.00)

Capital Project Spending Summary

ITEM #5.2
 HRWC BOARD
 30-Jun-16
 ATTACHMENT 1

April 1, 2015 - March 31, 2016

Project Number	Project Name	HRWC Board Approval Date	NSUARB Approval Date	Amount Spent: Cumulative to March 31/16	Project Budget	Over Budget	(Under Budget)
70000668	LATERAL REPLACEMENTS - WEST	30-Jan-15	9-Jun-15	\$0.00	\$18,000.00	\$0.00	(\$18,000.00)
70000669	LATERAL REPLACEMENTS - CENT	30-Jan-15	9-Jun-15	\$0.00	\$17,000.00	\$0.00	(\$17,000.00)
70000672	SHORE DRIVE STORM SEWER DIV	24-Feb-15	8-Apr-15	\$71,791.13	\$91,000.00	\$0.00	(\$19,208.87)
70000674	LITTLE SACKVILLE RIVER FLOO	13-Jul-15	N/A	\$0.00	\$51,000.00	\$0.00	(\$51,000.00)
70000675	DRIVEWAY CULVERT REPLACE 15	30-Jan-15	9-Jun-15	\$557,561.63	\$200,000.00	\$357,561.63	\$0.00
70000680	DESKTOP COMPUTER REPLACEMEN	30-Jan-15	9-Jun-15	\$17,706.00	\$18,000.00	\$0.00	(\$294.00)
70000703	COWIE HILL 450 2ND FLOOR RE	7-Jan-16	N/A	\$6,956.72	\$7,500.00	\$0.00	(\$543.28)
70000704	SURVEY EQUIPMENT GPS TOTAL	30-Jan-15	9-Jun-15	\$3,001.87	\$2,600.00	\$401.87	\$0.00
70000705	FLEET UPGRADE PROGRAM (SW)	30-Jan-15	9-Jun-15	\$262,127.09	\$247,000.00	\$15,127.09	\$0.00
70000707	DRIVEWAY CULVERT REPLACE 15	30-Jan-15	9-Jun-15	\$67,767.05	\$0.00	\$67,767.05	\$0.00
70000708	DRIVEWAY CULVERT REPLACE 15	30-Jan-15	9-Jun-15	\$75,856.08	\$0.00	\$75,856.08	\$0.00
70000709	YANKEETOWN RD NEAR CIVIC #2	20-Mar-15	N/A	\$50,301.97	\$66,000.00	\$0.00	(\$15,698.03)
70000715	WHYNETTE PLACE (SW) IP 15/1	21-Jan-15	15-Apr-15	\$65,632.00	\$73,000.00	\$0.00	(\$7,368.00)
70000716	CROSS RD (SW) IP 15/16	21-Jan-15	15-Apr-15	\$85,858.85	\$85,500.00	\$358.85	\$0.00
70000717	DEWHURST DR (SW) IP 15/16	21-Jan-15	15-Apr-15	\$57,901.81	\$72,000.00	\$0.00	(\$14,098.19)
70000718	SKYVUE TERRACE (SW) IP 15/1	21-Jan-15	15-Apr-15	\$93,055.55	\$99,000.00	\$0.00	(\$5,944.45)
70000719	RICHMOND AVE (SW) IP 15/16	21-Jan-15	15-Apr-15	\$40,061.47	\$54,000.00	\$0.00	(\$13,938.53)
70000720	THORNHILL DR (SW) IP 15/16	21-Jan-15	15-Apr-15	\$4,348.72	\$16,000.00	\$0.00	(\$11,651.28)
70000721	FIRST AVE (SW) IP 15/16	21-Jan-15	15-Apr-15	\$63,162.08	\$52,000.00	\$11,162.08	\$0.00
70000722	CUNNINGHAM (SW) IP 15/16	21-Jan-15	15-Apr-15	\$0.00	\$18,000.00	\$0.00	(\$18,000.00)
70000741	ARMANDA CRESCENT MANHOLE RE	23-Jun-15	N/A	\$12,104.99	\$13,500.00	\$0.00	(\$1,395.01)
70000754	BLUEWATER RD SW INFRASTRUCT	21-Jul-15	N/A	\$185,073.63	\$197,000.00	\$0.00	(\$11,926.37)
70000820	SACKVILLE DR CROSS CULVERT	17-Nov-15	N/A	\$30,322.23	\$30,000.00	\$322.23	\$0.00
70000842	OLD SACKVILLE RD (SW) IP 15	23-Nov-15	N/A	\$13,240.12	\$14,000.00	\$0.00	(\$759.88)
70000843	GRADE ADJUSTMENT- OLD FERRY	26-Nov-15	N/A	\$22,020.17	\$25,000.00	\$0.00	(\$2,979.83)
70000883	ST MARGARETS BAY RD SW IP	18-Jan-16	N/A	\$5,793.09	\$6,000.00	\$0.00	(\$206.91)
N/A	GIS DATA COLLECTION - DARTM	15-Apr-14	27-Jun-14	\$47,653.92	\$35,000.00	\$12,653.92	\$0.00
N/A	GIS DATA COLLECTION - DARTM	15-Apr-14	27-Jun-14	\$44,358.95	\$35,000.00	\$9,358.95	\$0.00
N/A	GIS DATA COLLECTION - BEDFO	15-Apr-14	27-Jun-14	\$40,583.97	\$30,000.00	\$10,583.97	\$0.00
Stormwater Capital Difference				\$5,565,228.74	\$5,739,000.00	\$639,219.13	(\$812,990.39)
						(\$173,771.26)	
Net Difference				\$53,014,040.29	\$56,597,775.70	\$1,952,132.17	(\$5,535,867.58)
						(\$3,583,735.41)	

Capital Project Spending Summary over \$250,000
April 1, 2015 - March 31, 2016

ITEM # 5.2
HRWC Board
30-Jun-16
ATTACHMENT 2

Project Number	Project Name	HRWC Board Approval Date	NSUARB Approval Date	Amount Spent: Cumulative to March 31/16	Staged Approvals		Total Project Budget	Project Adjustments	Revised Total Project Budget	Over Budget	(Under Budget)	Comments
					Design	Tender / Construction						
300001439	SCADA MASTER PLAN IMPLEMENTATION 2010	June 29, 2010	October 7, 2010	\$675,564	\$0	\$0	\$773,000	(\$100,000)	\$673,000	\$2,564	\$0	Project completed under budget. Minus 100K to 3-1433 Kearney Lake Road Transmission Main Replacement Design.
300001661	ASSET MGMT IMPLEMENTATION (W) 12/13	July 18, 2012	May 8, 2013	\$358,606	\$62,000	\$450,000	\$512,000	(\$178,000)	\$334,000	\$24,606	\$0	Added 450K (Construction) May 8, 2013, minus 61K (Design) to 6-762, minus 61K (Design) to 7-442, minus 15.5K for budget correction Aug 5, 2014, minus 75K to 3-1962, minus 87.5K to 3-2379.
300001844	CMMS PHASE 1 (W) 13/14	July 18, 2013	September 20, 2013	\$371,107	\$0	\$0	\$371,000	\$0	\$371,000	\$107	\$0	50% allocation of \$742,000 approval.
300001900	MAIN RD TRANSMISSION MAIN RENEWAL	March 10, 2014 & January 29, 2015	April 15, 2015	\$1,734,131	\$100,000	\$1,650,000	\$1,750,000	\$0	\$1,750,000	\$0	(\$15,869)	
300001964	GIS DATA COLLECTION - DARTMOUTH NORTH	April 15, 2014	June 27, 2014	\$238,270	\$0	\$0	\$175,000	\$0	\$175,000	\$63,270	\$0	Part of Corporate GIS Plan. Greater number of assets than originally estimated. Significant effort required by internal staff in quality control process.
300001965	GIS DATA COLLECTION - DARTMOUTH CENTRE	April 15, 2014	June 27, 2014	\$221,795	\$0	\$0	\$175,000	\$0	\$175,000	\$46,795	\$0	Part of Corporate GIS Plan. Greater number of assets than originally estimated. Significant effort required by internal staff in quality control process.
300001966	GIS DATA COLLECTION - BEDFORD AREA	April 15, 2014	June 27, 2014	\$202,920	\$0	\$0	\$150,000	\$0	\$150,000	\$52,920	\$0	Part of Corporate GIS Plan. Greater number of assets than originally estimated. Significant effort required by internal staff in quality control process.
300002020	PENHORN DR / SARNIA AVE (W) IP 15/16	November 28, 2014	April 15, 2015	\$520,486	\$0	\$0	\$657,000	(\$70,000)	\$587,000	\$0	(\$66,514)	Combined Penhorn and Sarnia budgets. Minus 70K to 3-2021 Kempt Rd. IP 15/16 July 21 2015.
300002022	PEPPERELL ST (W) 15/16	November 28, 2014	April 15, 2015	\$368,320	\$0	\$0	\$371,000	\$0	\$371,000	\$0	(\$2,680)	
300002028	FIRST AVE, BEDFORD (W) IP 15/16	November 28, 2014	April 15, 2015	\$307,182	\$0	\$0	\$310,000	\$0	\$310,000	\$0	(\$2,818)	
300002041	LAKE MAJOR DAM EMERGENCY REPAIR FISH PUMP	February 20, 2015 & May 22, 2015	June 12, 2015	\$423,081	\$0	\$0	\$100,000	\$400,000	\$500,000	\$0	(\$76,919)	Second approval for \$400K to include a siphon system to maintain desired flow requirement. Project came in under budget.
300002066	WATERSHED LAND ACQUISITION - BENNERLY LAKE	May 28, 2015	January 27, 2016	\$701,027	\$0	\$0	\$650,000	\$0	\$650,000	\$51,027	\$0	Land purchase was approx \$640K. Additional costs included \$20K survey / \$28K in non refundable portion of HST - self assessed at closing.
300002097	METER REPLACEMENT PROGRAM 15/16	September 11, 2015	October 9, 2015	\$625,783	\$0	\$0	\$1,000,000	(\$375,000)	\$625,000	\$783	\$0	Fewer meters replaced than anticipated. Pro-active replacement program suspended due to impending transition to AMI meter technology. Unused budget is being transferred to 2016-17 Meters work order 3-2428 to continue replacement activity until AMI project begins in July 2016.
300002121	FLEET UPGRADE PROGRAM (W) 15/16	January 30, 2015	June 9, 2015	\$539,278	\$0	\$0	\$398,000	\$0	\$398,000	\$141,278	\$0	More WATER vehicle purchases than anticipated.
Water Capital Difference				\$7,287,548	\$162,000	\$2,100,000	\$7,392,000	(\$323,000)	\$7,069,000	\$383,348	(\$164,800)	
											\$218,548	
600000361	ELLENVALE HOLDING TANK	May 28, 2009	June 26, 2009	\$61,305	\$0	\$235,000	\$235,000	\$0	\$235,000	\$0	(\$173,695)	Initial portions of the proposed study was completed, however, because of the on going Wet Weather Management Program further study was halted. Work and knowledge was integrated into the Wet Weather Management Program.
600000602	SEWER LATERAL LINING TRENCHLESS PILOT PROJECT	April 26, 2012, February 13, 2013 & February 27, 2014	May 2, 2014	\$1,076,180	\$50,000	\$1,014,000	\$1,064,000	\$49,500	\$1,113,500	\$0	(\$37,320)	A total of 30 laterals were lined from the main to the homes and a total of 11 laterals were lined from the main to the street line. Added 49.5K from Feb 11, 2013 approval.
600000638	INTERCOLONIAL RD - STORM & SANITARY	August 10, 2012, September 7, 2012, January 31, 2013, July 30, 2015, & September 24, 2015	April 19, 2013, September 17, 2015, & October 14, 2015	\$875,774	\$25,000	\$590,000	\$615,000	\$307,175	\$922,175	\$0	(\$46,401)	Installation of new storm sewer and conversion of the old combined sewer to new storm sewer on Intercolonial Rd. Budget adjustments as follows: added 125K (engineering services) Sept. 17, 2012 added 590K April 19, 2013, minus \$25,825 to 6-800 Aug. 20, 2013, minus 80K to 6-699 Sept 24, 2013, minus 200K to 6-807 Oct 3, 2013, added 96K from 6-686 Sept 17 2015, added 392k from 6-686 Oct 14 2015.
600000686	LAKESIDE PS DIVERSION TO HFX SEWERSHED	October 3, 2012 & July 17, 2013	December 19, 2012 & December 9, 2013	\$24,580,282	\$1,756,000	\$21,972,000	\$23,728,000	\$2,190,000	\$25,918,000	\$0	(\$1,337,718)	Project was well under total budget based on actual tender price. Budget adjustments as follows: Added 100K from 6-320 Feb 22, 2013, added 229K from 6-402 Feb 25, 2013, added 21.972M December 9, 2013, added 3.16M from 6-633 (similar project), minus 120K to 6-1011 Nov. 27, 2014 minus 100K to 7-542 Nov. 27, 2014, minus 96K to 6-638 Sept 17 2015, minus 60K to 6-1262 Dec. 4 2015, minus 40K to 3-2308 Jan 6 2016, minus 75k to 3-2400 Mar. 9 2016, minus 392k to 6-638 Oct 14 2015, minus 16K to 6-635 March 18 2016, minus 400K to 6-1019 May 26, 2016.
600000740	SCADA MASTER PLAN IMPLEMENTATION (L3&L4) 12/13 (WW)	November 19, 2012	March 1, 2013	\$351,831	\$0	\$0	\$365,000	\$0	\$365,000	\$0	(\$13,169)	
600000762	ASSET MGMT IMPLEMENTATION (WW) 12/13	July 18, 2012	May 8, 2013	\$85,620	\$61,000	\$360,000	\$421,000	(\$310,400)	\$110,600	\$0	(\$24,980)	Minus 12.4K for budget correction Aug. 5, 2014, minus 60K to 6-942 Mar. 3 2016, minus 70K to 6-1373 Mar. 3 2016, minus 168K to 3-2380 Mar. 3 2016.
600000804	CMMS - PHASE 1 (WW) 13/14	July 18, 2013	September 20, 2013	\$300,389	\$0	\$0	\$296,800	\$0	\$296,800	\$3,589	\$0	40% allocation of \$742,000 approval.
600000920	WW PS UPGRADE PROGRAM - VARIOUS LOCATIONS	April 24, 2014	June 6, 2014	\$286,473	\$0	\$0	\$550,000	(\$90,000)	\$460,000	\$0	(\$173,527)	Fewer pump replacements were undertaken than anticipated. The actual cost of pump replacement work which was undertaken was less than estimated. Minus 90K to 6-1026 Feb. 12 2015.
600001055	LATERAL REPLACEMENTS (EAST) 15/16	January 30, 2015	June 9, 2015	\$591,618	\$0	\$0	\$496,700	\$0	\$496,700	\$94,918	\$0	More laterals were done within this region than the others based on actual field conditions during the year.

Capital Project Spending Summary over \$250,000
April 1, 2015 - March 31, 2016

ITEM # 5.2
HRWC Board
30-Jun-16
ATTACHMENT 2

Project Number	Project Name	HRWC Board Approval Date	NSUARB Approval Date	Amount Spent: Cumulative to March 31/16	Staged Approvals		Total Project Budget	Project Adjustments	Revised Total Project Budget	Over Budget	(Under Budget)	Comments
					Design	Tender / Construction						
600001056	LATERAL REPLACEMENTS (WEST) 15/16	January 30, 2015	June 9, 2015	\$460,149	\$0	\$0	\$496,700	\$0	\$496,700	\$0	(\$36,551)	
600001057	LATERAL REPLACEMENTS (CENTRAL) 15/16	January 30, 2015	June 9, 2015	\$117,775	\$0	\$0	\$496,600	\$0	\$496,600	\$0	(\$378,825)	Less laterals were done within this region than the others.
600001060	SEWER LINING PROGRAM	April 22, 2015	June 26, 2015	\$496,655	\$0	\$0	\$1,000,000	(\$195,000)	\$805,000	\$0	(\$308,345)	Tender prices were less than anticipated. Minus 195K to 6-1304 Manhole Lining Crescent Ave & Stuart Harris Jan. 28 2016.
600001061	ALDER CRESCENT COLLECTION SYSTEM REPLACEMENT	May 22, 2014 & January 21, 2015	April 15, 2015	\$592,763	\$10,000	\$635,000	\$645,000	\$0	\$645,000	\$0	(\$52,237)	Added 10K from 6-914 Alder Crescent Collection System Design (pre-existing work order).
600001130	FLEET UPGRADE PROGRAM (WW) 15/16	January 30, 2015	June 9, 2015	\$387,675	\$0	\$0	\$988,000	\$0	\$988,000	\$0	(\$600,325)	Less vehicle purchases than anticipated.
N/A	GIS DATA COLLECTION - DARTMOUTH NORTH (WW)	April 15, 2014	June 27, 2014	\$190,616	\$0	\$0	\$140,000	\$0	\$140,000	\$50,616	\$0	Part of Corporate GIS Plan. Greater number of assets than originally estimated. Significant effort required by internal staff in quality control process.
N/A	GIS DATA COLLECTION - DARTMOUTH CENTRE (WW)	April 15, 2014	June 27, 2014	\$177,436	\$0	\$0	\$140,000	\$0	\$140,000	\$37,436	\$0	Part of Corporate GIS Plan. Greater number of assets than originally estimated. Significant effort required by internal staff in quality control process.
N/A	GIS DATA COLLECTION - BEDFORD AREA (WW)	April 15, 2014	June 27, 2014	\$162,336	\$0	\$0	\$120,000	\$0	\$120,000	\$42,336	\$0	Part of Corporate GIS Plan. Greater number of assets than originally estimated. Significant effort required by internal staff in quality control process.
Wastewater Capital Difference				\$30,794,876	\$1,902,000	\$24,806,000	\$31,797,800	\$1,951,275	\$33,749,075	\$228,895	(\$3,183,093)	
											(\$2,954,199)	
700000442	ASSET MGMT IMPLEMENTATION (SW) 12/13	July 18, 2012	May 8, 2013	\$63,388	\$61,000	\$90,000	\$151,000	(\$87,600)	\$63,400	\$0	(\$12)	Minus 3.1k budget adjustment , minus 15K to 7-582 Mar 3 2016, minus 17.5K to 7-886 Mar 3 2016, minus 52K to 3-2380 Mar 3 2016.
700000484	CMMS - PHASE 1 (SW)	July 18, 2013	September 20, 2013	\$75,501	\$0	\$0	\$74,200	\$0	\$74,200	\$1,301	\$0	10% allocation of \$742,000 approval.
700000565	ELLENVALE RUN RETAINING WALL	February 19, 2014	May 1, 2014	\$33,321	\$0	\$0	\$500,000	(\$150,000)	\$350,000	\$0	(\$316,679)	The budget was based on a permanent replacement of the retaining wall on both sides of the Run between Mount Edward and Elwin. The actual scope consisted of replacing the retaining wall on one side and the nature of the replacement was more temporary in nature so as to enable the work to be undertaken in a more timely fashion. The work was undertaken by Halifax Water Operations. Minus 100K to 7-610 July 21, 2014, minus 50K to 7-880 Jan. 4, 2016.
700000581	COW BAY RD DEEP STORM SEWER INSTALLATION	October 7, 2010, October 26, 2012 & March 14, 2014	June 23, 2014	\$2,074,129	\$70,000	\$2,090,000	\$2,160,000	(\$54,500)	\$2,105,500	\$0	(\$31,371)	Added 145.5K from Cow Bay Rd Storm Drainage Study 2010 (Oct. 7, 2010) and 70K from Cow Bay Deep Storm Sewer Project - Detailed Design (Oct. 26, 2012) capital work orders. This project cost represents Halifax Water's portion of a cost sharing agreement. Minus 200K to 7-939 May 26, 2016 approval.
700000585	METROPOLITAN AVE SW IMPROVEMENTS	February 27, 2014 & July 18, 2014	July 7, 2014 & August 14, 2014	\$991,505	\$0	\$686,000	\$686,000	\$264,000	\$950,000	\$41,505	\$0	There was an increase in costs caused by an increase in scope and higher actual unit costs in response to the project's tender. Added \$264,000 from Clement St. Berm Rehab SW Control. Halifax Water was required to pay HRM \$31,500 to remove trees from our service easement.
N/A	GIS DATA COLLECTION - DARTMOUTH NORTH (SW)	April 15, 2014	June 27, 2014	\$47,654	\$0	\$0	\$35,000	\$0	\$35,000	\$12,654	\$0	Part of Corporate GIS Plan. Greater number of assets than originally estimated. Significant effort required by internal staff in quality control process.
N/A	GIS DATA COLLECTION - DARTMOUTH CENTRE (SW)	April 15, 2014	June 27, 2014	\$44,359	\$0	\$0	\$35,000	\$0	\$35,000	\$9,359	\$0	Part of Corporate GIS Plan. Greater number of assets than originally estimated. Significant effort required by internal staff in quality control process.
N/A	GIS DATA COLLECTION - BEDFORD AREA (SW)	April 15, 2014	June 27, 2014	\$40,584	\$0	\$0	\$30,000	\$0	\$30,000	\$10,584	\$0	Part of Corporate GIS Plan. Greater number of assets than originally estimated. Significant effort required by internal staff in quality control process.
Stormwater Capital Difference				\$3,370,440	\$131,000	\$2,866,000	\$3,671,200	(\$28,100)	\$3,643,100	\$75,403	(\$348,063)	
											(\$272,660)	
Net Difference				\$41,452,865	\$2,195,000	\$29,772,000	\$42,861,000	\$1,600,175	\$44,461,175	\$687,646	(\$3,695,956)	
											(\$3,008,310)	

**CANCELLED OR DEFERRED PROJECTS
CAPITAL BUDGET 2015 / 2016**

ITEM # 5.2
HRWC Board
30-Jun-16
ATTACHMENT 3

Project Name	Budget	Reasons for Cancellation / Deferral
Water		
Land		
Forest Road Bridge Replacement - Tomahawk Lake Watershed Lands	\$10,000	Capital work cancelled as maintenance activity resolved issues
LAND - TOTAL	\$10,000	
Transmission		
Critical Valve Replacement Program	\$250,000	Deferred pending review of operational priorities
TRANSMISSION - TOTAL	\$250,000	
Distribution		
Cathodic Protection Program	\$300,000	Funding Re-allocated to higher priority water main projects
Cowie Reservoir Meter Replacement	\$22,000	Deferred due to operational time constraints
Robie Control Chamber High Service Meter	\$12,000	Deferred due to operational time constraints
DISTRIBUTION - TOTAL	\$334,000	
Structures		
Renfrew Street PRV Decommissioning	\$17,000	Deferred due to operational time constraints
STRUCTURES - TOTAL	\$17,000	
Treatment Facilities		
JD Kline Water Supply Plant:		
Entrance Road Paving Renewal	\$85,000	Cancelled due to loss of integration opportunity with adjacent street paving project. To be rebudgeted
Lake Major Water Supply Plant:		
Geosmin Mitigation Study	\$65,000	Deferred pending further review of ongoing water quality sampling results
TREATMENT FACILITIES - TOTAL	\$150,000	
Wastewater		
Trunk Sewers		
Jamieson Street Trunk Sewer Outfall Replacement Phase 2 - Construction	\$1,100,000	Final design was deferred due to prioritization of limited technical resources to other projects
TRUNK SEWERS - TOTAL	\$1,100,000	
Wastewater - Collection System		
Hines Road Rider Sewer Extension	\$300,000	Deferred to coincide with future year Autoport Pumping Station replacement
Inglis Street Sewer - Hydraulic Analysis	\$33,000	Deferred due prioritization of limited technical resources to other projects
COLLECTION SYSTEM - TOTAL	\$333,000	
Stormwater		
Pipes		
Deep Storm Sewer Installation Program	\$100,000	No new HRM co-funded projects identified in 2016
Rolling Hills Drive Stormwater Rehabilitation	\$157,000	Deferred due prioritization of limited technical resources to other projects
PIPES - TOTAL	\$257,000	
Culverts/Ditches		
183 Lakeview Avenue - Twin Culvert Replacement	\$201,000	Construction deferred to 2016 due to design delays with consultant
Holly Court - Culvert Replacement	\$200,000	Construction deferred to 2016 due to design delays with consultant
Bedford Highway at Shaunslieve Drive Culvert Upgrades	\$407,000	Construction deferred to 2016 due to design delays with consultant
North Preston Road - Cross Culvert Replacement	\$347,000	Construction deferred to 2016 due to design delays with consultant
CULVERTS / DITCHES - TOTAL	\$1,155,000	
GRAND TOTAL	\$3,606,000	

TO: Ray Ritcey, Chair, and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: *Original Signed By:*
Allan Campbell, B.Comm, CPA, CMA, Manager, Finance
Cathie O'Toole, MBA, CPA, CGA, Director, Corporate Services

APPROVED: *Original Signed By:*
Carl Yates, M.A.Sc., P.Eng., General Manager

DATE: June 20, 2016

SUBJECT: **Halifax Regional Water Commission Employees' Pension Plan Financial Statements for the Year Ended December 31, 2015**

ORIGIN

The Halifax Regional Water Commission Employees' Pension Plan Financial Statements are audited annually.

RECOMMENDATION

It is recommended that the Commission Board approve the Audited Financial Statements for the Halifax Regional Water Commission Employees' Pension Plan for the year ended December 31, 2015.

BACKGROUND

Annually, the Halifax Regional Water Commission Employees' Pension Plan Financial Statements are prepared by staff and audited by the Commission's auditors, currently Grant Thornton, LLP.

DISCUSSION

Attached are the Audited Pension Plan Financial Statements for the year ended December 31, 2015 with comparative figures for the year 2014. All page numbers or note references in this report refer to the Financial Statements.

ITEM #6
HRWC Board
June 30, 2016

The auditor's report on Page 1 indicates that the financial statements present fairly, in all material respects, the financial position of Halifax Regional Water Commission (HRWC) Employees' Pension Plan as at December 31, 2015, and the changes in net assets available for benefits and changes in pension obligations in accordance with Canadian accounting standards for pension plans.

Page 2, entitled the Statement of financial position, details the net assets available for benefits of \$100.4 million at December 31, 2015, compared to net assets available in the prior year of \$86.5 million, with details shown on Page 3 and Note 4. The pension obligations decreased to \$108.1 million from \$109.0 million, a change of \$0.9 million, with details shown on Page 4 and Note 5. There was an increase in net assets available for benefits of \$14.0 million, and pension obligations decreased by \$0.9 million, resulting in an overall \$14.9 million decrease in the deficiency from \$22.5 million to \$7.6 million.

Statement of financial position				
December 31				
	2015	2014	Change	
			\$	%
Net assets available for benefits (note 4)	\$100,434,444	\$86,476,088	\$13,958,357	16.1%
Pension obligations (note 5)	\$108,055,300	\$109,009,100	(\$953,800)	-0.9%
Deficiency	(\$7,620,856)	(\$22,533,012)	\$14,912,157	-66.2%

Figures used in the various tables throughout the report may contain differences due to Excel rounding.

Page 3 shows the overall changes in net assets available for benefits of \$14.0 million, an increase of \$1.8 million over the previous year. Revenue increased from \$7.3 million in 2014 to \$9.5 million in 2015, while expenses including benefit payments increased from \$3.7 million in 2014 to \$4.5 million in 2015. This resulted in a net revenue increase of \$1.5 million. In addition to the increase in net revenue, net assets also increased by \$0.3 million due to increased contributions from both employees and HRWC.

ITEM #6
HRWC Board
June 30, 2016

Statement of changes in net assets available for benefits				
December 31				
	2015	2014	Change	
			\$	%
Revenue	\$9,475,206	\$7,277,925	\$2,197,281	30.2%
Expenses	\$4,464,529	\$3,717,744	\$746,785	20.1%
Increase in Net Revenue	\$5,010,677	\$3,560,181	\$1,450,496	40.7%
Contributions (note 7)	\$8,947,680	\$8,606,140	\$341,539	4.0%
Increase in net assets available for benefits	<u>\$13,958,357</u>	<u>\$12,166,321</u>	<u>\$1,792,035</u>	<u>14.7%</u>

The assets of the plan are invested as part of the Halifax Regional Municipality (HRM) Master Trust, and HRWC assets are 5.9% of the master trust fund (5.6% in 2014). The gross fund rate for 2015 was 10.6%, compared to 9.3% for 2014. The net fund rate after expenses was 9.9%, compared to 8.8% for 2014. In 2016, the Master Trust first quarter return was (2.9) %, which underperformed the benchmark by (2.5) %.

Page 4 outlines the details of the \$0.9 million net reduction in the pension obligations, from \$109.0 million at the end of 2014 to \$108.1 million at the end of 2015. Reductions in the pension obligation totaled \$13.0 million, with the reductions being from three (3) primary sources:

- 1) changes in the actuarial assumptions,
- 2) the impact of pension plan changes and
- 3) benefits paid

The increase in the pension obligations at year end amounted to \$12.1 million, and were driven by benefits accrued and interest accrued on benefits each totaling \$6.0 million. The increase for each over the prior year ranged from 7.4% to 7.6% for a total of \$0.8 million. Interest rates continue to be low, which increases liabilities. This cost is reflected in the \$0.4 million increase in interest accrued on benefits over the prior year. The complete details of benefit payments are outlined in Note 8.

ITEM #6
HRWC Board
June 30, 2016

Statement of changes in pension obligations				
December 31				
	2015	2014	Change	
			\$	%
Pension obligations, beginning of year	\$109,009,100	\$101,147,900	\$7,861,200	7.8%
Changes in actuarial assumptions	(\$6,488,300)	\$0	(\$6,488,300)	n/a
Impact of Pension Plan changes	(\$2,029,000)	\$0	(\$2,029,000)	n/a
Miscellaneous sources of decrease	(\$231,500)	\$0	(\$231,500)	n/a
Interest accrued on benefits	\$6,043,000	\$5,627,800	\$415,200	7.4%
Benefits accrued	\$6,020,000	\$5,592,500	\$427,500	7.6%
Benefits paid (note 8)	(\$4,268,000)	(\$3,359,100)	(\$908,900)	27.1%
	(\$953,800)	\$7,861,200	(\$8,815,000)	-112.1%
Pension obligations, end of year	\$108,055,300	\$109,009,100	(\$953,800)	-0.9%

Additional notes in the financial statements include line-by-line comparisons of various categories. Below is a summary of each category, and the details are shown in notes 6 through 9 inclusive in the actual financial statements.

Summary of various categories				
December 31				
	2015	2014	Change	
			\$	%
Net investment income (note 6)	\$2,161,624	\$2,121,922	\$39,702	1.9%
Contributions (note 7)*	\$8,947,680	\$8,606,140	\$341,539	4.0%
Benefit payments (note 8)	\$4,268,029	\$3,505,290	\$762,739	21.8%
Administrative expenses (note 9)	\$196,500	\$212,454	(\$15,954)	-7.5%
* Employees' Contributions	\$2,655,143	\$2,768,168	(\$113,025)	-4.1%
Reciprocal Transfer Agreements	\$598,383	\$0	\$598,383	n/a
Employer's Contributions	\$5,694,153	\$5,837,972	(\$143,819)	-2.5%
	\$8,947,680	\$8,606,140	\$341,540	4.0%

Note 6 of the financial statements reports income from investment funds, as well as investment manager fees. The fees have increased by \$13.3 thousand or 7.6% over the prior

year and income has increased by \$53.0 thousand or 2.3%, for a net investment income increase of \$39.7 thousand.

Note 7 shows contributions, with details provided between the employees and employer contributions. Total contributions for 2015 increased \$0.3 million or 4.0% compared to 2014, and were the result of monies transferred into the Plan relating to reciprocal transfers amounting to \$0.6 million. Current service contributions from both employees and the employer decreased a combined \$0.3 million, which was mainly attributed to the labour disruption in 2015. Special payments made by the employer relating to the unfunded liability in the amount of \$3.0 million, and employees on long term disability in the amount of \$144.9 thousand remained unchanged in 2014 and 2015.

Note 8 details the benefit payments, with total expenditures increasing by \$0.8 million or 21.8% in 2015 compared to the prior year. Of this increase, \$0.5 million was attributed to termination benefit payments, and \$0.2 million to retirement benefit payments. There were no death benefit payments during 2015.

Note 9 outlines all expense categories, which reports a net decrease in total expenditures of \$16.0 thousand or 7.5% compared to 2014. Most categories are comparable to 2014 with the exception of actuarial and consulting, audit and accounting, and professional fees. Actuarial and consulting fees were lower by \$14.6 thousand, which was expected considering 2014 was a valuation year coupled with other specialized work performed by the actuaries. Audit and accounting fees were overstated in 2014, so the adjustment in 2015 resulted in a reduction of \$7.9 thousand. Professional fees are allocated trust expenditures which experienced an increase of \$4.8 thousand in 2015.

No solvency funding is required as HRWC obtained a solvency funding exemption effective June 1, 2015. Currently the ratio of solvency assets to solvency liabilities is greater than the “solvency concerns” threshold of 85%, under Nova Scotia pension legislation. Should the solvency ratio fall below the 85% threshold, HRWC would be required to file a valuation within one (1) year rather than the usual three (3) year period.

BUDGET IMPLICATIONS

There are no budget implications associated with the audited financial statements of the pension plan. Budget implications arise from the Actuarial Valuations.

ALTERNATIVES

None

ATTACHMENT

Halifax Regional Water Commission Employees’ Pension Plan Financial Statements as at December 31, 2015

TO: Ray Ritcey, Chair and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: *Original Signed By:*

Jamie Hannam, Director Engineering & IS

APPROVED: *Original Signed By:*

Carl Yates, M.A.Sc., P.Eng., General Manager

DATE: June 17, 2016

SUBJECT: **Cogswell District Energy System – Preliminary Feasibility Study**

INFORMATION REPORT

ORIGIN

GM Report, Cogswell District Energy System – Feasibility Study, March 24, 2016.

BACKGROUND

The Halifax Regional Municipality (HRM) is currently planning the redevelopment of the existing Cogswell Interchange area located in downtown Halifax. One of the concepts to be explored under the Cogswell Redevelopment plan is the feasibility of a District Energy System (DES). The Cogswell DES concept envisions an ambient temperature system, utilizing a renewable resource (treated wastewater effluent) to provide heating and cooling to existing facilities and new developments within the Cogswell redevelopment area of downtown Halifax.

The current DES concept being considered would provide a multi-phased ambient temperature district energy network. The energy transfer to and from the wastewater system would generally include the following technical components: an energy center providing heat exchange capacity, ambient temperature supply and return pipe loops, and individual mechanical rooms in each serviced building including heat pumps and backup heating capability.

DISCUSSION

Halifax Water has completed a preliminary feasibility study for the Cogswell DES. The \$45,000 study was co-funded by Halifax Water, QUEST and the NS Department of Energy. The initial findings regarding proof of concept are positive. A copy of the Executive Summary is attached to this report. The scope of this study included:

- Technology Review
- Thermal Load Analysis
- DES Conceptual Planning
- Ownership Options and Regulatory Review
- Business Case Analysis
- Conclusions and Recommendations

From this report, the following **Conclusions** were identified:

1. Implementing a DES project in Halifax would demonstrate environmental leadership in the community and serve as an example of moving towards a low carbon economy through the utilization of a local renewable energy resource.
2. Wastewater heat recovery coupled with ambient temperature DES is a demonstrated and reliable concept for providing renewable, low-carbon energy to the Cogswell redevelopment area.
3. The Halifax Wastewater Treatment Facility (WWTF) effluent has sufficient thermal energy to meet the heating and cooling requirements of the proposed DES loads and much more.
4. The business case for the DES was compared with a natural gas boiler and Water Source Heat Pump (WSHP) business as usual (BAU) system. The business case presented shows the present value of total cost for the DES is lower than the BAU. The DES can offer the customer thermal energy more cost effectively and with more rate stability compared to natural gas, electricity, or heating oil.
5. The DES results in capital cost savings to developers who build in Cogswell. The DES utility would provide mechanical room equipment in each building. This equipment replaces the boilers, cooling towers, and domestic hot water (DHW) heating systems that would otherwise be provided by the developer.
6. A number of advantages have been presented for Halifax Water involvement in the ownership of the proposed DES including existing expertise with operating water and energy infrastructure, existing billing and customer service systems, and low cost of financing.

7. The Nova Scotia regulatory requirements have been reviewed. No barrier was identified to prevent Halifax Water or HRM from proceeding with the creation of this DES and the utility to operate it. The proposed DES would likely be considered a “public utility” under the definition of the Public Utilities Act and interpretations provided by the NS Utility and Review Board.

From this report, the following **Recommendations** were made:

1. Based on the effluent data provided, direct heat exchange effluent heat recovery is recommended for the DES. Wide-gap plate frame heat exchangers located at a new energy centre adjacent to the WWTF are the recommended heat exchange technology due to the low cost and high heat transfer capability.
2. An ambient temperature DES is recommended since it allows the same piping system to be used for both heating and cooling of buildings. This allows developers to eliminate cooling towers from the rooftop of the buildings and promotes recovery of waste heat within the community. The low cost of the ambient DPS piping reduces capital investment and facilitates expansion of the system.
3. Investigate the potential for connecting the DES to nearby existing buildings (e.g. Casino and nearby office towers) in early years in order to further improve the financial performance of the DES. Economies of scale gained through adding more connected load to the DES may enhance its financial viability.
4. To reduce project risk and keep DES energy rates low for the customer, HRM should mandate connection to the DES and give the DES utility the exclusive right to provide space heating, cooling, and DHW to the buildings in the DES service area. Customers should generally not be permitted to operate their own heating sources such as boilers, hot water heaters, or in-suite gas or electric fireplaces. Mandatory connection should be implemented through development agreements, restrictive covenants, or municipal bylaws. For clarity, commercial feasibility of the DES project is dependent upon mandatory connections. The risk of the project without mandatory connection would likely outweigh the benefits.
5. The results of the preliminary financial analysis indicate that the proposed DES concept can deliver energy more affordably than the BAU system while saving GHG emissions and reducing dependence on fossil fuels. The DES provides value to HRM, the customer, and the Cogswell development. We therefore recommend HW to pursue the development of this proposed DES.

From this report, the following **next steps** have been identified:

1. Share the findings of the Feasibility Study with HRM staff, and present these findings to one or more committees of Regional Council (e.g. Environment and Sustainability Standing Committee, Community Planning and Economic

- Development Standing Committee). With the consent of these Committees, seek endorsement of Regional Council. Key to the project feasibility will be HRM endorsement of mandatory connectivity through a municipal by-law.
2. Contact Nova Scotia Department of Energy staff to share the findings of the Feasibility Study, the goal being to seek input and guidance from a policy and legislative perspective.
 3. Contact NSUARB staff to share the findings of the Feasibility Study, the goal being to seek input and guidance from a regulatory perspective.
 4. Contact other municipal entities (e.g. District of Saanich, BC; Vancouver, BC) to assess the regulatory, political and technical challenges faced in the development and implementation of their wastewater effluent based ambient temperature DES's.
 5. Prepare a conceptual/preliminary design of the energy centre, DES ambient temperature piping loops, and two versions of the in-building mechanical rooms. If acceptable, the conceptual/preliminary design could be used to develop a scope of work leading to inclusion in the current Cogswell area redesign assignment being undertaken by HRM staff.
 6. Seek additional funding sources (e.g. NRCan, FCM, DOE, etc.) to support preliminary design efforts and the eventual construction of the DES.
 7. Follow up with DND to further assess the possibility of supplying thermal energy to the CFB Halifax dockyard facility.
 8. Subject to the finalization of a positive business case from the above activities, seek formal approval for the DES project from the Halifax Water Board.
 9. With the consent of the HRM Standing Committees and approval of the Halifax Water Board, seek endorsement of Regional Council.

In conclusion, the preliminary feasibility study findings are positive, however, the finalization of a recommendation that the project is commercially feasible is subject to two important hurdles. Firstly, Halifax Water will require a legislative framework to require mandatory connection to the DES for primary building and cooling for all new development within the Cogswell re-development area; and secondly, that a subsequent preliminary design report to be completed by Halifax Water, provides an appropriate positive business case for the DES.

ATTACHMENTS

- Cogswell DES Feasibility Study – Executive Summary, June 16, 2016.

Report Prepared by:

Original Signed By:

Jeffrey R. Knapp, FEC, P.Eng., CEM
Manager, Energy Efficiency, 902-471-2791

COGSWELL DES FEASIBILITY STUDY

DEC PROJECT#: D16-009

PREPARED FOR:

Halifax Water
ATTN: Jeffrey Knapp

SUBMITTED BY:

Andrew Byrnes
Project Manager, Alternative Energy
DEC ENGINEERING
T. 604 525-3341 ext. 116
E. Andrew.Byrnes@decmail.ca

Richard Marier
Senior Engineer, Alternative Energy
DEC ENGINEERING
T. 604 525-3341 ext. 117
E. Richard.Marier@decmail.ca

JUN 16, 2016

TABLE OF CONTENTS

Executive Summary	v
1.0 Introduction	1
2.0 Sewage Heat Exchange Technology Review.....	1
3.0 Load Analysis.....	4
4.0 DES Concept	11
5.0 Capital and Energy Costs.....	19
6.0 Ownership Options & Regulatory Review	25
7.0 Business Case Analysis	36
8.0 Conclusions & Recommendations	48
Appendix A:.....	50
Appendix B:.....	51
Appendix C:	52
Appendix D	53

LIST OF FIGURES

Figure 1: Cogswell DES Concept Service Area..... v

Figure 2: Total Cost Comparison by Year ix

Figure 3: In-pipe Sewage Heat Exchanger 1

Figure 4: Huber RoWin Heat Exchanger..... 2

Figure 5: Saanich WWTF Heat Recovery Facility 3

Figure 6: Cogswell Redevelopment Buildings..... 5

Figure 7: Typical January Effluent Flow Profile (2011 Data) 10

Figure 8: Effluent tie-in and DES Energy Centre Concept 14

Figure 9: Cogswell DES Concept Map 16

Figure 10: Total Cost Comparison by Year..... 39

Figure 11: Unlevelized Rate Graph..... 40

Figure 12: Levelized Rate Graph..... 42

LIST OF TABLES

Table 1: Effluent Heat Capacity vi

Table 2: Halifax Heating Energy Sources Comparison..... vii

Table 3: Fuel Input Costs for DES and 3 BAUs vii

Table 4: Commodity Price Assumptions viii

Table 5: Total Capital Cost for DES and BAU (\$'000s) viii

Table 6: Expected Floor Areas of Blocks Served by DES 5

Table 7: Estimated Floor Areas of Potential Future DES Loads 6

Table 8: Peak and Annual Energy Demand Summary 8

Table 9: Average Effluent Temperatures 9

Table 10: Effluent Heating Capacity at Various Temperatures 11

Table 11: Comparison of Ambient vs High Temperature DES 12

Table 12: Comparison of DES and BAU WSHP Systems 18

Table 13: Halifax Heating Energy Sources Comparison 19

Table 14: Halifax Cooling Energy Source Comparison..... 20

Table 15: Commodity Price Assumptions..... 21

Table 16: Energy Centre Annual Energy Cost..... 21

Table 17: Building Mechanical Rooms Annual Energy Cost..... 22

Table 18: Customer HVAC System Annual Energy Cost 22

Table 19: Total Annual Energy Cost 23

Table 20: GHG Emissions Summary 23

Table 21: Capital Costs Summary 24

Table 22: Regulatory Requirements and Ownership 36

Table 23: Financial Model Input Assumptions 37

Table 24: Total Costs - BAU..... 38

Table 25: Total Costs - DES..... 38

Table 26: Levelized DES Rates	42
Table 27: DES Utility Pro Forma.....	44
Table 28: DES Utility Net Cashflow	46
Table 29: Comparison of Customer HVAC System	46

LIST OF ABBREVIATIONS

COP:	Coefficient of Performance
DES:	District Energy System
DHW:	Domestic Hot Water
DHS:	District Heating System
DND:	Department of National Defense
DPS:	Distribution Piping System
ETS:	Energy Transfer Station
EUI:	Energy use intensity
HDPE:	High-density Polyethylene
HRM:	Halifax Regional Municipality
HVAC:	Heating Ventilation and Air Conditioning
HW:	Halifax Water
NPV:	Net Present Value
PV:	Present Value
ROE:	Return on Equity
ROI:	Return on Investment
UARB:	Utility and Review Board
UV:	Ultraviolet
WACC:	Weighted Average Cost of Capital
WWTF:	Waste Water Treatment Facility

LIST OF REFERENCES

Ekistics Planning and Design. *Cogswell Transformed*, April 2014.

Province of Nova Scotia. *Public Utilities Act*. RS 1989 with amendments.

Province of Nova Scotia. *Municipal Government Act*. 1998 c. 18, s. 1.

Nova Scotia Utility and Review board. "Halifax Regional Municipality District Energy Systems."
Letter to Martin Ward, HRM. March 30, 2010.

ACKNOWLEDGEMENTS

Halifax Water would like to recognize the contributions of QUEST and the Nova Scotia Department of Energy for their contributions to the preparation of this report.



EXECUTIVE SUMMARY

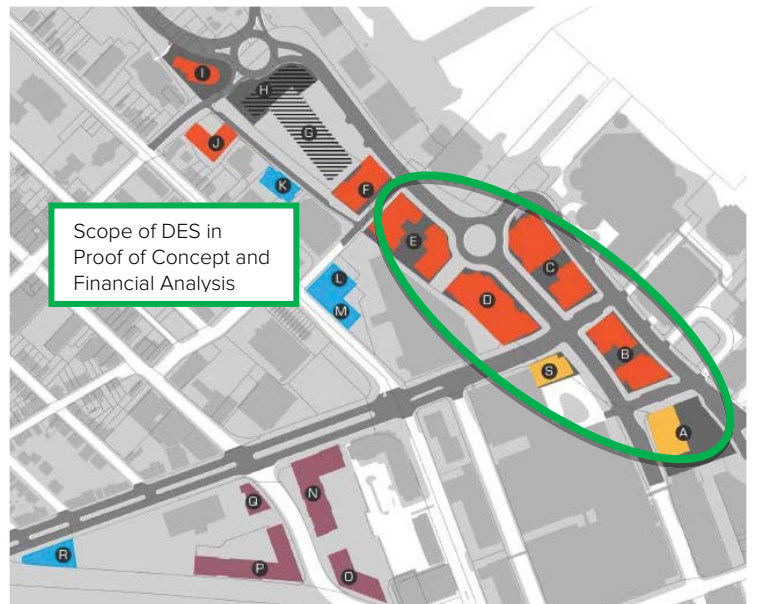
This study has developed a concept design for a wastewater heat recovery based district energy system (DES) that recovers waste heat from the Halifax Wastewater Treatment Facility (WWTF) effluent stream and provides heating, cooling, and domestic hot water to six blocks of buildings in the Cogswell Redevelopment.

A number of technologies exist for extracting thermal energy from wastewater — both untreated sewage and effluent from treatment plants. This report has presented technology options for effluent heat recovery and has selected plate frame heat exchangers as the most cost effective, space conservative, and energy efficient heat exchange technology.

The proposed DES concept works by direct heat exchange between the effluent and ambient temperature water running through the DES piping. Ambient temperature water is piped to mechanical rooms in each building where heat pumps are used to extract heat from the water and provide high-grade thermal energy for building loads such as domestic hot water (DHW) pre-heating and make-up-air heating. Water source heat pumps in each residential or commercial unit provide space heating and cooling. In the winter, energy is transferred from the DES to the building water-source heat pump (WSHP) loop; in summer, excess energy from cooling is rejected to the DES from the WSHP loop through a heat exchanger.

A group of six blocks (green circle) in the Cogswell Redevelopment plan were selected for connection to the DES and development of a business case. The six blocks were chosen because of their central location, high density, and close proximity to the WWTF. As the largest blocks proposed for development under the Cogswell plan, these blocks present the greatest opportunity for a positive business case. A plan showing the proposed blocks and DES concept is provided at right.

The six identified buildings (blocks “A” through “E” and “S”) have a combined expected floor area of 162,000m² which is assumed to be 8% retail, 15% office, and 77% residential. Based on energy use intensities for Halifax, these buildings are expected to have a peak heating demand of 12 MW and a peak space cooling demand of 7.8MW.



Background Graphic from *Cogswell Transformed*, Ekistics. April 2014.

Figure 1: Cogswell DES Concept Service Area

The capacity of the WWTF effluent for heat exchange was assessed. The effluent 3-year average monthly temperature ranges from a low of 11.5°C in March to a high of 22.3°C in September. Minute by minute flow rate data was charted and a minimum night time dry-weather effluent flow rate of 2,000 m³/h was observed. Average dry weather flow rates of 3,500 m³/h were observed. The heat capacity of the effluent at various flow rates and temperatures is presented in Table 1.

Table 1: Effluent Heat Capacity

Effluent Temperature	Heat Capacity @ Flow	
	2,000 m ³ /h	3,500 m ³ /h
14 °C	17 MW	31 MW
12 °C	13 MW	22 MW
10 °C	8 MW	14 MW
8 °C	3 MW	6 MW

The effluent heat capacity table shows, even with below average effluent temperature of 10°C (a condition which typically occurs less than 5 days per year) and worst-case dry-weather flow, the effluent still contains **8 MW** of heating capacity, based on maintaining a minimum effluent temperature of 6.5°C. At the average January condition (12°C and 3,500 m³/h) the effluent contains **over 22 MW** of heating capacity. Based on this analysis, it is expected that the WWTF effluent would be sufficient to meet the proposed Cogswell DES thermal energy needs over 99% of the year. Under the proposed concept, the mechanical room in each building would be provided with a natural gas boiler for peaking and backup in order to meet the customer heating loads if the DES energy is not available.

A comparison of DES to other typical heating sources was provided. Table 2 shows that DES can provide a unit of heat with significantly lower fuel inputs and GHG emissions than other heating options.

Table 2: Halifax Heating Energy Sources Comparison

	Electric Baseboard	Air Source Heat Pump	Gas Hydronic Heating	Oil Hydronic Heating	DES Heating
Space Heating	1 MWh				
Fuel Source	Electricity	Electricity	Natural Gas	Heating Oil	Electricity/DES
Efficiency	100%	240%	85%	80%	420%
Fuel Use	1.00 MWh electricity	0.42 MWh electricity	1.18 MWh Nat. Gas	1.25 MWh Oil	0.24 MWh (electricity) 0.76 MWh (DES)
Fuel Rate (\$/MWh)	\$149.54	\$149.54	\$50.40	\$69.70	\$149.54 (electricity)
Fuel Cost (\$/MWh delivered heat)	\$149.54	\$62.81	\$59.47	\$87.13	\$35.60
Fuel GHG Intensity (tCO2e/MWh)	0.652	0.652	0.180	0.250	0.652 (electricity) 0.013 (DES)
GHG Emissions (tCO2e/MWh delivered heat)	0.652	0.274	0.212	0.313	0.166

Capital and operating costs of the DES concept were compared against three possible “business-as-usual” (BAU) systems for the six blocks. The BAU options considered were:

- Electric heat
- Water-source heat pump (WSHP) with natural gas heat
- WSHP with oil heat

The fuel costs of the three BAU cases were compared to the fuel costs of the DES option and are presented in Table 3.

Table 3: Fuel Input Costs for DES and 3 BAUs

Location	BAU 1 – Electric	BAU 2 – Nat. Gas	BAU 3 - Oil	DES
Energy Centre	-	-	-	\$ 44,000
Bld. Mechanical Rooms	\$ 640,000	\$1,098,000	\$1,495,000	\$ 274,000
Customer HVAC System	\$2,039,000	\$ 579,000	\$ 579,000	\$ 601,000
Total	\$2,679,000	\$1,677,000	\$2,074,000	\$919,000

The DES option is shown to have significantly lower fuel use and fuel cost among the three options based on 2016 energy rates—nearly 50% lower energy cost than the lowest cost BAU option (natural gas boilers).

The fuel costs for the DES and BAU options are based on three year average natural gas and heating oil prices in Halifax and current Nova Scotia Power electricity prices as detailed in Table 4.

Table 4: Commodity Price Assumptions

Commodity	Rate
Electricity, Rate 2, Domestic	\$149.54 /MWh
Electricity, Rate 11, General (blended rate)	\$121.00 /MWh
Natural Gas, Rate Class 1 (DES)	\$22.60 /GJ plus \$22 /month
Natural Gas, Rate Class 2 (BAU)	\$14.00 /GJ plus \$563 /month
#2 Heating Oil	\$0.75 /L

Class D capital cost estimates for the DES Concept are presented in Table 5 and compared to the cost of an equivalently sized BAU system (natural gas boilers) for the six Cogswell blocks. Capital costs presented include soft costs but exclude HST and contingency.

Table 5: Total Capital Cost for DES and BAU (\$'000s)

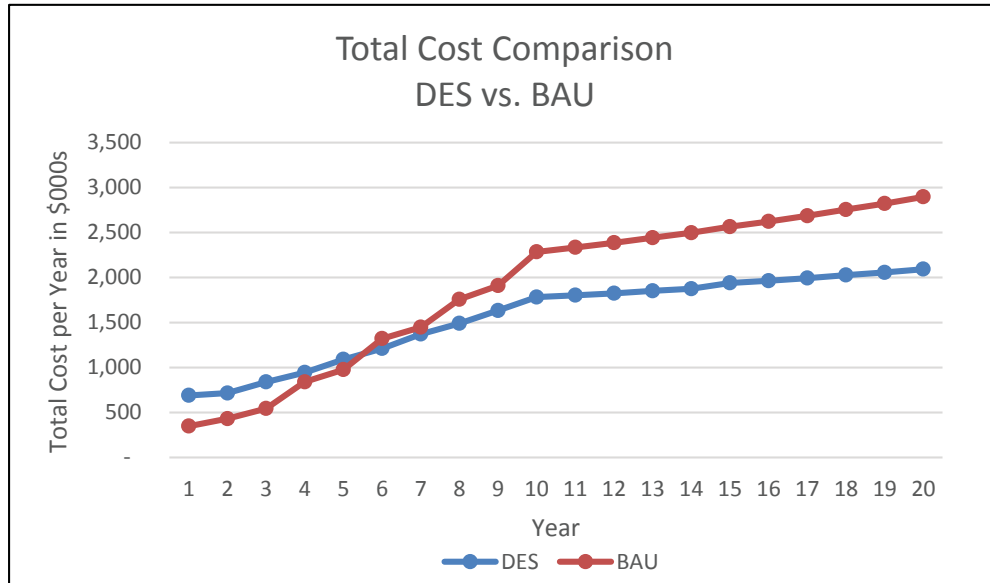
Systems / Components	DES	BAU 2
1. ENERGY CENTRE	\$ 3,955	-
2. DISTRIBUTION PIPING SYSTEM	\$ 1,326	-
3. ENERGY TRANSFER STATIONS IN (6) BLOCKS	\$ 762	-
4. BUILDING MECHANICAL ROOMS IN (6) BLOCKS	\$ 5,956	\$ 5,489
5. CUSTOMER BUILDING HVAC SYSTEM	\$ 27,763	\$ 27,207
TOTALS	\$ 39,762	\$ 32,696

The DES option has a capital cost premium of **\$7.1 million** over the natural gas boiler BAU scenario. The majority of this capital cost premium is due to the cost of the energy centre, distribution piping system (DPS), and energy transfer stations (ETs) for the 6 Cogswell blocks. The estimated cost of the customer heating ventilation and air conditioning (HVAC) systems is similar under both DES and BAU options.

A 20 year financial analysis for the proposed DES concept has been created. It is assumed, initially, that the DES including the energy centre, distribution piping system, and building mechanical rooms in the six blocks would be owned and operated by Halifax Water as a regulated thermal energy utility. The utility sells thermal energy to the customer at a set rate (\$/kWh).

The total cost of owning and operating the DES was compared to the total cost of owning and operating an equivalent BAU system (gas boiler and cooling tower) for the six Cogswell buildings over 20 years. The present value of the total costs of the DES is \$19.8M which is less expensive than the present value of total cost of the BAU at \$23.2M. The annual total costs for the first 20 years of the project are presented in Figure 2 for both DES and BAU.

Figure 2: Total Cost Comparison by Year



This demonstrates that, over the course of a 20 year analysis, the DES can be delivered more cost effectively than the BAU while also creating a valuable non-tax based, revenue-generating asset and also lowering GHG emissions of the community. An initial DES thermal energy rate set at \$0.079/kWh of thermal energy would cover the DES utility costs and also be lower than the total cost per kWh for an equivalent BAU system at \$0.092/kWh.

At these rates and based on initial assumptions, the DES utility could be created with a positive net present value (NPV) of \$2.28M and in internal rate of return (IRR) of 5.7%. The financial modelling indicates that the utility would achieve positive cumulative cash flow in year 17 (5 years after the 6th Cogswell building is complete).

This is a very positive business case for a renewable energy utility. The proposed DES concept could be delivered successfully at Cogswell and HW could create a thermal energy utility that provides renewable energy to customers at lower cost than the BAU system.

The business case for the DES depends on developers connecting to the system. Connection to the DES should be made mandatory for buildings in the identified service area through use of restrictive covenants, developer agreements, or municipal by-laws put in place by Halifax Regional Municipality. Mandatory connection protects the business case for the utility and makes energy rates lower for all connected customers.

TO: Ray Ritcey, Chair and Members of the Halifax Regional Water Commission Board

SUBMITTED BY:

Original Signed By:

Cathie O'Toole, MBA, CPA, CGA, Director, Corporate Services

Original Signed By:

Reid Campbell, P.Eng., Director, Water Services

Original Signed By:

Susheel Arora, M.A.Sc., P.Eng., Director, Wastewater & Stormwater Services

Original Signed By:

Kenda MacKenzie, P.Eng., Director, Regulatory Services

APPROVED: *Original Signed By:*

Carl D. Yates, M.A.Sc., P.Eng., General Manager

SUBJECT: **Financial and Operations Information Report**

INFORMATION REPORT

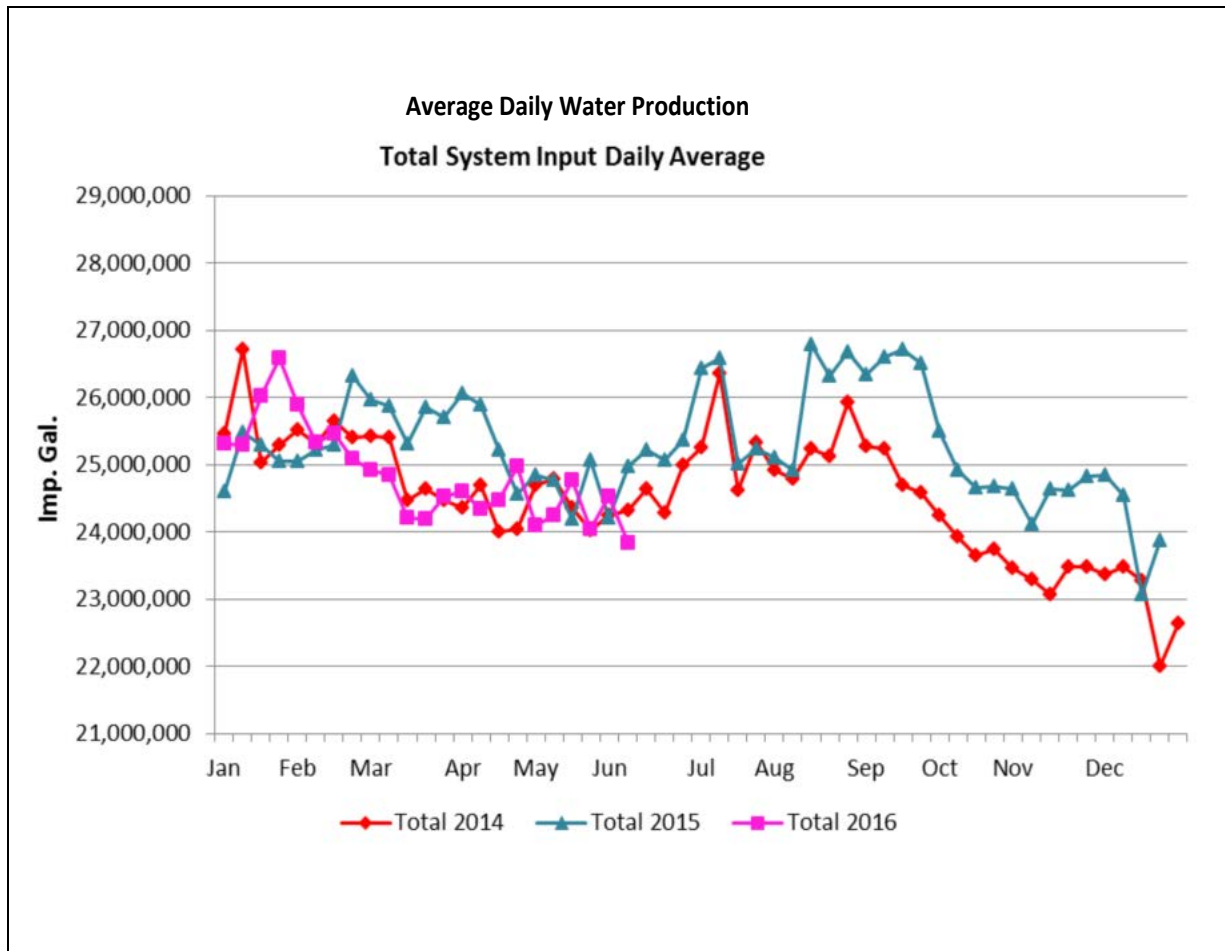
ORIGIN:

Regular update.

This report provides a high level overview of financial and operational performance for the utility. Financial results are presented first, followed by indicators and statistics for water and wastewater.

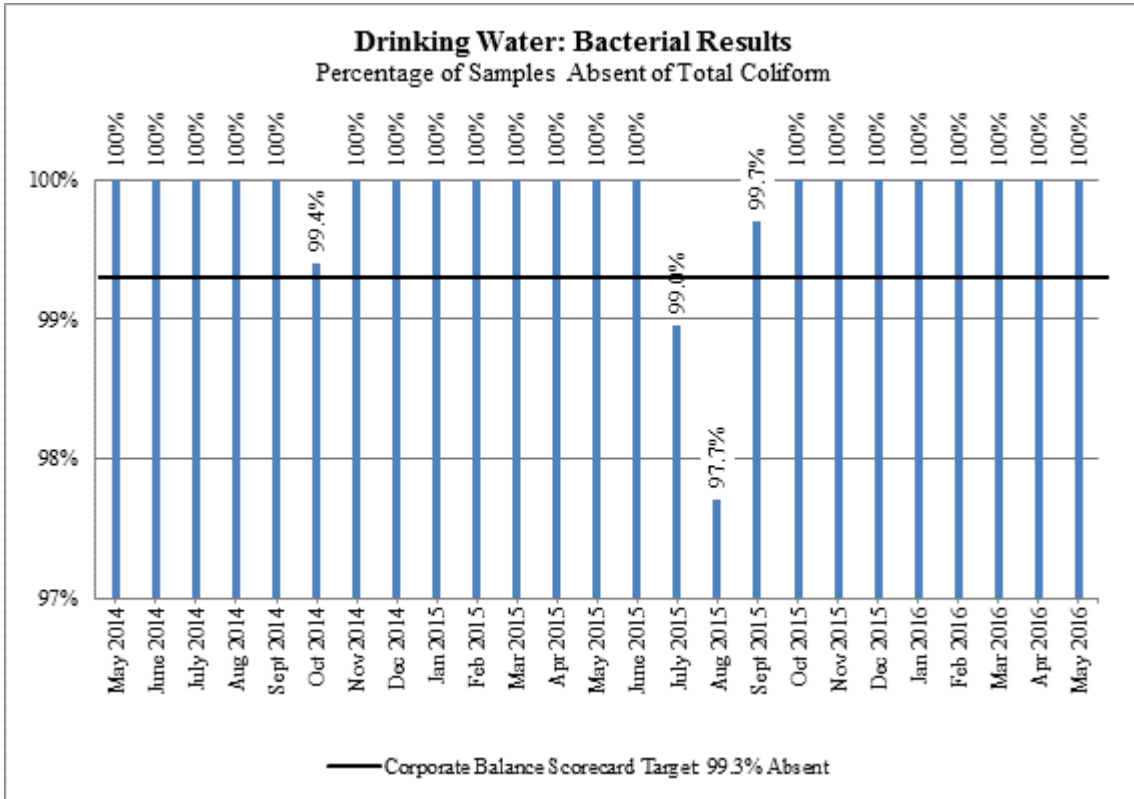
FINANCIAL

Current year financial information is unavailable at this time due to focus on completing year end and audited IFRS financial statements



Regional Water Main Break/Leak Data		
Year	Total Breaks/Leaks	Current 12 Month Rolling Total (up to May 29/16)
2015/16	226	202
2014/15	210	
2013/14	213	
2012/13	262	
2011/12	205	
Total	1116	
Yr. Avg.	217.6	

Water Accountability
Losses per Service Connection/Day (International Water Association Standard)
<i>Period Ending March 31, 2016</i>
Real Losses: 268 litres
CBS Target: 180



Water Quality Master Plan Objectives				
2015-2016 Q4				
Objective	Total Sites	% of Sites Achieving Target	All Sites: 90th Percentile < 15 µg/L	CBSC Awarded Points
Disinfection	64	98%	---	18
Total Trihalomethanes	24	92%	---	13
Haloacetic Acids	21	95%	---	16
Particle Removal	5	100%	---	20
Corrosion Control*	69	---	8.88	20
TOTAL				87

Score: 87/100

Each facility in this report is assessed based on monthly or quarterly averages, depending on the averaging period specified in its Approval variance.

Wastewater Treatment Facility	Wastewater Treatment Facility Compliance Summary																Toxicity	Trend	
	Rolling Averages - March, April and May 2016																		
	CBOD ₅ (mg/L)		TSS (mg/L)		E. coli (counts/100mL)		pH		Ammonia (mg/L)		Phosphorous (mg/L)		TRC (mg/L)		Dissolved Oxygen (mg/L)				
NSE Limit	Avg.	NSE Limit	Avg.	NSE Limit	Avg.	NSE Limit	Avg.	NSE Limit	Avg.	NSE Limit	Avg.	NSE Limit	Avg.	NSE Limit	Avg.	NSE Limit	Avg.		
Halifax	50	27	40	19	5000	2777	6-9	6.9	-	-	-	-	-	-	-	-	-	Not acutely lethal	Improved
Dartmouth	50	26	40	29	5000	175	6-9	7.1	-	-	-	-	-	-	-	-	-	Not acutely lethal	Improved
Herring Cove	50	19	40	16	5000	216	6-9	6.9	-	-	-	-	-	-	-	-	-	Not acutely lethal	Continued
Eastern Passage	50	11	40	8	5000	13	6.5-9	7.3	-	-	-	-	-	-	-	-	-	Not acutely lethal	Continued
Mill Cove	25	13	25	14	200	92	6.5-9	6.5	-	-	-	-	-	-	-	-	-	Not acutely lethal	Improved
Springfield	20	6	20	4	200	2500	6-9	6.9	-	-	0.02	0.26	-	-	-	-	-	Lethal	Declined
Belmont	25	20	25	29	200	1170	6-9	6.8	-	-	0.02	0.22	-	-	-	-	-	-	Continued
Frame	20	12	20	16	200	55	6.5-9	6.7	-	-	0.02	0.18	-	-	-	-	-	-	Improved
Middle Musq.	20	16	20	19	200	202	6-9	7.3	-	-	-	-	-	-	-	-	-	-	Continued
Uplands	20	13	20	9	200	1544	6-9	6.9	-	-	-	-	-	-	-	-	-	-	Continued
Aerotech	5	5	5	13	200	36	6-9	7.2	5.7 W 1.2 S	0.1	0.5	0.4	-	-	-	-	-	Not acutely lethal	Continued
North Preston	10	8	10	19	200	10	6.5-9	7.5	3	0.1	1.5	0.8	-	-	-	-	-	-	Declined
Lockview	20	5	20	3	200	10	6.5-9	6.9	8.0 S	0.7	1.2 S	0.1	-	-	-	-	-	-	Continued
Steeves (Wellington)	15	5	15	1	200	10	6.5-9	7.6	14.4 S	0.1	1.0 S	0.1	-	-	-	-	-	-	Continued
BLT	15	6	20	18	200	14	6.5-9	7.0	5 W 3 S	3.5	3 W 1 S	1.7	0.02	0.10	5	9.0	-	Not acutely lethal	Continued
Avg. of all Facilities	13		14		513		7.0		0.9		0.6		0.2		9.0				

NOTES & ACRONYMS:

CBOD₅ - Carbonaceous 5-Day Biochemical Oxygen Demand

TSS - Total Suspended Solids

TRC - Total Residual Chlorine

W / S - Winter / Summer compliance limits

NSE requires monthly averages be less than the NSE Compliance Limit for each parameter (Dartmouth, Eastern Passage, Halifax, Herring Cove, Mill Cove)

NSE requires quarterly averages be less than the NSE Compliance Limit for each parameter (Aerotech, Lockview, Mid. Musq., Belmont, Frame, BLT, Uplands, North Preston, Steeves, Springfield)

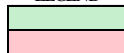
Continued - All parameters remain essentially unchanged since the last report

Improved - One or more parameter(s) became compliant since the last report

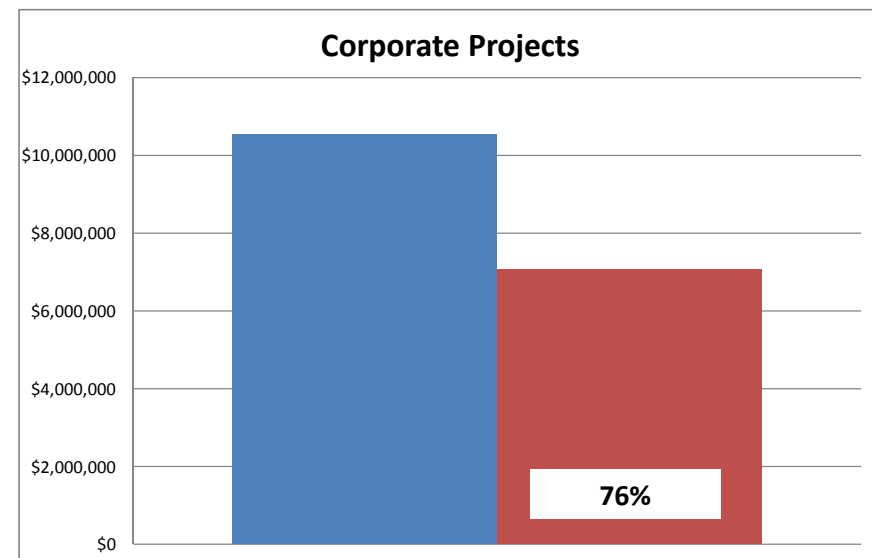
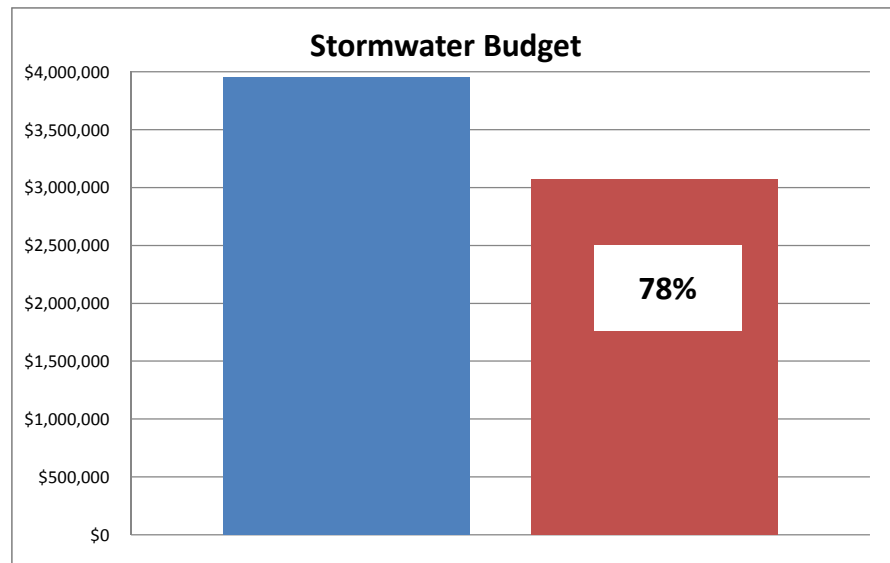
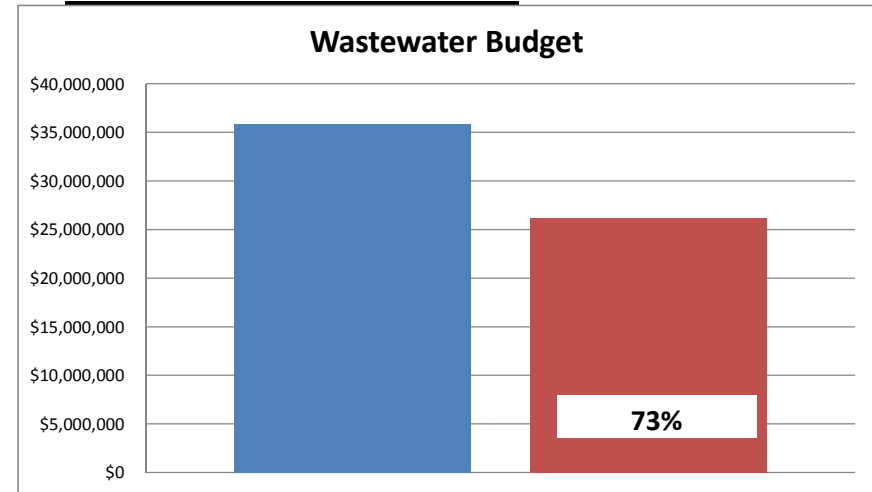
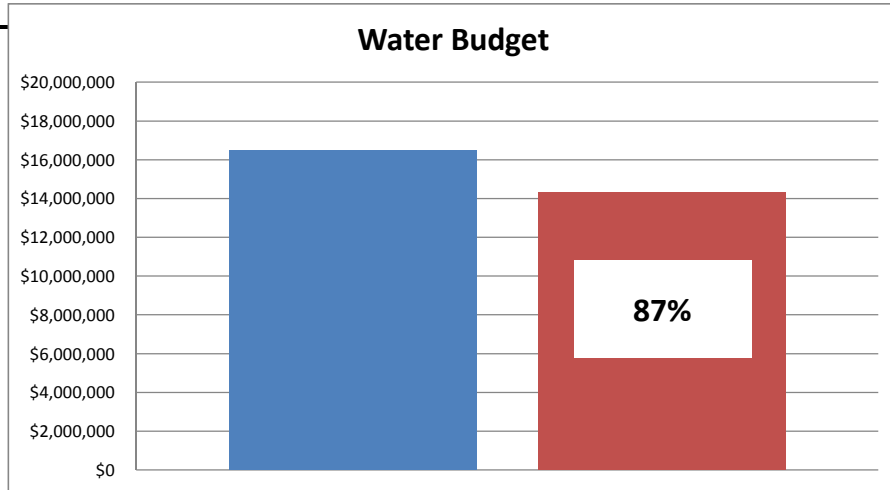
Declined - One or more parameters(s) became non-compliant since the last report

Halifax Water undertakes quarterly toxicity sampling at Springfield Lake. The chlorine residual is the source of the "Lethal" Toxicity result. Staff are in the process of replacing the chlorine disinfection unit with ultraviolet by July, 2016. We anticipate the problems with toxicity will disappear with modification at the facility.

LEGEND



CAPITAL BUDGET APPROVALS TO DATE - 2016/17



WATER

Approved Budget	\$16,453,000	86.89%
Approvals to date	\$14,296,000	

STORMWATER

Approved Budget	\$3,951,000	77.78%
Approvals to date	\$3,073,000	

Report Prepared By:

Original Signed By:

Jamie Hannam, MBA, P.Eng., Director, Engineering & IS

WASTEWATER

Approved Budget	\$35,838,000	73.01%	Total Budget:	\$66,777,000.00
Approvals to date	\$26,164,366		Total To Date:	\$50,598,366.00

CORPORATE PROJECTS

Approved Budget	\$10,535,000	67.06%	Total % to date	75.77%
Approvals to date	\$7,065,000			

WATER
CAPITAL BUDGET APPROVALS TO DATE - 2016/17
TOTAL CAPITAL BUDGET FOR WATER \$16,453,000

Date of Approval			Description	Approved Amount	Net Additions to Budget	Consultant/ Contractor	Construction	Construction
HRWC BOARD	GM	NSUARB					Tender Price	Budget Estimate
2016/17 Capital Budget								
28-Jan-16		24/03/16	Advanced Funding Integrated Projects					
			East					
			Murray Hill Drive W/M Renewal	\$455,000	\$455,000			
			Farquharson Street Water Main Renewal	\$500,000	\$500,000			
			Brompton Road	\$215,000	\$215,000			
			Everette Street Water Main Renewal	\$410,000	\$410,000			
		24/03/16	West					
			Scarlet Rd	\$335,000	\$335,000			
			Foxglove Lane	\$150,000	\$150,000			
			Parmbelle Lane	\$250,000	\$250,000			
			George Dauphinee Drive	\$620,000	\$620,000			
			Layton Road	\$325,000	\$325,000			
			Inverness Avenue	\$260,000	\$260,000			
		24/03/16	Central					
			Tillock Drive	\$380,000	\$380,000			
			Tillock Court	\$100,000	\$100,000			
			Total Integrated Project	\$4,000,000	\$4,000,000			
5-Mar-15		13-Apr-15	Macdonald Bridge Transmission Main Replacement project \$7,700,000: funding in the amount of \$354,000 is available from underspending on the Kearney Lake Road Water Transmission Main Phase 2: funding in the amount of \$3,750,000 is available from the 2015/16 Capital Budget under "Macdonald Bridge Transmission Main Replacement" and funding in the amount of \$3,295,000 will be included in the 2016/17 Capital Budget	\$7,700,000	\$3,295,000	CBCL		
28-Jan-16		13-Apr-16	Valve Renewals	\$125,000	\$125,000			
28-Jan-16		13-Apr-16	Hydrant Renewals	\$75,000	\$75,000			

WATER
CAPITAL BUDGET APPROVALS TO DATE - 2016/17
TOTAL CAPITAL BUDGET FOR WATER \$16,453,000

Date of Approval								Construction Tender Price	Construction Budget Estimate
HRWC BOARD	GM	NSUARB	Description	Approved Amount	Net Additions to Budget	Consultant/ Contractor			
28-Jan-16		13-Apr-16	Service Line Renewals	\$190,000	\$190,000				
28-Jan-16		13-Apr-16	Large Tapping Machine c/w electric operator and 4" to 12" cutters	\$34,000	\$34,000				
28-Jan-16		13-Apr-16	Small Hydro Vac for valve box maintenance	\$25,000	\$25,000				
28-Jan-16		13-Apr-16	Plastic Shell Cutters for Tapping Marching	\$12,000	\$12,000				
28-Jan-16		13-Apr-16	Portable valve Exerciser	\$10,000	\$10,000				
28-Jan-16		13-Apr-16	Confined Space Entry System for Bennery Lake Water Supply Plant	\$14,000	\$14,000				
28-Jan-16		13-Apr-16	Temporary Water Line - Pipe materials purchase - East Region	\$18,000	\$18,000				
28-Jan-16		25-Apr-16	Water Distribution Pressure Monitoring Equipment	\$10,000	\$10,000				
28-Jan-16		19-Feb-16	Geizer 158 Reservoir Rehabilitation	\$2,170,000	\$2,170,000				
					\$5,978,000				
Accumulative Total - January, 2016									\$9,978,000

WATER
CAPITAL BUDGET APPROVALS TO DATE - 2016/17
TOTAL CAPITAL BUDGET FOR WATER \$16,453,000

Date of Approval						Construction	Construction	
HRWC BOARD	GM	NSUARB	Description	Approved Amount	Net Additions to Budget	Consultant/ Contractor	Tender Price	Budget Estimate
	23-Feb-16	N/A	JD Kline Replace Power Pole at Low Lift Station	\$40,000	\$40,000			
	23-Feb-16	N/A	Bedford Connector Transmission Main Phase 3 - Design	\$90,000	\$90,000			
	23-Feb-16	N/A	Lyle Street Control Chamber Access Improvement	\$30,000	\$30,000			
	23-Feb-16	N/A	Wilson Drive & Highway #2 - Culvert Replacements	\$223,000	\$223,000			
	23-Feb-16	N/A	Topsail Control Chamber - Confined Space Energy Retrofit - funding available from underspending in 2015/16 CB under "Geizer 158 Retrofit Chamber Retrofit which did not proceed last year	\$43,000	\$0			
	23-Feb-16	N/A	Confined Space Entry Retrofit - Bridgeview PRV Chamber	\$79,000	\$79,000			
	23-Feb-16	N/A	Robie 2 Chamber Upgrades	\$160,000	\$160,000			
	23-Feb-16	N/A	Automated Flushing Program	\$20,000	\$20,000			
	23-Feb-16	N/A	Water Sampling Station Relocation Program	\$29,000	\$29,000			
	24-Feb-16	N/A	Relocated CT Calculation Equipment Lucasville Meter Chamber	\$31,000	\$31,000			
	23-Feb-16	N/A	Critical Valves Bedford Hwy - funding in the amount of \$57,000 is available from underspending in SAP #3-1921 2015/16 Capital Budget	\$57,000	\$0			
25-Feb-16		6-Apr-16	Lake Major Water Supply Plant - New Diesel Generator	\$1,900,000	\$1,900,000			
Accumulative Total - February, 2016						\$2,602,000		

WATER
CAPITAL BUDGET APPROVALS TO DATE - 2016/17
TOTAL CAPITAL BUDGET FOR WATER \$16,453,000

Date of Approval						Construction	Construction	
HRWC BOARD	GM	NSUARB	Description	Approved Amount	Net Additions to Budget	Consultant/ Contractor	Tender Price	Budget Estimate
	8-Mar-16	N/A	Bennery Lake WSP Surge Protection	\$17,000	\$17,000			
	8-Mar-16	N/A	Lake Major WSP Purchase Fluorescence Meter	\$90,000	\$90,000			
	8-Mar-16	N/A	Lake Major WSP - Replace Contactors in the MCC	\$34,000	\$34,000			
	8-Mar-16	N/A	Lake Major WSP - Integrate Chlorine Alarms	\$50,000	\$50,000			
	8-Mar-16	N/A	Lake Major WSP Chemical Feed Pump Replacements	\$85,000	\$85,000			
	8-Mar-16	N/A	JD Kline WSP New Laptop system to Backwash Filters	\$12,000	\$12,000			
	8-Mar-16	N/A	JD Kline WSP - Ampgard III to Vacuum Contactor Conversion Program	\$40,000	\$40,000			
	8-Mar-16	N/A	Purchase Inline Zeta Potential Meters for Water Plants	\$100,000	\$100,000			
	8-Mar-16	N/A	Purchase Particle Counters for Water Plants	\$235,000	\$235,000			
	30-Mar-16	N/A	Lake Major WSP - Dewatering Equipment	\$100,000	\$100,000			
	30-Mar-16	N/A	Cliff Street Watermain Replacement was not originally budgeted for in 2016/17. Funding in the amount of \$60K is available from underspending in the "First Street Watermain Renewal Project"	\$60,000	\$0			
	30-Mar-16	N/A	Lake Major WSP - Dedicated Service Water Pumping Station Design Phase	\$60,000	\$60,000			
	30-Mar-16	N/A	Bennery Lake WSP - Power Monitoring	\$20,000	\$20,000			
	30-Mar-16	N/A	Lake Major WSP - Replace Fluoride System	\$10,000	\$10,000			

WATER
CAPITAL BUDGET APPROVALS TO DATE - 2016/17
TOTAL CAPITAL BUDGET FOR WATER \$16,453,000

Date of Approval						Construction	Construction	
HRWC BOARD	GM	NSUARB	Description	Approved Amount	Net Additions to Budget	Consultant/ Contractor	Tender Price	Budget Estimate
	30-Mar-16	N/A	J.D. Kline Replace Turbidimeters and ph. Meters project was not identified for 2016/17. Funding in the amount of \$11K is available from underspending in the 2015/16 JD Kline Chemical Feed Pump Replacement Program	\$11,000	\$0			
	30-Mar-16	N/A	2015/16 CB Governor's Brook Transmission Main Oversizing	\$197,000	\$0			
	30-Mar-16	N/A	Lakeside Timberlea CCC 2015/16	\$2,000	\$0			
31-Mar-16		22-Apr-16	JD Kline WSP - Replacement of the Lime Feed and Delivery System	\$300,000	\$300,000			
Accumulative Total - March, 2016					\$1,153,000			
	15-Apr-16	4-May-16	Bennery Lake WSP Plate Settlers	\$440,000	\$440,000			
Accumulative Total - April , 2016					\$440,000			
	25-May-16		Rechlorination Station Upgrades	\$26,000	\$26,000			
	25-May-16		Versa Valve Removal Project	\$20,000	\$20,000			
	25-May-16		Temporary Water Line - Pipe Materials Purchase East Region	\$18,000	\$18,000			
	25-May-16		Water Distribution Pressure Monitoring Equipment	\$10,000	\$10,000			
	25-May-16		Belmont PRV Valve Replacement	\$10,000	\$10,000			
	25-May-16		Chlorine Analyzer Replacement Program	\$23,000	\$23,000			
	25-May-16		Zinck PRV Meter Replacement	\$8,000	\$8,000			
	26-May-16		Bedford Reservoir Inflow Meter Replacement	\$8,000	\$8,000			
Accumulative Total - May , 2016					\$123,000			

WATER
CAPITAL BUDGET APPROVALS TO DATE - 2016/17
TOTAL CAPITAL BUDGET FOR WATER \$16,453,000

Date of Approval			Description	Approved Amount	Net Additions to Budget	Consultant/ Contractor	Construction	Construction
HRWC BOARD	GM	NSUARB					Tender Price	Budget Estimate
				Total To Date	\$14,296,000			

WASTEWATER
CAPITAL BUDGET APPROVALS TO DATE - 2016/17
TOTAL CAPITAL BUDGET FOR WASTEWATER \$35,838,000

Date of Approval							Construction	Construction
HRWC BOARD	GM	NSUARB	Description	Approved Amount	Net Additions to Budget	Consultant/ Contractor	Tender Price	Budget Estimate
28-Jan-16		24-Mar-16	2016/17 Capital Budget Advanced Funding Integrated Projects					
			<u>East</u>					
			Murray Hill Drive W/M Renewal	\$38,000	\$38,000	Dexter Construction	\$6,166	\$27,810
			Farquharson Street Water Main Renewal	\$109,000	\$109,000	Dexter Construction	\$56,966	\$78,215
			Brompton Road	\$278,000	\$278,000	Dexter Construction	\$141,471	\$199,881
			Everette Street Water Main Renewal	\$97,000	\$97,000	Dexter Construction	\$52,608	\$69,524
			Alfred Street	\$199,000	\$199,000	Dexter Construction	\$55,663	\$148,477
			Beckfoot Drive	\$9,000	\$9,000			
			Strath Lane	\$226,000	\$226,000			
			Westwood Drive	\$121,000	\$121,000			
28-Jan-16		24-Mar-16	<u>West</u>					
			Scarlet Rd	\$206,000	\$206,000			
			Foxglove Lane	\$13,000	\$13,000			
			Parmbelle Lane	\$79,000	\$79,000			
			George Dauphinee Drive	\$54,000	\$54,000			
			Layton Road	\$13,000	\$13,000			
			Inverness Avenue	\$22,000	\$22,000			
28-Jan-16		24-Mar-16	<u>Central</u>					
			Tillock Drive	\$13,000	\$13,000			
			Tillock Court	\$9,000	\$9,000			
			Doyle Street	\$19,000	\$19,000			
			McQuarrie Bridge (Fall River)	\$150,000	\$150,000			
			Lydgate Drive	\$9,000	\$9,000			
			Total Integrated Projects		\$1,664,000			
28-Jan-16		13-Apr-16	Manhole Renewals	\$32,000	\$32,000			
28-Jan-16		13-Apr-16	Lateral Replacements	\$2,190,000	\$2,190,000			

**WASTEWATER
CAPITAL BUDGET APPROVALS TO DATE - 2016/17
TOTAL CAPITAL BUDGET FOR WASTEWATER \$35,838,000**

Date of Approval							Construction	Construction
HRWC BOARD	GM	NSUARB	Description	Approved Amount	Net Additions to Budget	Consultant/ Contractor	Tender Price	Budget Estimate
28-Jan-16		13-Apr-16	SIR Program Flow Meters and Related Equipment	\$40,000	\$40,000			
28-Jan-16		13-Apr-16	Miscellaneous Equipment Replacement	\$70,000	\$70,000			
28-Jan-16		10-Mar-16	Wastewater System - Trenchless Rehabilitation Program: Funding in the amount of \$300,000 from underspending in the 2015/16 Sewer Lining Program: and \$1,500,000 is available from the 2016/17 Capital Budget	\$1,800,000	\$1,500,000	Insituform Technologies Limited	\$805,192	\$1,472,779
	29-Jan-16	N/A	Leiblin Pumping Station Elimination Preliminary Design Halifax	\$75,000	\$75,000			
		25-Apr-16			\$3,832,000			
Accumulative Total - January, 2016								\$5,496,000
03-Feb-16		N/A	The \$42,500 in regulated activity funding is available from two sources. \$20,000 is available from underspending on the <i>Mill Cove CHP Fatal Flaw/Due Diligence Analysis, and the Preliminary Design and Cost Analysis</i> , with the remaining \$22,500 available from projected under spending within the 2015/16 <i>Wastewater – Energy – Energy Management Capital Program</i> . The \$42,500 in unregulated activity funding is available from within the 2016/17 Unregulated Capital Budget - Mill Cove Biogas CHP.	\$85,000	\$0			
25-Feb-16		8-Apr-16	Balsam Road Pumping Station (PS) Elimination	\$770,000	\$770,000	Dexter Construction	\$588,150	\$585,900
25-Feb-16		5-Apr-16	Northwest Arm Sewer Rehabilitation - Detailed Design	\$300,000	\$300,000			
25-Feb-16		6-Apr-16	Waterfront Drive Wastewater System Replacement	\$500,000	\$500,000			
Accumulative Total - February 2016								\$1,070,000
09-Mar-16		N/A	Wastewater Pump Station Upgrade Program - East Region 2015/16 Capital Budget	\$110,000	\$0			
10-Mar-16		N/A	HRM Land Transfer - Subdivision Costs Project was not included in the 2016/17 Budget. Funding in the amount of \$75,000 is available from underspending in the Lakeside Pumping Station Diversion Project in the 2015/16 CB	\$75,000	\$0			

WASTEWATER
CAPITAL BUDGET APPROVALS TO DATE - 2016/17
TOTAL CAPITAL BUDGET FOR WASTEWATER \$35,838,000

Date of Approval								
HRWC BOARD	GM	NSUARB	Description	Approved Amount	Net Additions to Budget	Consultant/ Contractor	Construction Tender Price	Construction Budget Estimate
			Halifax WWTF - Various Upgrades: \$76,000: Funding available from underspending in 2012/13 CB in the following projects: Dartmouth WWTF HHSP Upgrades \$5,000 Herring Cove WWTF HHSP Upgrades 13/14 CB \$41,000 Halifax WWTF HHSP Upgrades 13/14 CB \$14,000 Lakeside PS Diversion to HFX Sewershed: \$16,000	\$76,000	\$0			
	29-Mar-16	N/A						
			WW Pump Station Upgrade Program Central Region (2015/16 CB)	\$70,000	\$0			
	29-Mar-16	N/A						
			Bedford PS Rehabilitation (at Mill Cove WWTF) funding in the amount of \$2,850M is available from the 2016/17 CB The remainder of funds in the amount of \$400K is available from underspending in the 2015/16 Lakeside Pumping Station Diversion Project which came in under budget	\$3,250,000	\$2,850,000			
31-Mar-16		26-May-16						
			2015/16 Wastewater Pumping Station Upgrade Program - West Region	\$420,000	\$0			
31-Mar-16		14-Apr-16						
Accumulative Total - March 2016					\$2,850,000			
			North Park Upgrade Integrated Project - Additional scope funding in the amount of \$55K is available from under spending in the 2015/16 CB under Lahey Road Integrated Project	\$55,000	\$0			
	04-Apr-16	N/A						
			2015/16 Wet Weather Management Program	\$125,000	\$0			
	04-Apr-16	N/A						
			HWWTF Halifax Wastewater Treatment Facility Ventilation Air Heat Recovery Project This project was originally scheduled for 2017/18. Due to the successful results from Herring Cove WWTF Vent Air Heat Recovery project, it was decided to use the funds allocated from 2015/16 CB under "WW HCWWTF - Heat Recovery Phase 2 - Effluent Heat Recovery	\$250,000	\$0			
	15-Apr-16	N/A						
			Aerotech WWTF Expansion and Upgrade Project - Construction / Design	\$22,755,000	\$16,085,366			
28-Apr-16								
Accumulative Total - April 2016					\$16,085,366			
			Eastern Passage WWTF Secondary Clarifier Launder Covers	\$49,000	\$49,000			
27-Apr-16	3-May-16							

WASTEWATER
CAPITAL BUDGET APPROVALS TO DATE - 2016/17
TOTAL CAPITAL BUDGET FOR WASTEWATER \$35,838,000

Date of Approval								
HRWC BOARD	GM	NSUARB	Description	Approved Amount	Net Additions to Budget	Consultant/ Contractor	Construction Tender Price	Construction Budget Estimate
			Mill Cove WWTF - Various Capital Projects:					
			Compressor Replacement: \$20,000					
			Entrance Gate Replacement: \$20,000					
27-Apr-16	03-May-16		Wet Scrubber Media Replacement: \$20,000					
			Digester Roof Coating: \$135,000	\$195,000	\$195,000			
27-Apr-16	03-May-16		Roach's Pond Pumping Station - Trash Rack	\$75,000	\$75,000			
	24-May-16		EPWWTF Process Water Filter Upgrades	\$26,000	\$26,000			
	24-May-16		EPWWTF Automation of RAS Gates	\$97,000	\$97,000			
	24-May-16		EPWWTF Fall Protection Grating	\$6,000	\$6,000			
	24-May-16		DWWTF - Influent Duty Pump Installation	\$160,000	\$160,000			
	31-May-16		Mill Cove WWTF - Emergency Wastewater Treatment Facility Equipment	\$200,000	\$55,000			
Accumulative Total - May 2016						\$663,000		
Total To Date						\$26,164,366		

STORMWATER
CAPITAL BUDGET APPROVALS TO DATE - 2016/17
TOTAL CAPITAL BUDGET FOR STORMWATER \$3,951,000

Date of Approval			Description	Approved Amount	Net Additions to Budget	Consultant/ Contractor	Construction Tender Price	Construction Budget Estimate
HRWC BOARD	GM	NSUARB						
2016/17 Stormwater								
Advanced Funding Integrated Projects								
East								
28-Jan-16		24-Mar-16	Murray Hill Drive W/M Renewal	\$28,000	\$28,000	Dexter Construction	\$17,520	\$21,292
			Farquharson Street Water Main Renewal	\$19,000	\$19,000	Dexter Construction	\$14,391	\$13,036
			Brompton Road	\$151,000	\$151,000	Dexter Construction	\$35,835	\$108,631
			Everette Street Water Main Renewal	\$28,000	\$28,000	Dexter Construction	\$5,319	\$21,075
			Alfred Street	\$11,000	\$11,000			
			Beckfoot Drive	\$9,000	\$9,000			
			Strath Lane	\$122,000	\$122,000			
28-Jan-16		24-Mar-16	West					
			George Dauphinee Drive	\$34,000	\$34,000			
28-Jan-16		24-Mar-16	Central					
			Tillock Court	\$19,000	\$19,000			
			Doyle Street	\$75,000	\$75,000			
			Baker Drive	\$52,000	\$52,000			
			Second Avenue	\$70,000	\$70,000			
			Total Integrated Projects	\$618,000	\$618,000			
28-Jan-16		13-Apr-16	Manhole Renewals	\$29,000	\$29,000			
28-Jan-16		13-Apr-16	Catchbasin Renewals	\$29,000	\$29,000			
28-Jan-16		13-Apr-16	Lateral Replacements	\$87,000	\$87,000			
					\$145,000			
			Accumulative Total January, 2016		\$763,000			

**STORMWATER
CAPITAL BUDGET APPROVALS TO DATE - 2016/17
TOTAL CAPITAL BUDGET FOR STORMWATER \$3,951,000**

Date of Approval						Construction	Construction	
HRWC BOARD	GM	NSUARB	Description	Approved Amount	Net Additions to Budget	Consultant/ Contractor	Tender Price	Budget Estimate
	23-Feb-16	N/A	Wilson Drive & Highway 2 - Culvert Replacement	\$223,000	\$223,000	Harbour Construction Ltd.	\$109,270.00	\$167,400.00
25-Feb-16		6-Apr-16	Sackville Cross Road Stormwater System Renewal	\$1,090,000	\$1,090,000			
25-Feb-16		6-Apr-16	Bedford Highway at Shaunslieve Drive Culvert Upgrade	\$407,000	\$247,000	Brycon Construction Limited	\$152,127.57	\$336,141.00
25-Feb-16		21-Mar-16	Sullivan's Pond Storm Sewer System Replacement - Design Funding in the amount of \$100,000 is available from 2015/16 CB under "Stormwater Pipes - Sullivan's Pond Storm Sewer Replacement - Phase 1 and \$300,000 is available from the 2016/17 CB Under "Stormwater Pipes Sullivan's Pond Storm Sewer Replacement Phase 1. The total approved to date is \$950,000	\$400,000	\$300,000			
Accumulative Total February, 2016					\$1,860,000			
Accumulative Total March, 2016					\$0			
7-Apr-16		25-Apr-16	2016/17 Driveway Culvert Program	\$450,000	\$450,000			
Accumulative Total April, 2016					\$450,000			
30-May-16			Yankeetown Road (near Civic 258) Culvert Replacement was not budgetted for in 2016/17: Funding in the amount of \$200,000 is available from underspending in the 2015/17 CB under Cow Bay Road Deep Storm Sewer project which came in under budget	\$200,000	\$0			
Accumulative Total for May, 2016					\$0			
Total to Date					\$3,073,000			

**CORPORATE PROJECTS
CAPITAL BUDGET APPROVALS TO DATE - 2016/17
TOTAL CAPITAL BUDGET FOR CORPORATE PROJECTS \$10,535,000**

Date of Approval			Description	Approved Amount	Net Additions to Budget	Consultant/ Contractor	Construction Tender Price	Construction Budget Estimate
HRWC BOARD	GM	NSUARB						
30-Jul-15		15-Oct-15	Computerized Management Maintenance System Phase 2 (Project was approved in October 15, 2015 by NSUARB)	\$1,500,000	\$1,500,000			
28-Jan-16		13-Apr-16	Desktop Computer Replacement Program	\$180,000	\$180,000			
28-Jan-16		13-Apr-16	Network Infrastructure Upgrades	\$200,000	\$200,000			
28-Jan-16		13-Apr-16	Survey Equipment - GPS Total Station	\$30,000	\$30,000			
28-Jan-16		13-Apr-16	Fleet Upgrade Program Water	\$505,000	\$505,000			
28-Jan-16		13-Apr-16	Fleet Upgrade Program Wastewater	\$920,000	\$920,000			
28-Jan-16		13-Apr-16	Fleet Upgrade Program Stormwater	\$230,000	\$230,000			
Accumulative Total January, 2016					\$3,565,000			
28-Apr-16			AMI		\$3,300,000			
Accumulative Total April, 2016					\$3,300,000			
31-May-16			CRM Interfaces	\$200,000	\$200,000			
Accumulative Total May, 2016					\$200,000			
Total To Date				\$3,300,000	\$7,065,000			

Item 3-I

08-Nov-16

FINANCIAL REPORT

Consolidated balance of the four operating accounts maintained by the Commission as of:	8-Nov-16	\$53,683,654
Rate of interest on the above balance - Investment Rate of Return	0.073%	\$53,683,654.00

FINANCIAL REPORT

Consolidated balance of the four operating accounts
maintained by the Commission as of:

March 20, 1997

Rate of interest on the above balance
is halfway between banker's acceptance
and prime rate - Approx.

3.73%

Item 4, Page 1 of 1
March 20, 1997

8106078.33 General
1590.34 Rebate
33003.4 Bond & Coupon
0 Price Club Imprest

\$8,140,672

0.0475 prime
0.027 b/a

TO: Ray Ritcey, Chair and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: *Original Signed By:*

Jamie Hannam, Director Engineering & IS

APPROVED: *Original Signed By:*

Carl Yates, M.A.Sc., P.Eng., General Manager

DATE: June 23, 2016

SUBJECT: **Computerized Maintenance Management System [CMMS]–
Phase 2 – Implementation – Project Update**

INFORMATION REPORT

ORIGIN

The 2014/15 Capital Budget.

BACKGROUND

Halifax Water Operations staff have identified that a strategic upgrade to our current processes and applications would significantly improve the efficiency of many of our operational activities. The implementation of the CMMS was endorsed by the Halifax Water IT Strategic Planning Committee and approved by the Halifax Water Board. The CMMS was also recognized as a high priority in the five year business plan and Integrated Resource Plan.

To improve the overall efficiency, effectiveness and consistency in maintenance management and facilitate the integration of these activities with our existing corporate GIS and financial systems, the Board approved a joint project with HRM to develop and implement a CMMS. A CMMS is the industry standard best practice for utilities in the management of critical infrastructure and facilities.

DISCUSSION

Halifax Water has been working jointly with HRM towards the implementation of Cityworks as our CMMS platform. The implementation of Cityworks for Halifax Water has been broken down into a series of deployments to facilitate the organizational change management and effective rollout of the system.

Deployment 1 concentrates on the implementation of Cityworks for Work Requests and Work Orders within Water Distribution System and Wastewater/Stormwater [WWSW] Collection System Operations areas.

Deployment 1 was implemented as a pilot first in the WWSW Operations of the Central region and the Water Operations of the East region. The rollout of the pilot was completed May 20, 2016. After a period of stabilization, the lessons learned from the pilot will be used to extend deployment 1 to the other regions of Water and WWSW Operations in the fall of 2016.

Concurrent with the deployment 1 activity, the project team is continuing with the requirements analysis for deployment 2 of Cityworks. Deployment 2 introduces Cityworks functionality for inspections, locates and preventative maintenance work orders and extends Cityworks into the Water and Wastewater Treatment Facilities. Deployment 2 is forecasted to complete in October 2017.

The project is progressing on schedule and within budget and to date the acceptance from the Water and WWSW Operations staff has been positive.

Report Prepared by:

Original Signed By:

Kevin O'Reilly, Project Manager IS, 902-293-7428

TO: Ray Ritcey, Chair, and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: *Original Signed By:*

Cathie O'Toole, MBA, CPA/CGA, Director, Corporate Services

APPROVED: *Original Signed By:*

Carl Yates M.A.Sc., P.Eng., General Manager

DATE: June 9, 2016

SUBJECT: **Pension Plan Investment Performance 1st Quarter, 2016**

INFORMATION REPORT

ORIGIN

The Pension Plan investment performance is reported to the Commission periodically throughout the year.

BACKGROUND

None

DISCUSSION

The tables below and the attached Investment Report outlines the performance update for the first quarter of 2016 (January to March) for the Halifax Regional Municipality (HRM) Pension Plan Master Trust, of which Halifax Regional Water Commission (HRWC) is a part. The fair value of the investment in the Master Trust is determined and updated at year-end, and HRWC's share of the total HRM Master Trust at December 31, 2015 was 5.87%, and totaled \$100.4 million.

ITEM 5-I
HRWC Board
June 30, 2016

Returns:

	1st Quarter Jan. to Mar.	1-Year	4-Year Annualized	Since October 1999
Fund Return	-2.89%	1.70%	8.71%	6.78%
Policy Benchmark	-0.38%	0.62%	5.72%	5.43%
Excess Return	-2.51%	1.08%	2.99%	1.35%

Asset Mix March 31, 2016:

Asset:	Actual	Policy
Cash & Equivalents	0.54%	
Canadian Equity	7.65%	8.50%
Global Equity	28.83%	28.70%
Bonds	23.53%	26.40%
Minimum Target Return	39.45%	36.40%

The total fund returned -2.89% in the 1st Quarter, which underperformed the policy benchmark of -0.38% by -2.51%. The return for the one-year period was 1.70% which exceeded the policy benchmark of 0.62% by 1.08%. Effective March 31, 2016, the policy benchmark is 5.9%.

The total fund return is subject to investment management fees and plan expenses.

As at March 31, 2016, the Master Trust was in compliance with the Statement of Investment Policies and Procedures (SIP&P).

ATTACHMENT

Halifax Regional Municipality Pension Plan Investment Report 1st Quarter, 2016

Report Prepared by:	<i>Original Signed By:</i>
	_____ Allan Campbell, B.Comm, CPA, CMA Manager, Finance, 902-490-4288



Investment Report

Q1 2016

Executive Summary

As at March 31, 2016, the Master Trust (MT) was in compliance with the SIP&P.

Funded Status*

As at December 31, 2015, the accounting funded position was 104%, the estimated going concern funded status was 89%, and the estimated solvency funded ratio was 59%.

Master Trust Performance

In Q1, the MT earned -2.9%, underperforming the policy benchmark return by -2.5%. Most of the underperformance is due to currency movements.

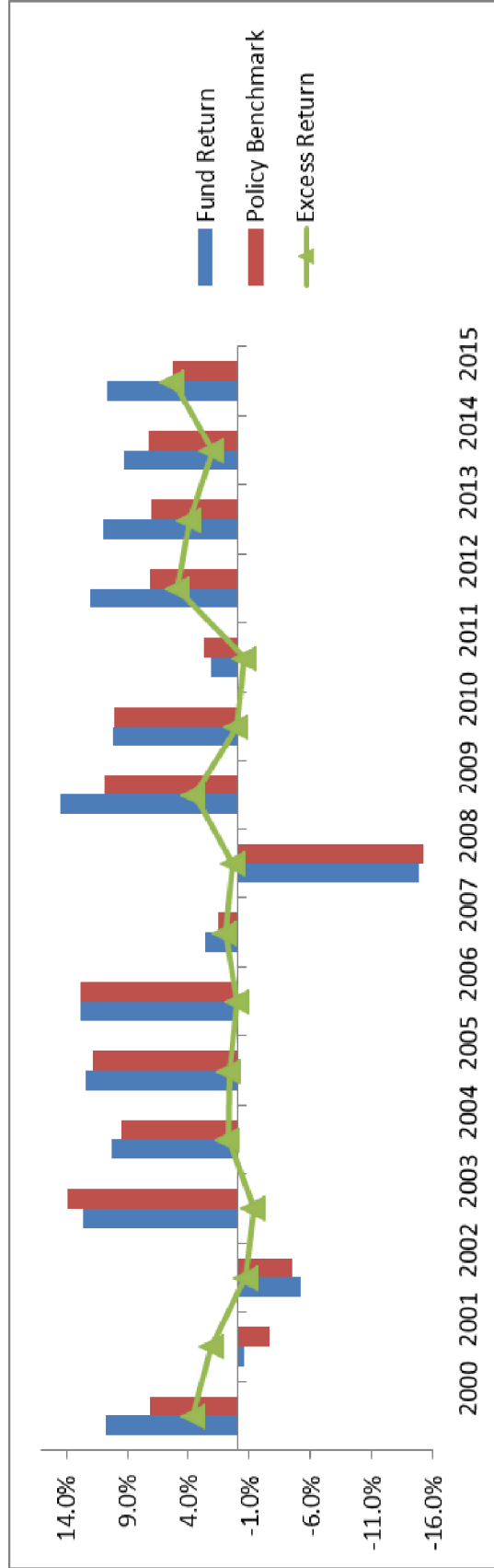
For the one-year period ending March 31, 2016, the MT earned 1.7%, outperforming the policy benchmark by 1.1%.

The MT earned an annualized return of 8.7% over the 4-year ending March 31, 2016 outperforming the policy benchmark by 3.0% annualized.

Since inception (October 1999), the MT earned 6.8% annualized outperforming the Plan's long-term rate objective of 6.5%. The table on the next slide summarizes the calendar year returns for the MT.

Executive Summary – Cont.

Calendar Returns



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Fund Return	10.71%	-0.56%	-5.21%	12.60%	10.27%	12.38%	12.88%	2.60%	-14.83%	14.47%	10.12%	2.11%	12.01%	10.94%	9.27%	10.59%
Policy Benchmark	7.12%	-2.64%	-4.50%	13.91%	9.50%	11.76%	12.85%	1.58%	-15.20%	10.92%	10.08%	2.71%	7.12%	7.01%	7.24%	5.27%
Excess Return	3.59%	2.08%	-0.71%	-1.31%	0.77%	0.62%	0.03%	1.02%	0.37%	3.55%	0.04%	-0.60%	4.89%	3.93%	2.03%	5.32%

Executive Summary – Cont.

Added Value

In Q1 of 2016, the MT underperformed its benchmark by -2.51%. Attribution: World Equity +0.16%, MSCI EAFE Equity -0.01%, US Equity -0.01%, Global Credit -0.10%, Universe Bonds -0.15%, Emerging Market Equity -0.16%, CAD Equity -0.19% and Minimum Target Return -2.05%.

Q1 Updates

- Committed \$20.0 mm USD to a private equity direct secondaries fund. The Fund targets a net annualized rate of return of 20%. At the time of commitment, the Fund had completed two investments representing 20% of the Fund's target size. One with a target annualized return of approximately 37% and the other targets 70%. We negotiated co-investment rights.
- Co-invested \$7.5 mm USD in a US private equity direct secondary with a target annualized return of approximately 30%. No management fees will be paid, saving approximately \$122,000 CAD per year.
- Committed \$10.0 mm USD to a US consumer focused private equity fund with a target annualized return of 20%. We had committed to the previous Fund which has earned a net annualized return of approximately 23% since inception. We were presented with seven no fee co-investment opportunities on that Fund and executed four. The annualized return on the four co-investments is 94%.

Executive Summary – Cont.

Q1 Updates Continued

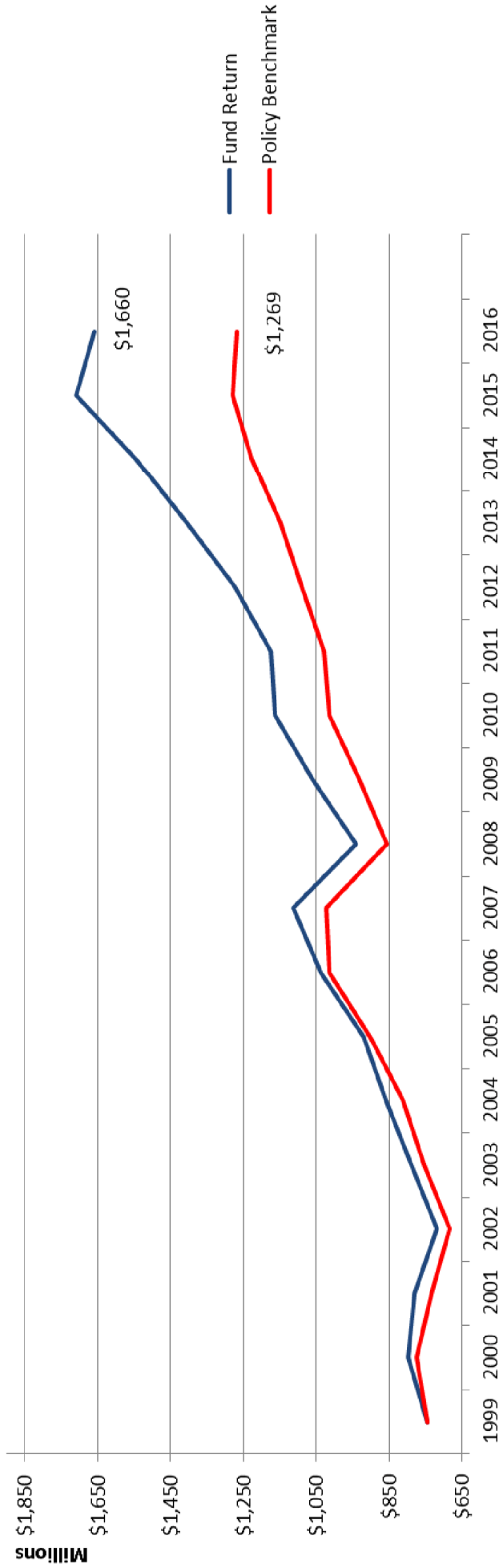
- Invested a further \$13 mm CAD in an existing Emerging Market equity mandate, with no management fee, representing savings of approximately \$130,000 CAD per year.
- Invested \$10 mm USD in a US infrastructure co-investment with an existing GP. The target return is approximately 10% and target annualized cash yield of 6.4%. The co-investment is on a no fee basis which results in estimated one-time fee savings of \$1,735,170 upon the sale of the asset and \$169,297 annual savings for the life of the investment (estimated 9 years). Work done in Q4 2014, deal executed in Q1 2016.

Total Fund Returns – March 31, 2016

	Current Quarter	1-Year	3-Year Annualized	4-Year Annualized	Since Inception (Oct 1999)
Fund Return	-2.89%	1.70%	8.27%	8.71%	6.78%
Policy Benchmark*	-0.38%	0.62%	5.58%	5.72%	5.43%
Excess Return	-2.51%	1.08%	2.69%	2.99%	1.35%

*Effective March 31, 2016, the Policy Benchmark is 5.9% S&P/TSX Index + 2.6% S&P/TSX 60 + 4.6% S&P 500 Index(\$USD) + 9.1% MSCI EAFE Index (\$CAN) + 3.4% MSCI Emerging Markets (CAN\$) + 11.6% MSCI World (CAN\$) +16.1% FTSE TMX Canada Universe + 10.3% 3 Month Bankers Acceptance + 36.4% Minimum Target Return.

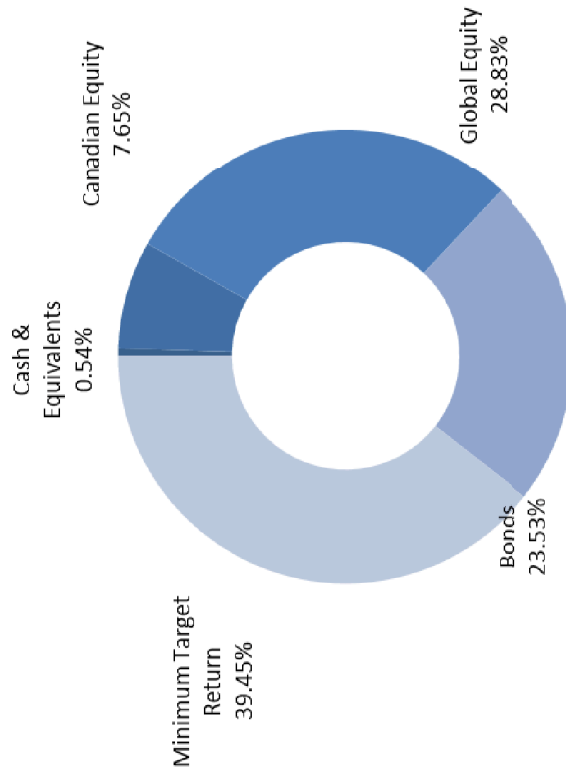
Since Inception Performance



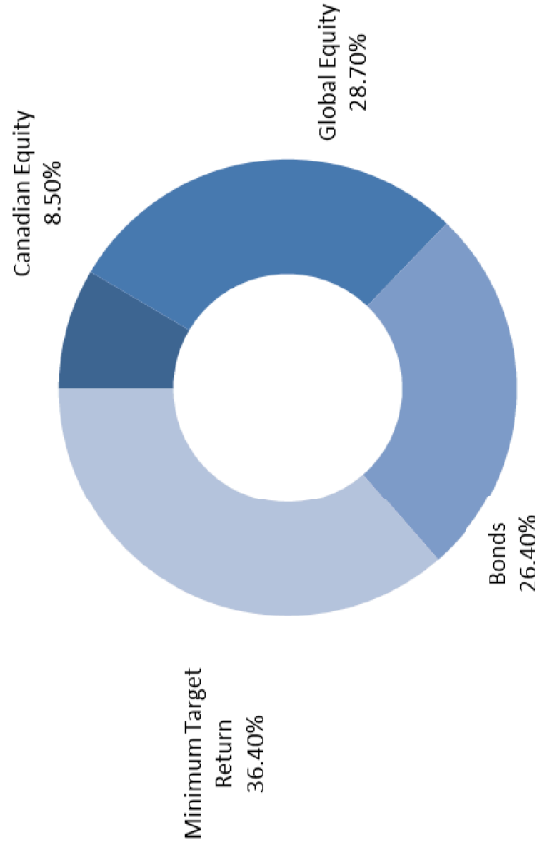
In dollar terms, the fund has grown \$391.0 million in excess of the policy benchmark since inception.

Asset Mix – March 31, 2016

Actual Asset Mix
As of March 31, 2016



Asset Mix Policy
As of March 31, 2016



*Effective March 31, 2016, the Policy Benchmark is 5.9% S&P/TSX Index + 2.6% S&P/TSX 60 + 4.6% S&P 500 Index(\$USD) + 9.1% MSCI EAFE Index (\$CAN) + 3.4% MSCI Emerging Markets (CAN\$) + 11.6% MSCI World (CAN\$) +16.1% FTSE TMX Canada Universe + 10.3% 3 Month Bankers Acceptance + 36.4% Minimum Target Return.

Equity Market Index Returns

Indexes	Q1 2016	1-Year Ending Mar 31, 2016	4-Year Ending Mar 31, 2016
Canadian Equity (S&P/TSX Capped Index)	4.54%	-6.57%	5.30%
US Equity (S&P 500 C\$)	-5.02%	4.09%	19.93%
US Equity (S&P 500 U\$)	1.35%	1.78%	12.35%
EAFE Equity (MSCI EAFE C\$)	-9.10%	-6.19%	11.46%
Emerging Markets (MSCI EM C\$)	-0.92%	-10.03%	3.62%
World Equity (MSCI World C\$)	-6.61%	-1.26%	15.34%

All markets with the exception of the S&P/TSX Capped Index and S&P USD earned negative returns in Q1 2016. Over the 1-year time period only the S&P 500 USD and S&P 500 CAD earned positive returns. Stock market returns have been robust over the 4-year time period.

Bond Market Index Returns

Bond Indexes	Current Quarter	1-Year Ending Mar 31, 2016	4-Year Ending Mar 31, 2016
Canadian Long Duration Bonds (FTSE TMX Canada Long Government)	2.44%	-0.33%	5.53%
Canadian Universe Bonds (FTSE TMX Canada Universe)	1.39%	0.78%	4.03%
Canadian Corporate Bonds (FTSE TMX Canada All Corporate)	1.51%	0.69%	4.33%

Long government bonds have outperformed Corporate bonds and Universe bonds over the Q1 and 4 year periods but underperformed for the 1 year period.

Fixed Income – Q1 Summary

- The MT's overall Fixed Income portfolio returned 0.03%, which underperformed its benchmark return of 0.93% by -0.90% largely due to underperforming corporate bonds and mortgages.
- The MT's Universe Bond mandate returned 0.53%, underperforming the FTSE TMX Canada Universe Bond Index return of 1.39% by -0.86%. -0.90% of the underperformance was due to underperforming corporate credit, which was overweight versus the benchmark allocation. The government bond allocation added 0.04% against the benchmark.
- The MT's Government Bond mandate returned 1.69%, outperforming the FTSE TMX Canada All Government Bond Index return of 1.35% by 0.34%.



Fixed Income – Q1 Summary – Cont.

- The MT's corporate bond component of the FTSE TMX Canada Universe mandate returned -1.27% underperforming the FTSE TMX Canada All Corporate Bond Index return of 1.51% by -2.78% largely due to underperforming corporate credit and unfavourable foreign exchange movements.
- The MT's combined short duration portfolio returned -0.80% in Q1, underperforming the 3 Month BA returned of 0.22% by -1.02%, largely due to an overweight in underperforming mortgages.

MTR – Q1 Summary

- The Minimum Target Return portfolio returned -3.68% versus a benchmark of 1.59%, underperforming by -5.27%. The underperformance was primarily driven by unfavourable currency movements.
- The increase of the Canadian dollar accounted for -4.08% of the underperformance.

Equity – Q1 Summary

- The MT’s Equity portfolio returned -3.68% during the quarter, underperforming the equity policy benchmark return of -3.19% by -0.49%. The relative underperformance was primarily due to the portfolio’s slight overweight to Emerging Markets.
- Within the Equity portfolio, all equity asset classes except World equity underperformed their benchmarks.

Equity Indexes	Excess Return Over Benchmark Q1 2016
Canadian Equity	-1.98%
US Equity	-0.04%
EAFE Equity	-0.11%
EME Equity	-4.46%
World Equity	1.93%

TO: Ray Ritcey, Chair and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: Original signed by Carl D. Yates, General Manager, on behalf of:
Darlene Fenton, Chair, Environment, Health & Safety Committee

DATE: June 30, 2016

SUBJECT: **Lead Service Line Replacement Policy**

INFORMATION REPORT

ORIGIN

Staff review of Current Lead Service Line Replacement Policy. Presentation to Environment, Health and Safety Committee of Halifax Water Board.

BACKGROUND

Halifax Water staff have been working since 2013 to develop a new policy for lead service line replacement, based on recent research findings and best practice reviews. The existing regulatory structure, however, has presented barriers to development of a new lead service line replacement policy that effectively deals with the complexities of lead in drinking water. Recent events in Flint, Michigan have galvanized industry and health professionals to dramatically change lead policy to ensure better public health outcomes.

In 2014, the City of Flint Michigan, in an effort to save money, switched its water supply from wholesale purchase from the Detroit Water and Sewage Department (DWSD) to obtaining its water from the Flint River. The Detroit water was not by its nature corrosive and further was treated by the DWSD to inhibit corrosion. In contrast, the Flint River water was corrosive and was not treated to inhibit corrosion. As a result, for several months, drinking water consumed by Flint, Michigan customers, exceeded recommended levels for lead. There has been an identified increase in lead blood levels in at-risk populations (children, pregnant women) and observed cognitive impairment as a result. In addition to the immediate human health issues, there have been allegations related to mismanagement and failure of state and local oversight, and possible criminal behavior. The Flint Michigan story has been one of the most active drinking water stories in the United States over the last 25 years.

Water supplied by Halifax Water, and most utilities in North America, is free of lead upon leaving the treatment facility. Drinking water can corrode lead bearing plumbing

materials causing undesirable levels of lead in drinking water inside the customer's home. Sources of lead include lead service lines (LSL's) connecting the distribution piping to the customer's home, lead solder used in household plumbing and, brass containing lead in plumbing fixtures. Lead service line ceased to be used in favor of copper piping in Halifax in the mid to late 1950's. Lead solder in plumbing was outlawed in the National Building Code in the late 1980's. In the last few years, efforts have been made in the plumbing industry to reduce the amount of lead in brass used for plumbing fixtures. Notwithstanding these efforts, there remain considerable amounts of lead in water distribution and plumbing systems.

Ownership of lead service lines is a joint responsibility between Halifax Water and the customer. The service line, from the water main in the street, to the shut off valve on the customer's property line is owned by Halifax Water. The service pipe between the shut off valve and the meter inside the customer's home, is owned by the customer.

Since LSL's arose as an issue decades ago, Halifax Water has maintained programs to replace LSL's. Many public lead service lines have been replaced in large scale programs. In the 1970's, the City of Dartmouth replaced the public portion of the vast majority of their lead service lines over a two year period. In Halifax, the water utility replaced public lead service lines in conjunction with other municipal infrastructure programs such as paving projects and street and sidewalk renewal projects. As a result, of the initial fifteen thousand lead service lines, it is estimated that there are now 2,500 public lead service lines remaining. In recognition that the water utility has never had a mechanism to force customers to replace their private lead service line, it is estimated that as few as 10% of customers replaced their private lead service line when the water utility replaced the public portion during replacement programs. There is no reliable estimate today of how many private lead service lines are in place, however it is likely several times the number of remaining public lead service lines.

There are a number of characteristics of lead in drinking water that are unlike other parameters dealt with by water professionals that make the topic of lead particularly challenging.

- The treatment solution is not at the water treatment plant alone, but involves the distribution system and the customer's property. Most drinking water parameters of concern are adequately dealt with at the treatment plant. While treatment for lead corrosion does occur at the treatment plant, the most effective solution includes removal of the lead service line. Outreach and encouragement to customers to replace their LSL's has varied over the years.
- The exposure is not chronic, but acute. Most drinking water parameters are a concern only upon chronic exposure (i.e. low levels over a life time). While utilities always take noncompliant parameters seriously, taking several years to deal with the typical drinking water parameter effectively does not negatively impact the long term health outcome of customers. In contrast, acute (short term)

exposure to high levels of lead in drinking water, can cause long term negative health outcomes, particularly in young children and pregnant women.

- The occurrence of lead is not broad based, but specific. Halifax Water has learned through its research the last few years that the occurrence of lead is very specific to the water chemistry, the type of pipe in the street and the variety of other factors almost to the point where two neighbors on the same street can have different levels of occurrence.
- Regulatory compliance numbers are not good indicators of public health. Most regulatory numbers for drinking water systems are based on health outcomes. The compliance numbers for lead are only an indication of the effectiveness of treatment. Having good compliance numbers is not necessarily an indicator that your customer's health is protected. Halifax Water has maintained a very effective corrosion control program with compliant results; however we still see high lead numbers from time-to-time from samples taken in some customer's homes.

Since 2006, Halifax Water has conducted a research program under an industrial research chair at Dalhousie University. A significant amount of the research done to date has been on distribution issues and more specifically, the issue of lead in drinking water. Halifax Water has completed a wide variety of research over the last couple of years that has helped us to have a strong understanding of the occurrence of lead in drinking water. Most importantly, a research paper published in 2013, confirmed emerging research from the industry that doing a partial replacement of lead service lines (i.e. replacing the public portion, while not replacing the private or vice versa) can result in significantly higher lead levels than if the service line been left alone. As a result, Halifax Water, in 2013, ceased doing partial lead service line replacements on a proactive basis. This created a significant dilemma. The bulk of our lead service line replacements were done in coordination with Halifax infrastructure programs. Given that the uptake of private side replacements by customers was in the order of 10%, Halifax Water took the position in the 2013 construction season to stop doing lead service line replacements with capital programs, excluding full water main replacements. Currently, Halifax Water will only do replacements if the customer first agrees to replace their portion of the service line. Unfortunately, this results in fully replacing only 25 lead service lines per year, resulting in a program that is well short of a reasonable time frame to complete a full replacement of lead service lines for desired health outcomes.

At the same time, as a result of other research, Halifax Water staff came to the conclusion that despite our effective corrosion control program and despite our regulatory compliance numbers, there were still a significant number of situations where lead could only be eliminated by removal of lead service lines. The current regulatory framework which prevents us from working on private property or spending funds towards private

property issues, and the lack of a mechanism to force customers to replace their lead service line, has been a barrier to developing an effective lead service line replacement policy since 2013.

DISCUSSION

The same regulatory and legislative restrictions that limit Halifax Water from effectively dealing with the lead service line problem exist for most utilities in North America. As a result, the stance of the utility industry has generally been that the utility will look after the public side of the lead service but it is up to the customer to look after the private side.

Prior to Flint coming into the news in 2015, the USEPA initiated the process for revising the regulatory frame work related to lead in drinking water. The lead and copper rule (LCR) is the primary regulatory instrument in the United States for regulating lead in drinking water and was the basis for the approach taken by Health Canada in coming up with their corrosion control guidance for water utilities that is used by Halifax Water. As part of the LCR revision process, the EPA convened the National Drinking Water Advisory Council (NDWAC). Based on current research and a statement from the Centers for Disease Control that there is no safe level of lead, the NDWAC recommended to the EPA to dramatically change the approach for managing lead in drinking water. These recommendations are detailed and complex but the main points of emphasis are as follows:

- Utilities should commit to removing all lead service lines from their systems by 2050, both public and private.
- Removal of lead service lines is a shared responsibility between the utility and the public and the public needs to be engaged at all steps of the program.
- Optimized corrosion control is a fundamental part of the solution.
- Utilities should respond to all customer requests for sampling and all adverse lead results should be shared with customers and public health officials.

In March of 2016, the American Water Works Association endorsed the NDWAC recommendations. This represented fundamental change in direction in how utilities should deal with LSL's. This arose primarily out of public concern associate with Flint but also a recognition that this is the only technical solution that would totally address the public health concerns of water utility customers.

As indicated, Halifax Water staff have been working since 2013 to develop a new LSL's replacement policy which will allow us to address the lead service line issue without putting our customers at risk. With the water utility industry supporting the NDWAC

recommendations, this illuminates a possible path for Halifax Water. Halifax Water staff are proposing a new lead service line replacement policy that is based on voluntary adoption of these recommendations, to the degree they are applicable in the Canadian context. Halifax Water staff recently completed a successful internal workshop where we reviewed a discussion paper exploring potential new directions for a LSL replacement program. Staff are planning to develop a business plan by the end of the current fiscal year to operationalize lead service line replacements. Some of the elements of such a program would include the following:

1. Ensure that our remaining 2500 lead service lines are replaced by 2050. This would require tripling our current lead service line replacement budget from \$250,000 a year to \$750,000 a year for a 30 year total of \$25 million . While this budget impact is manageable, the goal can only be achieved if we can encourage owners of private LSL's to replace the private portion at the same time.
2. Removing barriers to private lead service line replacement. There are a number of things to prevent home owners from replacing their lead service lines including the cost, lack of interest by non-vulnerable populations, competing household improvement priorities and difficulty in hiring excavation construction contractors. Halifax Water will need to work with customers, regulators, public health officials and HRM staff to identify barriers and incorporate solutions to mitigate them. Some utilities have used financial incentives to encourage customers to replace LSL's with varying success. Other options include arranging the contracting portion on behalf of the homeowner, identifying financial incentives from other agencies, working with real estate associations to encourage replacement at the time of sale and working with customers to explain the health impacts.
3. Developing an inventory of private lead service lines. Our current inventory of the number and location of private lead service lines still in existence is not well documented. The number could range from 10,000 to 15,000 private lead service lines. There are a number of ways to help build this inventory including asking homeowners to self-identify and doing home to home inspections. The Advanced Meter Infrastructure [AMI] project, recently approved by the Halifax Water Board, will result in meter installation technicians going in and viewing all 83,000 water services in our system. Information from these visits will be reported back to Halifax Water to help close some significant gaps in our lead service database.
4. Develop public outreach activities which include improved public health messaging and developing strategies for educating customers.
5. Stakeholder engagement – An upgraded LSL replacement program will involve a host of stakeholders. We will need to continue working with the real estate community, other government funding agencies, the Medical Officer of Health and provincial regulators. Halifax Water staff has already met with the Deputy

ITEM # 6-I

HRWC Board

June 30, 2016

Ministers of Environment and Municipal Affairs, the Medical Officer of Health and Nova Scotia Utility and Review Board.

Halifax Water has a comprehensive program for managing lead in drinking water and LSL's. We've maintained LSL replacement programs for decades and there is a corrosion inhibition strategy in place at our large treatment facilities. There are detailed procedures for working with customers when LSL's are encountered and we undertake research and in-home sampling that would be equivalent to other progressive water utilities in North America. None of this however, is an assurance that the health of customers as it relates to lead is fully protected. The only solution as recommended by the American Water Works Association and the National Drinking Water Advisory Council is to commit to removing all lead from the system. Halifax Water staff continues to work on a policy and business plan and will update the Board in the future on our progress.

Report Prepared by: *Original Signed By:*

Reid Campbell, M.Eng., P.Eng., Director, Water Services, 902-490-4877

Report Approved by: *Original Signed By:*

Carl D. Yates, M.A.Sc, General Manager, 902-490-4840

TO: Ray Ritcey, Chair, and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: *Original Signed By:*

Cathie O’Toole, MBA, CPA, CGA, Director, Corporate Services

APPROVED: *Original Signed By:*

Carl Yates M.A.Sc., P.Eng., General Manager

DATE: June 18, 2016

SUBJECT: **Municipal Auditor General Report – A Performance Review of Flexible Work Arrangement Programs**

INFORMATION REPORT

ORIGIN

March 2016 Municipal Auditor General Report – A Performance Review of Flexible Work Arrangement Programs at Halifax Regional Municipality.

BACKGROUND

On May 11, 2016 the Municipal Auditor General presented the above noted report to the Audit and Finance Committee of Halifax Regional Municipality. The scope of this review included Halifax Water, although the review was limited in nature as the audit covered the period January 1 – December 31st 2014 and Halifax Water had formally introduced a corporate Compressed Work Week/EDO program in November 2014 so data availability was restricted to a two month period November and December 2014.

DISCUSSION

The Municipal Auditor General’s report found that there may be some weaknesses in controls and reporting, no defined or measurable program outcomes, inequitable access to flexible work arrangements, and unclear definitions of what constitutes extra work.

At Halifax Water, 18% of employees are participating in the Compressed Work Week/EDO program, and Halifax Water’s program and time tracking are consistently applied across the organization.

ITEM 7-I
HRWC Board
June 30, 2016

The report raises some questions which Halifax Water will review and respond to. Some of the questions posed by the Municipal Auditor General are as follows:

Are we able to offer a consistent level of service to the public while offering flexible work arrangements?

Is work being done in a timely manner while offering flexible work arrangements?

Can we show service levels have not suffered or if they have improved because of flexible work arrangements?

By having flexible work arrangements, are we able to attract potential employees and better retain existing staff?

Halifax Water will review the current Compressed Work Week policy and administration against the recommendations, and recommend any changes for implementation effective January 1, 2017. This policy is administrative in nature and changes are reviewed and approved by the Executive Management Team with the General Manager having final authority.

ATTACHMENT

Summary of Recommendations – Pages 10 and 11 of March 2016 Municipal Auditor General Report – A Performance Review of Flexible Work Arrangement Programs at Halifax Regional Municipality.

Summary of Recommendations

The following recommendations are printed verbatim from the detailed findings section of the report. To appreciate the full intent of the recommendations, they should be read in context of the section of the report indicated by the page numbers.

- 1.0.1 The OAG recommends HRM Administration and Halifax Water Management establish and document an overarching flexible work arrangement program (encompassing at a minimum the programs currently offered) with defined outcomes, guidelines and criteria and provide individual business units with the necessary tools to implement and measure an effective flexible work arrangement program. (Page 16)
- 1.0.2 Following the implementation of Recommendation 1.0.1, the OAG recommends HRM Administration and Halifax Water Management establish and document the monitoring of program outcomes. (Page 16)
- 2.0.1 The OAG recommends HRM Administration and Halifax Water Management, as part of any flexible work arrangement program (such as an Earned Day Off or CWW) clearly define and document the eligibility guidelines for entrance to the program, the requirements for recording of time, the banking of time and minimum staffing requirements for each business unit or divisions within business units. (Page 20)
- 2.0.2 The OAG recommends HRM Administration review the EDO program in conjunction with the corporate HRM Overtime policy (where base compensation is designed to recognize the need for extra hours worked), to possibly exclude certain positions where extra time worked is considered part of the base compensation. (Page 21)
- 2.0.3 The OAG recommends HRM Administration specifically identify and document by position, the pay-bands eligible for overtime and develop clear language to define how extra hours in the workplace, classified as overtime, differ from banked time for EDOs. (Page 21)

- 2.0.4 The OAG recommends HRM Administration develop and document clear guidelines around what types of leave take priority, in the event of conflicts, as well as require individual business units to develop and maintain guidelines for minimum staffing levels to maintain operational requirements. (Page 21)
- 3.0.1 Further to Recommendation 1.0.1, the OAG recommends HRM Administration, through Human Resources, take ownership of the HRM EDO program and other flexible work arrangement programs. (Page 26)
- 3.0.2 The OAG recommends HRM Administration and Halifax Water Management establish and document corporate tracking of additional earned (banked) time towards earned time off in the SAP Payroll system in a manner similar to the banking of overtime. The OAG also recommends the balance of the banks be accessible to staff in a manner similar to other employee time banks. (Page 26)
- 3.0.3 The OAG recommends, as part of any flexible work arrangement program, HRM Administration and Halifax Water Management include standardized signed agreements to provide both the employee and the manager/supervisor a complete and documented understanding of the program and the expectations of both parties. (Page 26)
- 3.0.4 The OAG recommends HRM Administration and Halifax Water Management establish and document reporting requirements to provide managers information to assist with the management of the EDO program. (Page 26)
- 3.0.5 The OAG recommends HRM Administration and Halifax Water Management provide training to managers and supervisors with responsibility for approving time sheets to ensure managers and supervisors are aware of their responsibilities. (Page 27)
- 3.0.6 The OAG recommends HRM Administration and Halifax Water Management review all employee hours to validate the hours worked meet their contracted or obligated hours. (Page 27)
- 4.0.1 Further to Recommendation 1.0.1, the OAG recommends HRM Administration review flexible work arrangement leading practices as part of a new flexible work arrangement program. (Page 32)

TO: Ray Ritcey, Chair, and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: *Original Signed By:*

Cathie O’Toole, MBA, CPA, CGA, Director, Corporate Services/CFO

APPROVED: *Original Signed By:*

Carl Yates M.A.Sc., P.Eng., General Manager

DATE: June 10, 2016

SUBJECT: Stormwater Cost of Service Decision M07147

INFORMATION REPORT

ORIGIN

October 30th, 2015 Application to the Nova Scotia Utility and Review Board (NSUARB) to amend the Stormwater section of the Cost of Service Manual.

BACKGROUND

Stormwater issues were added to the “Issues List” during the 2015 rate application to increase water and wastewater rates. HRWC requested that stormwater issues be severed from the hearing however the NSUARB initially refused this request. HRWC eventually secured support from interveners to address stormwater issues in a separate hearing in the fall of 2015.

HRWC is taking several steps to improve delivery of stormwater service and communication with its customers as a result of observations made since implementation of the separate stormwater charges in 2013, feedback from the exemption review process, and community engagement. HRWC conducted community engagement meetings September 14 – 17, 2015. HRWC also received recommendations for ways to improve service from Mr. Andy Reese, a consultant hired by Halifax Water as an expert in stormwater rate design.

HRWC filed an application on October 30th, 2015 to amend the Stormwater section of the Cost of Service Manual, and a public hearing was held on February 15 – 17th, 2016. The Consumer Advocate, Dartmouth Crossing/4GL Masterplan, and Halifax Port Authority intervened in the application, and the NSUARB engaged Multeese Consulting to act as the Board’s technical consultant.

DISCUSSION

A summary of the proposed Cost of Service/Rate Design related changes proposed by HRWC and the outcome are provided below. This outcome for HRWC was generally very positive and has provided the utility with good direction to shape a future application to adjust rates for stormwater service.

1. HRWC proposed a broader approach to defining stormwater service to align with industry practice elsewhere in North America and to recognize that most of the properties within the Boundary receive one or more of the following services from HRWC:
 - Stormwater from the property enters into HRWC's stormwater system.
 - Stormwater from upgrade lands is intercepted by and directed around the property by a HRWC stormwater system.
 - The property is accessed directly by a driveway which crosses over an HRWC culvert

HRWC believe this approach would enhance equity, understandability and will provide administrative simplicity. It would align with best practice and may reduce the number of detailed investigations of specific drainage patterns associated with individual properties. Outcome: The NSUARB accepted the inclusion of properties accessed directly by a driveway which crosses over an HRWC culvert, but rejected inclusion of properties receiving service on the basis of stormwater from upgrade lands being intercepted by and directed around the property.

2. HRWC proposed to use the term "Site Related Flow Charge" to refer to the charge for the services and benefits the customer is receiving including any or all of stormwater flows being intercepted or diverted from a property, access to a property over an HRWC owned culvert, and management of stormwater from a property that enters any part of an HRWC stormwater system. Outcome: The term appears to have been approved, however the interception benefit was not approved as part of the definition. The definition for "Site Related Flow Charge" is a charge for the services and benefits the customer is receiving including access to a property over an HRWC owned culvert, and management of stormwater from a property that enters any part of an HRWC stormwater system.

3. The municipality would be billed for the impervious area in the street right of way consistent with the current Cost of Service approach. It should be noted that billing the municipality for the impervious area in the street network does not align with common practice, creates confusion for customers, and is difficult to communicate. Outcome: The Decision noted "[39]...there was little or no evidence on the appropriateness of the allocation and the Board wonders whether indeed HRM should be assigned a greater share, but has no evidence upon which to order a change in allocation. [40] Accordingly, as part of the next

rate application HRWC is to address the appropriateness of the cost allocation as between the right-of-way and the site generated flow and provide evidence in that regard.”

4. HRWC proposes that properties will be exempt from the Stormwater Charge if:

- The Chargeable Impervious Area on the property is less than 50 square meters. Other stormwater utilities commonly have a minimum billing threshold at this level. Impervious area of less than 50 square metres is not usually a residential property or commercial building but is typically a small relic foundation or small pad often related to or owned by another (often contiguous) parcel. In any case, such small impervious areas are nearly invisible to the drainage system and costly to administer compared to the revenue generated. Outcome: The Board confirmed that properties with an impervious area less than 50 m² should be exempt from the stormwater charge

- The properties were previously exempted and do not meet the stated stormwater service criteria. Many of these properties are large, undeveloped and with no or little man-made impervious area and do not meet any of the three stated stormwater service criteria. These properties would continue to be exempt until such time as their condition changes such that the criteria for service are met. The Board found that the exemption of properties was an internal practice which had not been defined in the Board approved Rules and Regulations. The Board approves the concept of treating all properties the same, with exemptions based on the specific circumstances, including when part of a non-residential property is outside the service boundary.

5. In a future hearing to adjust stormwater rates, HRWC proposed to amend the “Adjustment of Bills” section 11 of the HRWC Regulations to permit adjustment of bills if upon review from the Notice of Objection process it is determined the billing determinant of chargeable impervious area is inaccurate or yields an inequitable result. For example, if a natural rock outcropping, water surface of a watercourse, man-made pond or swimming pool, or temporary or infrequent impervious surface is found. Two examples of temporary or infrequent impervious surfaces are plastic sheeting and frozen ground. The current “Adjustment of Bills” section of the regulations was written with Water and Wastewater service in mind. Outcome: The Board agreed with the concept.

6. HRWC proposed that impervious area associated with specific pits, quarries and refineries which were previously exempted because they had “stormwater management facilities” on the property, would now be included in billable impervious area. These properties will be treated like any other property, meaning that each will be considered to be exempt or not based upon the specific circumstances on or near the property. Outcome: The Board finds that the exemption of properties was an internal practice which had not been defined in the Board approved Rules and Regulations. The Board approves the concept of treating all properties the same, with exemptions based on the specific circumstances, including when part of a non-residential property is outside of the service boundary.

7. HRWC proposed that owners of Non-Residential Properties shall pay a Site Related Flow Charge based on a rate per m² of Chargeable Impervious Area on the Property. If a part

of a property is located outside HRWC's Stormwater Service Boundary, that part of the property located outside the Boundary is exempt from the charge. As Non-Residential Customers are billed on the basis of actual impervious area and the properties in question are often large, this mechanism will enhance equity. Outcome: Approved – see item #6 above.

8. HRWC proposed that owners of Residential Properties shall pay a Site Related Flow Charge which shall be based on the average Chargeable Impervious Area for Residential Properties [subject to possible tiering of Residential Properties]. The full charge is required to be paid, even if a part of the property is located outside the Commission's Stormwater Service Boundary. As residential properties are generally smaller, and are not charged on the basis of the actual impervious area, billing on the basis of an average or a tier based upon "Equivalent Residential Units" provides sufficient equity in a cost effective manner. Outcome: This was not specifically addressed however we believe it was approved implicitly in relation to items #6 and #7 above.

9. HRWC proposed to bill in increments of 10 m² rather than billing based on 1 m² of impervious area. This aligns with industry best practice, reduces the impact of any small measurement errors, and removes the illusion of precision associated with billing in a 1m² increment. Impervious area would be rounded to the nearest 10 m² increment. Outcome: The Board found that HRWC should round impervious area to the nearest 10 m².

10. HRWC proposed to implement a tiered rate structure for the "Site Related Flow Charge" for Residential properties. This would mean both Residential and Non-Residential properties with less impervious area would pay less than properties with more impervious area. The residential average would be eliminated. The tiered rate structure would be based upon an Equivalent Residential Unit, or "ERU". This concept is very similar to how "Equivalent Meters" are used in water and wastewater cost of service. Outcome: The Board found that the tiering by impervious area of residential rates, as subsequently amended by HRWC, is a more equitable way to bill properties (or parcels) within this class of customers. The Board also found the evidence of HRWC on the differences between rural and urban properties to be persuasive, and does not see any reason to delay the implementation of residential tiering. If there are issues that arise upon implementation they could be resolved through a future application.

11. HRWC proposed to implement a credit system for non-residential (ICI) properties with stormwater Best Management Practices (BMPs) like retention ponds that help manage peak flows. The impacts of a credit system would be reflected in future operating budgets and revenue requirements. The majority of stormwater utilities have a credit system. Outcome: The Board agreed with the concept that if all customers benefit from an action, then all customers should pay for that benefit (therefore the cost of implementing a credit program is included in the revenue requirements). The current Application proposes "credits" only for non-residential properties, which, based upon the evidence provided, is not an uncommon practice among utilities. The Board agreed with this approach at this time, given that the magnitude of the residential stormwater charge does not appear to warrant implementing a specific, residential credit system.

12. HRWC proposed to bill properties within the Stormwater Service Boundary pursuant to item 1), and provide a credit program for “Non-Related Flow” for non-residential customers if the stormwater from the property does not reach an HRWC system, and they are only receiving the benefit of upstream protection (stormwater interception) or a culvert at the end of their driveway. Outcome: This was part of the discussion around establishing a credit system or method to adjust the billing determinant for non-residential customers and will come forward in the next application.

13. HRWC proposed to amend the (Notice of Objection) process to reflect the revised definition of service criteria. HRWC will be adding a self-assessment tool for customers through the website to enable them to determine if they are receiving service. This may reduce the volume of Notice of Objections as customers would have a better sense of whether there are strong grounds for a Notice of Objection. Outcome: As part of its administration, HRWC also suggested the implementation of a notice of objection fee, which would be refundable if the customer has a valid complaint. The Board was not prepared to approve a fee at this time, believing it will further alienate HRWC’s customer base. The Board did not believe the other operating procedures require Board approval, but applauded any attempt on the part of HRWC to improve both the understandability and service delivery of the stormwater service and encouraged HRWC to make whatever changes it feels are required in this regard.

14. HRWC proposed to include funds in future operating budgets and revenue requirements to conduct research in partnership with non-profit groups regarding effectiveness of green infrastructure in cold climates as an ancillary tool for the stormwater system in Halifax. Green infrastructure is believed to provide a benefit and perform well in 1 in 5 year rain events. Outcome: This did not require a decision and was not specifically referenced in the Decision.

Other Key Findings:

Site Visits - The Board is prepared to leave it to HRWC’s engineering judgment as to whether a site visit is required.

Proximity and directness of service (Dartmouth Crossing issue) - The Board accepts HRWC’s argument that Dartmouth Crossing receives stormwater service under the Board approved Regulations. In the Board’s view, it does not matter how far upstream the water from the property is discharged to the drainage system. The Board agrees with HRWC that the Dartmouth Crossing property does receive stormwater service and should be charged accordingly.

Charitable rate - The Board considered a suggestion from a church representative for a charitable rate, and noted that NSPI charges charitable organizations residential rates as required by the Public Utilities Act (“Act”). There is no provision in the current HRWC Act to

order HRWC to charge residential rates to charitable institutions. The Act would have to be amended to allow this to happen and it is beyond the Board's mandate.

Treatment of forestry property (Barrett Lumber issue) - The Board has reviewed the information provided by Mr. Barrett and HRWC, and is of the view that HRWC is applying the Stormwater Regulations and Charges appropriately. The Board, in this Decision, directed HRWC to explore a credit system, which may be of some assistance to Mr. Barrett in the future.

Dispute Resolution Officer – This was raised during the hearing, and HRWC in its Post Hearing Submission indicated it was not opposed to exploring this and bringing it forward in the future application to adjust stormwater rates. HRWC also noted that there would be benefit in having a DRO to address other customer issues in addition to stormwater complaints. The Board did not accept HRWC's argument to delay the appointment of the DRO. HRWC is ordered to start the process now of changing its Regulations and the appointment of a DRO. There is a separate report to the Halifax Water Board on June 30, 2016 to initiate this process.

ATTACHMENT

NSUARB Order M07147 dated May 12, 2016

TO: Ray Ritcey, Chair, and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: *Original Signed By:*

Cathie O'Toole, MBA, CPA, CGA, Director, Corporate Services/CFO

APPROVED: *Original Signed By:*

Carl Yates M.A.Sc., P.Eng., General Manager

DATE: June 10, 2016

SUBJECT: **AMI NSUARB Approval Process M07473**

INFORMATION REPORT

ORIGIN

April 28, 2016 Halifax Water Board approval of the Advanced Meter Infrastructure (AMI) project.

BACKGROUND

On May 12th, 2016 Halifax Water submitted an Application (M07473) for approval of a capital project to install Automated Meter Infrastructure (AMI) and approval of amendments to the Regulations Respecting Rates and Charges for the provision of water, public and private fire protection, and wastewater services to support the AMI project.

DISCUSSION

On May 25, 2016 the NSUARB issued an Order (see Attachment M07473 Board Order), indicating that a paper hearing would be held. This was not unanticipated by Halifax Water, and is beneficial as it provides an opportunity for interested stakeholders to be part of the discourse and approval process for AMI.

The Consumer Advocate is the only registered Intervener at this time. Information requests have been received from the NSUARB and the hearing process will take much of the summer, meaning the project schedule will shift by 2 – 3 months. It is anticipated the Board decision will be received in September.

ATTACHMENT

NSUARB Order M07473 dated May 25, 2016

ORDER

M07473

NOVA SCOTIA UTILITY AND REVIEW BOARD

IN THE MATTER OF THE PUBLIC UTILITIES ACT

- and -

IN THE MATTER OF AN APPLICATION by the **HALIFAX REGIONAL WATER COMMISSION** for approval of a capital project to install Automated Meter Infrastructure (“AMI”) and approval of amendments to the Regulations respecting rates and charges for the provision of water, public and private fire protection, and wastewater services to support the AMI project

BEFORE:



Peter W. Gurnham, Q.C., Chair

ORDER

WHEREAS the Halifax Regional Water Commission (“HRWC”) made application on May 12, 2016, to the Nova Scotia Utility and Review Board (“Board”) for approval of a capital project to install Automated Meter Infrastructure (“AMI”) and approval of amendments to the Regulations respecting the rates and charges for the provision of service to support the AMI project;

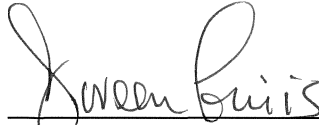
AND WHEREAS the Board has determined this will be reviewed in a paper hearing;

IT IS HEREBY ORDERED that the following timetable shall apply to this proceeding:

Notice of Intervention by Interested Parties	Wednesday, June 8, 2016
Information Requests (“IRs”) to HRWC	Wednesday, June 22, 2016
Responses to IRs by HRWC	Wednesday, July 6, 2016
Intervenor Evidence or Comments	Wednesday, July 20, 2016
Reply from HRWC	Wednesday, August 3, 2016

IT IS FURTHER ORDERED that the Clerk of the Board shall provide Notice of this Application to all parties to recent HRWC proceedings before the Board and place a copy of this Order on the Board's public website.

DATED at Halifax, Nova Scotia, this 25th day of May, 2016.

A handwritten signature in black ink, appearing to read "Karen Lewis". The signature is written in a cursive style with a large initial "K".

Clerk of the Board

TO: Ray Ritcey, Chair, and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: *Original Signed By:*

Cathie O'Toole, MBA, CPA, CGA, Director, Corporate Services/CFO

APPROVED: *Original Signed By:*

Carl Yates, M.A.Sc., P.Eng
General Manager

DATE: June 16, 2015

SUBJECT: **2015/16 Cost Containment**

INFORMATION REPORT

ORIGIN

The Cost Containment Process (Item #6) as approved by the Halifax Regional Water Commission (HRWC) Board, October 3, 2013.

April 14, 2015 NSUARB Decision- HRWC General Rate Application (M06540)

BACKGROUND

The process for cost containment as approved by the HRWC Board on October 3, 2013 called for the implementation of a number of recommended actions that would assist HRWC in addressing the Nova Scotia Utility and Review Board's (NSUARB) request for a more rigorous approach to cost containment as an organization. One key recommendation was the establishment of a reporting structure whereby, "*on a quarterly basis, the monthly financial report of the HRWC Board will also include an update on Cost Containment Initiatives*".

In the Decision on the 2015 Rate Hearing, the NSUARB directed HRWC to file annual reports on its efforts to contain operating costs of the utility, with this report to be filed no later than June 30 of each year. Within the Decision, the NSUARB expressed its appreciation in receiving HRWC's first cost containment report, and HRWC's initiatives

ITEM # 10-I

HRWC Board

June 30, 2016

to contain its operating costs. HRWC filed this initial report with the NSUARB in September 2014, identifying \$2.8 million of savings for 2013/14.

The 2014/15 Cost Containment Report was submitted to the HRWC Board on June 18, 2015 (Item #4-I) and subsequently filed with the NSUARB. For 2014/15 cost containment initiatives of HRWC totaled \$1.7 million.

DISCUSSION

A Summary Report-of Cost Containment Initiatives for 2015/16 is attached, with updated information as at June 15, 2016. This report shows the cost containment initiatives effecting operations for 2015/16, with new initiatives implemented thus far during the year along with amounts of an ongoing nature from 2013/14 and 2014/15. Inclusion of amounts of prior years' assists in showing synergies created by those initiatives considered ongoing in nature. The total projected cost savings for 2015/16 total \$3.0 million.

New cost containment initiatives implemented during the 2015/16 fiscal year resulted in cost savings amounting to \$1.2 million. These initiatives are highlighted for ease of reference on the Summary Report-Cost Containment Initiatives attached. Increased cost savings as a result of these new cost containment initiatives are most evident in the sectors of Human Resource Strategies (\$0.7 million), Procurement Strategies (\$0.2 million) and Facilities/ Process Strategies (\$0.2 million). Pension plan re-design (Human Resource Strategies) produced the most significant impact with respect to cost containment. Annual savings from pension plan re-design is anticipated to be in the range of \$1.0-\$1.7 million, with \$0.4 million representing the projected savings in 2015/16. Employer contributions in 2016 on pensionable earnings are expected to decrease from the current 12.95% to 9.85%, with employees experiencing a similar decrease from 12.95% to 10.65%. Pension plan re-design was a collaborative effort through collective bargaining, in an effort to make the HRWC Employees' Pension Plan more sustainable. A savings of \$20.2 million for the employer is projected over the next 14 years, with a 50% likelihood the plan will be fully funded within 10 years.

Halifax Water's Energy Efficiency Program continued to make strides in 2015/16 in respect to cost containment, with six (6) additional projects (Facilities/ Process Strategies) implemented in 2015/16, contributing some \$125 thousand in cost savings. As part of an assessment process within the Engineering and IT Services, specifically in Development Approvals, the department was able to reduce two (2) full-time, permanent positions resulting in savings of approximately \$140 thousand. In a similar fashion within Customer Service, \$48 thousand in annual savings is expected to be realized through the utilization of technology associated with the Customer Relationship Management System (CRM) (Technology and Business Process Changes), allowing a budgeted position to be removed in the future.

Under Human Resource Strategies there are several initiatives considered one-time in nature, the most notable of which are two (2) hiring deferments for 2015/16 approximating \$100 thousand. These positions will be re-evaluated for the 2016/17 fiscal year, with a potential of future cost savings.

Chemical costs are key to the operations of Halifax Water, in both water and wastewater services. Through its Procurement Strategies, staff continues to negotiate the best product and pricing to enable the facilities to operate in an efficient manner. This is evident in 2015/16 where savings related to chemical purchasing amounted to an estimated \$211 thousand.

The AMI Study was completed and presented to the HRWC Board in January, 2014. At the November 2015 meeting, the Halifax Water Board approved proceeding in principle with the adoption of an Advanced Metering Infrastructure system subject to successful negotiation with the preferred proponent (Itron). Halifax Water staff initiated a procurement process for the purchase of water meters and installation of meter and AMI end point devices in the customer premises. Based on the pricing obtained through the procurement process, in April 2016 the Halifax Water Board approved proceeding with the AMI project. The project is now going through the NSUARB approval process. If approved, the on-going operating savings will be approximately \$1 million dollars a year.

BUDGET IMPLICATIONS

Available information on cost containment initiatives were taken into consideration when the 2015/16 budgets were developed. Initiatives that impact future fiscal periods (not annual or one-time occurrences only) will be incorporated into budget cycles and processes of these future periods.

ATTACHMENTS

Summary Report – Cost Containment Initiatives

<p>Report Prepared by: <i>Original Signed By:</i> Allan Campbell, <u>B.Comm.</u> CPA, CMA Manager, Finance</p>
--

# Initiative	Annual Cost Savings	Comments	Year Initiated	2015/16 Cost Savings
1 General Budget Strategies				
	Sub-total			\$0
2 Procurement Strategies				
Insurance adjustment services - sole source relationship over a 10 year period	\$5,460	HW participated in a joint tender with HRM. Costs will be approximately 20% lower.	2013/14	\$5,460
Standardized uniforms and clothing	\$20,000	Issuance of a bulk tender; centralization of purchasing and distribution function; possible policy change to "as required" rather than a quota system	2013/14	\$20,000
Standardized boots	\$5,000	Issuance of a bulk tender; centralization of purchasing and distribution function; possible policy change to "as required" rather than a quota system	2013/14	\$50,000
Mobile devices - switched supplier and carrier	\$51,624	HW participated in a joint tender with HRM	2013/14	\$51,624
Customer account collections	\$10,000	Coordination of collection services related to closed customer accounts in conjunction with the Provincial Public Procurement Act, rather than outsourcing to private organizations	2014/15	\$10,000
Lab Testing	\$60,000	Savings as a result of contract tendering	2013/14	\$60,000
NSPI rate reclassification	\$16,000	Eastern Passage WWTF	2014/15	\$16,000
Chemical purchasing	\$11,000	Negotiated a 2% reduction in the cost of polymer treatment for the Harbour Solution Plants	-	\$11,000
NSPI rate reclassification	\$15,000	Duffus Street Pumping Station	-	\$12,500
Chemical purchasing	\$400,000	Able to purchase a corrosion inhibitor with a higher concentration of active ingredient, thus foregoing additional costs that would have resulted under current dosage requirements	-	\$200,000
Replacement of wireless headsets for CCC staff	\$1,500	Wireless headsets were not performing as expected, therefore a switch was made to wired headsets which resulted in savings on a per unit cost basis, and also savings regarding the frequency and cost of replacement associated with the wired headsets.	-	\$1,500
	Sub-total			\$438,084
3 Human Resource Strategies				
Corporate ID Badges	\$3,200	A process change related to the corporate ID badges whereby the card are used and only the labels are changed	2013/14	\$3,200
Heavy Truck and Equipment Service	\$100,000	the addition of a new Heavy Equipment Technician provides in-house maintenance service capabilities for the HW fleet.	2013/14	\$100,000
Beeper Pay	\$75,000	Elimination of an inconsistency between Water and Wastewater Services, as Water Services staff do not receive beeper pay. This involves 10 non-union staff in total.	2013/14	\$75,000
Annual service awards banquet	\$15,000	Changed the venue and the cost of the meal	2014/15	\$15,000
Accessing on-line training opportunities	\$2,241	More use of on-line training versus the traditional methods, including WHMIS and TDG renewals	2014/15	\$22,451
Background Checks	\$654	Out-sourced background checks to a new contractor.	-	\$654
Hiring deferment (Process Technician)	\$56,264	The hiring of a new process technician for the Eastern Passage WWTP has been deferred and will be re-assessed for the 2016/17 fiscal year.	-	\$56,264
Hiring deferment (Administrative Assistant)	\$59,490	The hiring of a replacement administrative assistant has been deferred and will be re-assessed for the 2016/17 fiscal year.	-	\$44,618
Flu vaccination	\$2,540	Administering the flu vaccination for staff in the current year has been secured at a "net zero" cost.	-	\$2,540
Event Cancellation	\$3,500	The annual HW picnic was cancelled in 2015	-	\$3,500
Workload, labour force assessment	\$140,000	A reduction in number of staff in Development Approvals. The volume of work did not warrant 6 planning technologists, and as a result this number has been reduced to 4.	-	\$140,000
Pension plan re-design	\$1,700,000	Through the collective bargaining process, HW was able to negotiate pension plan re-design to make the plan more sustainable. It is estimated the employer's share contributions will decrease from the current 12.95% to 9.85% effective January 1, 2015.	-	\$425,000
Re-structuring within the organization to create a new "Corporate Services" sector	\$35,000	January 1, 2016 saw the elimination of two (2) full time positions and a re-design of several other jobs.	-	\$8,750
Workload, labour force assessment	\$57,000	January 1, 2016 saw the elimination the administrative assistant within Regulatory Services.	-	\$14,250
	Sub-total			\$911,227

#	Initiative	Annual Cost Savings	Comments	Year Initiated	2015/16 Cost Savings
4 Information Technology (IT) Strategies					
	Xerox managed print solutions	\$20,000	Rationalization and replacement of photocopiers and printers	2013/14	\$20,000
	Network	\$80,000	Change in cost model by Eastlink, giving HW the new pricing	2013/14	\$80,000
	Telephone land lines	\$8,700	Rationalization of services and eliminate duplication of resources as required	2013/14	\$8,700
	Sub-total	<u>\$108,700</u>			<u>\$108,700</u>
5 Facilities/ Process Strategies					
	Chlorine Utilization - Pockwock	\$40,000	Discontinuation of the pre-chlorination process	2013/14	\$40,000
	Lab Testing	\$105,000	Price benefits from purchasing product from a different source mainly affecting the Harbour Solution Plants	2013/14	\$105,000
	Pumper Truck Utilization	\$130,000	pilot project to be scheduled initially for stormwater customers only as a test	2013/14	\$130,000
	Waste oil boiler system - Herring Cove WWTF	\$13,250	new system to allow the use of waste oil from Metro Transit as an alternative heating source	2014/15	\$13,250
	System sampling for HPC's	\$8,025	sampling was reduced from weekly to monthly	2014/15	\$8,025
	NSE system assessments	\$25,000	Assessment reports are being completed in-house rather than being outsourced	2014/15	\$25,000
	Decommissioning of the Bedford South pumping station	\$15,000	The developer driven system expansion will permit the use of gravity and pressure reduction rather than the pumping station	2014/15	\$15,000
	Lighting upgrades - Bennery Lake WSP	\$4,793		2014/15	\$4,793
	Insulation upgrades - Bennery Lake WSP	\$36,000		2014/15	\$36,000
	Lighting upgrades - Eastern Passage WWTF	\$7,880		2014/15	\$7,880
	Lighting upgrades - Dartmouth WWTF	\$22,542		2014/15	\$22,542
	Lighting upgrades - Herring Cove WWTF	\$13,744		2014/15	\$13,744
	Lighting upgrades - Halifax WWTF	\$29,845		2014/15	\$29,845
	Lighting upgrades - Aerotech BPF	\$19,109		2014/15	\$19,109
	HVAC upgrades - Eastern Passage WWTF	\$20,711		2014/15	\$20,711
	HVAC upgrades - Roach's Pond pumping station	\$13,500		2014/15	\$13,500
	MCC 190 cooling and heat recovery - Halifax WWTF	\$13,164		2014/15	\$13,164
	Aeration system upgrades - Eastern Passage WWTF	\$76,382		2014/15	\$76,382
	Orchard Park in-line turbine project	\$31,494		2014/15	\$31,494
	Wind farm - Pockwock WSP	\$130,399		2014/15	\$130,399
	Biogas CHP system - Mill Cove	\$86,000		2014/15	\$28,667
	Disposal of water treatment plant solid residual material	\$36,000	A new location for the disposal of the residual material was found	2014/15	\$36,000
	Advanced investigative tool for leaks and structural condition of pipes	\$150,000	The current program has been halted as a cost containment initiative and as a result of the information received.	2014/15	\$150,000
	Seasonal disinfection of wastewater effluents	\$250,000	In coordination with NSE, UV disinfection of effluents will not be required during certain periods of the year	2014/15	\$250,000
	E-delivery	\$20,000	Transitioning from traditional billing methods to e-delivery	2014/15	\$20,000
	Change in Recycling Pickups	\$2,700	By changing the schedule for recycling pickups from bi-weekly to every three (3) weeks, the anticipated annual savings will range from \$2,500 to \$2,700.	-	\$2,475
	Highway #7 Booster Station Upgrade	\$14,300	Expected energy savings	-	\$7,150
	Dartmouth WWTF - UV Channel Isolation	\$59,460	Expected energy savings	-	\$34,685
	Halifax WWTF - Fixed Compressed Air Leaks	\$2,293	Expected energy savings	-	\$2,293
	Halifax WWTF - UV Channel Isolation	\$62,115	Expected energy savings	-	\$62,115
	Herring Cove WWTF - MCC 190 Cooling/Heat Recovery	\$8,496	Expected energy savings	-	\$4,956
	Herring Cove WWTF - Ventilation Air Heat Recovery	\$28,300	Expected energy savings	-	\$14,150
	Sampling	\$4,160	Using internal staff at the Mill Cove facility to perform the required daily sampling at the facility, rather than the compliance staff, limiting their site visits to once a week.	-	\$4,160
	Material and contractor optimization	\$3,350	Used salvaged hydrant to replace older hydrant. The work was performed while the contractor was on-site doing other work, so there was cost savings as a result of new hydrant plus extra excavation that would have resulted.	-	\$3,350
	Staff utilization	\$50,000	Using trained HW staff for traffic control on HW job sites unless contractors are required.	-	\$50,000
	Process alternative	\$1,550	Before excavating at a low pressure site, it was decided to dig away from the main which was located underneath the sidewalk. Using a cable and fish tap, the main stop was cleared, saving 15' of sidewalk from being removed. Not only was there a cost savings, there was a positive non-monetary result in the fact the public was not inconvenienced with the removal of the sidewalk.	-	\$1,550

#	Initiative	Annual Cost Savings	Comments	2014/15	2015/16 Cost Savings
	Process alternative	\$40,000	A centrifuge was rented for the Mill Cove WWTF (with the option to purchase) on a trial basis to dewater liquid sludge that typically would be transported to the Aerotech WWTF. The transport of the liquid sludge resulted overtime costs, as well as reducing the time available for HW truck to service other facilities. This process assisted the Aerotech in reaching its compliance goals and reduced overtime costs by an estimated 50%. This equipment will enable HW proceed with a digester clean out project, which would otherwise be sub-contracted at a cost of \$200,000.	-	\$20,000
	Process change	\$4,854	It was decided that flanges for meter sizes greater than 2" would be the responsibility of the customer, since when meters are replaced, the flanges are not replaced.	-	\$2,427
	Sub-total	<u>\$1,579,416</u>			<u>\$1,449,815</u>
6 Reduce Paper and Printing Costs					
	Electronic HRWC Board Packages	\$7,500	Send Board packages out electronically rather than issuing hard copies	2013/14	\$7,500
	Paperless Office within the HR Department	\$4,804	Creating electronic workflow	2013/14	\$4,804
	Stewardship Report	\$3,000	The Stewardship Report will be published electronically only, with no hard copies	2013/14	\$3,000
	Changes to document archiving	\$3,175	Transitioning file storage from outside contractor to public resources	2013/14	\$3,175
	Sub-total	<u>\$18,479</u>			<u>\$18,479</u>
7 Technology and Business Process Changes					
	Workload, labour force assessment	\$47,605	Through the utilization of technology, such as a Customer Relationship Management (CRM) system, a budgeted addition (customer service representative) has been removed.	-	\$47,605
	Workload, labour force assessment	\$64,533	Re-structuring by management within the AMI project as a result of technological efficiencies anticipated.	-	\$32,266
	Season disinfection	\$30,000	Energy savings as a result of a seasonal disinfection program implemented in the month of March, 2016.	-	\$30,000
	Sub-total	<u>\$142,138</u>			<u>\$109,871</u>
		<u>\$4,694,205</u>			<u>\$3,036,176</u>

TO: Ray Ritchie, Chair, and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: *Original signed by Carl D. Yates, General Manager, on behalf of:*
Darlene Fenton, Chair, Environment, Health & Safety Committee

DATE: June 23, 2016

SUBJECT: Seasonal Disinfection Program - Update

INFORMATION REPORT

ORIGIN

Halifax Regional Water Commission (HRWC) applied on February 27, 2015 to the Nova Scotia Environment (NSE) for the ability to implement a Seasonal Disinfection Program for the Halifax, Dartmouth, Herring Cove and Eastern Passage Wastewater Treatment Facilities (WWTF).

BACKGROUND

A Seasonal Disinfection Program involves turning off the ultraviolet (UV) disinfection system in a wastewater treatment facility during the winter months, when recreational activity is significantly reduced or non-existent. Seasonal Disinfection Programs are implemented in a number of utilities across Canada and the United States, for both marine and freshwater receiving waters.

NSE granted approval for a two month trial period commencing March 1, 2016.

DISCUSSION

HRWC turned the UV systems off at four of the Harbour Wastewater Treatment Facilities (WWTF) on March 1, 2016 and turned them back on April 29, 2016.

Staff commenced monthly sampling at the 8 locations, noted below, in the fall of 2015 to establish baseline bacteria levels and during the pilot period.

ITEM 11-I

HRWC Board

June 30, 2016

1. Dingle Beach – Sir Sanford Fleming Park, Northwest Arm: Public access.
2. Black Rock Beach – Point Pleasant Park, Middle Harbour: Public access.
3. Halifax Ferry Terminal – Halifax Waterfront: Public access and adjacent commercial or institutional uses.
4. Seaview Park – Harbour Narrows: Public access, adjacent commercial uses, and proximity to Bedford Basin.
5. Dartmouth Ferry Terminal – Dartmouth Waterfront: Public access and adjacent commercial or institutional uses.
6. Woodside Ferry Terminal – Dartmouth Waterfront: Public access and adjacent commercial or institutional uses.
7. Fisherman’s Cove – Eastern Passage: Public access and adjacent commercial or institutional uses.

Daily samples were taken for three days after the UV lights were turned back on to observe bacteria levels.

The sample results are shown in the table below (full results are available on the website <https://www.halifax.ca/hrwc/seasonal-disinfection.php>.)

		1	2	3	4	5	6	7	8
		Dingle Beach	Black Rock Beach	Halifax Ferry Terminal	Africville Park	Dartmouth Ferry Terminal	Woodside Ferry Terminal	Fisherman’s Cove	Herring Cove
Jan, 2016	Fecal	13	75	70	43	36	20	30	46
	E. Coli	10	82	76	30	16	22	29	31
	Enterococcus	9	42	40	42	30	23	25	15
Feb, 2016	Fecal	6	10	18	47	8	14	15	120
	E. Coli	9	7	13	60	11	5	12	160
	Enterococcus	5	14	30	35	8	14	10	76
Mar 11, 2016	Fecal	4	42	56	16	34	56	1	48
	E. Coli	3	42	93	21	40	62	5	23
	Enterococcus	1	55	38	6	33	24	ND	180
Mar 16,	Fecal	1	69	300	4	150	200	7	56
	E. Coli	ND	44	270	2	120	150	4	14

ITEM 11-I

HRWC Board

June 30, 2016

2016	Enterococcus	2	7	170	6	110	78	5	25
April 15, 2016	Fecal	10	10	110	<10	<10	10	20	30
	E. Coli	<10	40	80	<10	20	30	<10	<10
	Enterococcus	3	3	23	19	4	20	7	28
May 2, 2016	Fecal	ND	17	2	1	1	1	ND	30
	E. Coli	ND	17	1	ND	ND	ND	ND	18
	Enterococcus	ND	ND	8	2	1	1	6	21
May 3, 2016	Fecal	8	ND	19	1	7	9	1	17
	E. Coli	19	2	32	3	14	5	1	25
	Enterococcus	14	2	35	4	10	7	7	17
May 4, 2016	Fecal	2	ND	9	2	1	1	ND	47
	E. Coli	2	1	18	ND	1	1	1	60
	Enterococcus	5	ND	15	ND	4	ND	1	9

- Fecal coliform (safe swimming limit 400/100ml)
- E. coli (safe swimming limit 400/100ml)
- Enterococcus (safe swimming limit 70/100ml)
- ND - Not Detected

Although it was expected that bacteria levels for safe swimming limits would be exceeded at most locations, only four results were above safe swimming limits for Enterococcus during the pilot program. This is a reflection of cold water temperatures within the Harbour which inhibit bacteriological activity.

During the two month pilot, staff at the wastewater facilities were able undertake replacement and cleaning of the UV bulbs in a safer and more efficient manner.

A condition of approval from NSE, was for HRWC staff to inform harbour stakeholders and monitor inquiries from the public. Information was placed on our website with results as they became available throughout the two month period. There was minor feedback from the public [2 direct comments] and no harbour stakeholders expressed

concern. At the completion of the pilot, two media articles were produced with a balanced view of the program.

Staff are preparing an application to NSE for a Seasonal Disinfection Program to commence in late fall of 2016.

BUDGET IMPLICATIONS

The implementation of the Seasonal Disinfection Program saved HRWC approximately \$50,000 in energy costs and \$10,000 in demand charges during the trial period (due to billing overlap issues we are unable to provide an exact amount of the cost savings).

ATTACHMENTS

None

Report Prepared by:	<u>Original Signed By:</u> Kenda MacKenzie, P. Eng., Director Regulatory Services, 902-237-7116
Report Approved by:	<u>Original Signed By:</u> Carl Yates, M.A.Sc., P. Eng., General Manager, 490-4840

TO: Ray Ritcey, B. Comm, MBA, CPA, CGA, Chair and Members of the Halifax Regional Water Commission Board

SUBMITTED BY: *Original Signed By:*

Jamie Hannam, P. Eng.
Director - Engineering & Information Services

APPROVED: *Original Signed By:*

Carl Yates, M.A.Sc., P. Eng., General Manager

DATE: June 23, 2016

SUBJECT: **Capital Cost Contribution – Financial Status Report for Fiscal Year ended March 31, 2016**

INFORMATION REPORT

ORIGIN

Halifax Water and NSUARB approval of various capital cost contribution charges.

BACKGROUND/DISCUSSION

Beginning in 1998, the Halifax Water Board and subsequently the NSUARB approved ten (10) area specific capital cost contribution (CCC) charges consistent with our CCC policy. The overall CCC policy and the specific charge rates were developed for the equitable facilitation of master water and wastewater infrastructure within new development areas or new service extension areas. In addition, in conjunction with the 2007 wastewater/stormwater merger, Halifax Water inherited and endorsed three (3) additional wastewater CCC charges established by HRM.

In accordance with the approved policy, Halifax Water is obligated to provide an accounting of all funds received and all costs incurred with respect to the infrastructure improvements. Attached is an annual report showing the cumulative accounting of all CCC funds received and disbursed as of the end of the fiscal year at March 31, 2016. The format provides a detailed entry of each individual debit and credit transaction with a cumulative total to date for each individual charge area from inception to the applicable year-end.

ITEM #12-I

HRWC Board

June 30, 2016

As of March 31, 2016, the results show that eight (8) charge areas are in a negative cash position and four (4) in a positive cash position. However, across all areas combined, the net current deficit is \$7,122,361 with the implementation of over \$32,600,000 in infrastructure projects. The CCC program is anticipated to be cost neutral within each charge area and fulfilling the desired facilitation role within these development areas.

It should be noted that the CCC for Bedford West was set at an interim rate and Halifax Water will be applying to adjust it in 2016/17 to reflect actual project costs and most current information. The CCC for Beaverbank will also be adjusted this fiscal year.

Consistent with the response to the Information Reports as part of last year's annual Capital Cost Contribution report, two (2) previous contribution areas have been removed from the current year's report. The Birch Cove North – Wastewater and the Portland Hills – Wastewater CCC areas have been closed with a zero balance and will not be reported in future reports.

This report will be forwarded to the NSUARB for information in accordance with the policy requirements.

ATTACHMENT

1. Halifax Water Capital Cost Contribution Report – Summary to March 31, 2016

Report Prepared by:	<u>Original Signed By:</u> Corey Ellis, B. Comm., CPA, CGA, Accountant, 902-490-2796
Financial Reviewed by:	<u>Original Signed By:</u> Cathie O'Toole, MBA, CPA, CGA, Director, Corporate Services 902-490-3572

Capital Cost Contribution Report

Summary to March 31, 2016

Capital Cost Contribution Area	Receivables	Disbursements	Cumulative
Beaverbank	\$1,332,814	(\$1,762,046)	(\$429,232)
Bedford South - Water	\$3,047,071	(\$1,958,431)	\$1,088,640
Bedford South - Wastewater	\$2,068,071	(\$1,016,202)	\$1,051,869
Bedford West - Water	\$4,004,794	(\$4,277,036)	(\$272,242)
Bedford West - Wastewater	\$8,035,698	(\$16,240,707)	(\$8,205,008)
Birch Cove North - Water	\$1,789,421	(\$2,174,507)	(\$385,086)
Herring Cove	\$1,385,726	(\$698,579)	\$687,148
Lakeside Timberlea	\$736,758	(\$1,251,813)	(\$515,055)
Morris Russell Lake	\$1,128,095	(\$363,291)	\$764,804
Northgate	\$585,772	(\$788,960)	(\$203,188)
Sackville Lively	\$400,096	(\$567,455)	(\$167,359)
Geizer Hill	\$967,154	(\$1,504,806)	(\$537,652)
Grand Total	\$25,481,471	(\$32,603,832)	(\$7,122,361)

**HALIFAX WATER
BEAVERBANK - WATER
Summary to March 31, 2016**

Transaction Description	Receivables	Disbursements	Cumulative
Balance as of March 31/16	\$1,332,814.04	(\$1,762,045.74)	(\$429,231.70)

Project Information

Nova Scotia Utility & Review Board Approval Date: March 31, 2000; Revised: December 21, 2000

Total Acreage: 1,302.03

Acreage Developed to Date: 802.85 (61.66%)

Acreage Rate: \$1,515.00 (Proposed amendment to \$850/acre)

Total Infrastructure Cost: \$3,198,896.00

Benefit to Existing HRWC Customer Base - 0%

Benefit to HRM Fire Protection - 37%

Percentage of Total Infrastructure Cost to be recovered through CCC Charge - 34.6%

Infrastructure to be completed: None

* Based on NSURB review

HALIFAX WATER
BEDFORD SOUTH - WATER
Summary to March 31, 2016

Transaction Description	Receivables	Disbursements	Cumulative
Balance as of March 31/15	\$2,921,972.61	(\$1,742,917.49)	\$1,179,055.12
Close 3-1927 PRV Chamber Oceanview Drive		(\$215,513.90)	
Accrue Fire Protection 3-1927 PRV Chamber Oceanview Drive	\$79,740.14		
Halifax Water Capital Budget benefit to existing customers (3-1927)	\$45,358.62		
<i>Fiscal 2016 Yearly Totals</i>	\$125,098.76	(\$215,513.90)	(\$90,415.14)
Balance as of March 31/16	\$3,047,071.37	(\$1,958,431.39)	\$1,088,639.98

Project Information

Nova Scotia Utility & Review Board Approval Date: June 19, 1998
Total Acreage: 598.0
Acreage Developed to Date: 497.68 (85.89%)
Acreage Rate: \$4,621.00
Total Infrastructure Cost: \$6,155,269.00
Benefit to Existing HRWC Customer Base - 21%
Benefit to HRM Fire Protection - 37%
Percentage of Total Infrastructure Cost to be recovered through CCC Charge - 42%
Infrastructure to be completed: Reservoir

HALIFAX WATER
BEDFORD SOUTH - WASTEWATER / STORMWATER
Summary to March 31, 2016

Transaction Description	Receivables	Disbursements	Cumulative
Balance as of March 31/15	\$2,033,324.56	(\$1,016,201.85)	\$1,017,122.71
Bedford South CCC Wastewater Phase C4	\$11,626.36		
Bedford South CCC Wastewater Phase C2-B	\$15,220.86		
Bedford South CCC Wastewater Phase C3	\$4,428.97		
Bedford South CCC Wastewater Phase C2-A (Block 4-R7)	\$3,470.46		
<i>Fiscal 2016 Yearly Totals</i>	\$34,746.65	\$0.00	\$34,746.65
Balance as of March 31/16	\$2,068,071.21	(\$1,016,201.85)	\$1,051,869.36

Project Information

Nova Scotia Utility & Review Board Approval Date: August 1, 2007
Total Acreage: 624
Acreage Developed to Date: 481.09 (77.1%)
Acreage Rate: \$3305.29
Total Infrastructure Cost: \$2,273,400.00
Benefit to Existing HRWC Customer Base - 0%
Percentage of Total Infrastructure Cost to be recovered through CCC Charge - 100%
Infrastructure to be completed: oversized piping

HALIFAX WATER
BEDFORD WEST - WATER
Summary to March 31, 2016

Transaction Description	Receivables	Disbursements	Cumulative
Balance as of March 31/15	\$3,062,693.43	(\$3,152,916.71)	(\$90,223.28)
West Bedford Holdings (Phase 8) Area 4	\$8,772.99		
West Bedford Holdings (Phase 8) Area 6	\$156,156.65		
West Bedford Phase 2-3 A Abbington & Evandale	\$40,470.93		
West Bedford Phase 5-2 B Amesbury and Cranfield	\$14,334.31		
West Bedford Phase 9-1 Hogan Court	\$69,381.97		
West Bedford Phase 5-2 C Amesbury	\$45,646.19		
West Bedford Holdings - Water	\$39,397.06		
West Bedford CCC WBC05 Water	\$42,101.27		
West Bedford CCC WBC07 Water	\$57,343.70		
West Bedford CCC Block 3-10 Water	\$14,328.77		
Accrue Fire Protection West Bedford Phase 8 Broad Street (3-2007)	\$127,353.17		
Close 3-2007 West Bedford Phase 8 Broad Street		(\$344,197.77)	
Halifax Water Capital Budget benefit to existing customers (3-2007)	\$11,709.61		
Accrue Fire Protection West Bedford Phase 5-2 B Amesbury & Cranfield (3-2009)	\$29,937.43		
Close 3-2009 West Bedford Phase 5-2 B Amesbury & Cranfield		(\$80,911.96)	
Halifax Water Capital Budget benefit to existing customers (3-2009)	\$2,752.62		
Accrue Fire Protection West Bedford Phase 5-2 C Amesbury (3-2010)	\$36,721.28		
Close 3-2010 West Bedford Phase 5-2 C Amesbury		(\$99,246.69)	
Halifax Water Capital Budget benefit to existing customers (3-2010)	\$3,376.37		
Accrue Fire Protection West Bedford Phase 9-1 Hogan Court (3-2033)	\$39,012.88		
Close 3-2033 West Bedford Phase 9-1 Hogan Court		(\$105,440.22)	
Halifax Water Capital Budget benefit to existing customers (3-2033)	\$3,587.08		
Accrue Fire Protection Temporary Pump Station #1 (3-2309)	\$19,142.26		
Close 3-2309 Temporary Pump Station #1		(\$51,735.83)	
Halifax Water Capital Budget benefit to existing customers (3-2309)	\$1,760.05		
Accrue Fire Protection West Bedford Phase 5-4 (3-2260)	\$16,222.25		
Close 3-2260 West Bedford Phase 5-4		(\$43,843.92)	
Halifax Water Capital Budget benefit to existing customers (3-2260)	\$1,491.57		
Accrue Fire Protection Kearney Lake Rd Linear Works (3-2435)	\$147,534.94		
Close 3-2435 Kearney Lake Rd Linear Works		(\$398,743.07)	
Halifax Water Capital Budget benefit to existing customers (3-2435)	\$13,565.24		
<i>Fiscal 2016 Yearly Totals</i>	<i>\$942,100.59</i>	<i>(\$1,124,119.46)</i>	<i>(\$182,018.87)</i>
Balance as of March 31/16	\$4,004,794.02	(\$4,277,036.17)	(\$272,242.15)

Project Information

Nova Scotia Utility & Review Board Approval Date: September 2012

Total Acreage: 1611.00

Acreage Developed to Date: 376.07 (23.34%)

Acreage Rate: \$3,149.83 (2012)

Total Infrastructure Cost: \$9,290,316

Benefit to Existing HRWC Customer Base - 5.4%

Benefit to HRM Fire Protection - 37%

Percentage of Total Infrastructure Cost to be recovered through CCC Charge - 57.6%

Infrastructure to be completed: Proportionate amount of Bedford South Reservoir, PRV's, and Pipe Oversizing

HALIFAX WATER
BEDFORD WEST - WASTEWATER / STORMWATER
Summary to March 31, 2016

Transaction Description	Receivables	Disbursements	Cumulative
Balance as of March 31/15	\$2,949,429.88	(\$1,720,522.67)	\$1,228,907.21
West Bedford Holdings (Phase 8) Area 4	\$28,166.06		
West Bedford Holdings (Phase 8) Area 6	\$501,347.85		
West Bedford Phase 2-3 A	\$129,933.71		
West Bedford Phase 5-2 B	\$46,020.93		
West Bedford Phase 9-1	\$222,753.89		
West Bedford Phase 5-2 C	\$146,549.14		
West Bedford Holdings - Wastewater	\$126,486.01		
Cresco Holdings - West Bedford CCC wastewater	\$129,186.48		
West Bedford Holdings - Wastewater	\$2,213,909.86		
West Bedford CCC WBC 05 Wastewater	\$33,792.00		
West Bedford CCC WBC 07 Wastewater	\$46,026.11		
West Bedford CCC Block 3-10 Wastewater	\$11,500.79		
Close 6-1303 West Bedford - Temporary Waste Water Pump Station #1		(\$1,964,165.02)	
Halifax Water Capital Budget benefit to existing customers @ 9.99% (6-1303)	\$196,220.09		
Close 6-1260 West Bedford - Phase 5-4		(\$3,291,275.00)	
Halifax Water Capital Budget benefit to existing customers @ 9.99% (6-1260)	\$328,798.37		
Close 6-1023 West Bedford Phase 9-1 Hogan Court		(\$1,248,851.43)	
Halifax Water Capital Budget benefit to existing customers @ 9.99% (6-1023)	\$124,760.26		
Close 6-1005 West Bedford Phase 8 Broad Street		(\$290,215.33)	
Halifax Water Capital Budget benefit to existing customers @ 10% (6-1005)	\$29,021.53		
Close 6-1002 Kearney Lake Road Linear Works		(\$4,533,814.07)	
Halifax Water Capital Budget benefit to existing customers @ 9.99% (6-1002)	\$452,928.03		
Close 6-1307 West Bedford - Wastewater Pump Station #2		(\$3,191,862.98)	
Halifax Water Capital Budget benefit to existing customers @ 9.99% (6-1307)	\$318,867.11		
<i>Fiscal 2016 Yearly Totals</i>	<i>\$5,086,268.22</i>	<i>(\$14,520,183.83)</i>	<i>(\$9,433,915.61)</i>
Balance as of March 31/16	\$8,035,698.10	(\$16,240,706.50)	(\$8,205,008.40)

Project Information

Nova Scotia Utility & Review Board Approval Date: September 2012
Total Acreage: 1611.00
Acreage Developed to Date: 376.07 (23.34%)
Acreage Rate: \$10,122.65 (2012)
Total Infrastructure Cost: \$20,175,319
Benefit to Existing HRWC Customer Base - 9.9%
Percentage of Total Infrastructure Cost to be recovered through CCC Charge - 90.1%
Infrastructure to be completed: Force mains, Pumping Stations and Pipe Oversizing

HALIFAX WATER
BIRCH COVE NORTH - WATER
Summary to March 31, 2016

Transaction Description	Receivables	Disbursements	Cumulative
Balance as of March 31/15	\$1,679,348.41	(\$2,081,920.94)	(\$402,572.53)
Birch Cove North CCC Phase C2-B	\$50,448.20		
Birch Cove North CCC Phase C3	\$6,476.80		
Birch Cove North CCC Phase C4	\$16,748.60		
Birch Cove North CCC Phase C2-A Block 4-R7	\$3,542.00		
Birch Cove North CCC interest		(\$3,783.56)	
Close 3-2184 Bedford South Phase C3 (Transom Drive)		(\$25,150.32)	
Accrue Fire Protection 3-2184 Bedford South Phase C3 (Transom Dr	\$9,305.62		
Close 3-2186 Bedford South Phase C2B (Starboard Drive)		(\$63,652.04)	
Accrue Fire Protection 3-2186 Bedford South Phase C2B (Starboard	\$23,551.25		
<i>Fiscal 2016 Yearly Totals</i>	\$110,072.47	(\$92,585.92)	\$17,486.55
Balance as of March 31/16	\$1,789,420.88	(\$2,174,506.86)	(\$385,085.98)

Project Information

Nova Scotia Utility & Review Board Approval Date: September 17, 1999
Total Acreage: 494.0
Acreage Developed to Date: 281.21 (56.92%)
Acreage Rate: \$5,060.00
Total Infrastructure Cost: \$3,717,646.00
Benefit to Existing HRWC Customer Base - 0%
Benefit to HRM Fire Protection - 37%
Percentage of Total Infrastructure Cost to be recovered through CCC Charge - 63%
Infrastructure to be completed: Reservoir and Pipe Oversizing

**HALIFAX WATER
HERRING COVE
Summary to March 31, 2016**

Transaction Description	Receivables	Disbursements	Cumulative
Balance as of March 31/16	\$1,385,726.23	(\$698,578.68)	\$687,147.55

Project Information

Nova Scotia Utility & Review Board Approval Date: April 10, 2002; Revised: October 26, 2005

Total Acreage: 787.7

Acreage Developed to Date: 311.22 (39.51%)

Acreage Rate: \$3,622.00

Total Infrastructure Cost: \$4,957,204.00

Benefit to Existing HRWC Customer Base - 0%

Benefit to HRM Fire Protection - 37%

Percentage of Total Infrastructure Cost to be recovered through CCC Charge - 63%

Infrastructure to be completed: Future Reservoir

**HALIFAX WATER
LAKESIDE TIMBERLEA
Summary to March 31, 2016**

Transaction Description	Receivables	Disbursements	Cumulative
Balance as of March 31/16	\$736,758.06	(\$1,251,813.46)	(\$515,055.40)

Project Information

Nova Scotia Utility & Review Board Approval Date: December 14, 2012
 Overall Acreage 277.79
 Acreage Developed to Date: 41.812 (15.1%)
 Acreage Rate: \$14,926.23
 Total Infrastructure Cost: \$ 8,062,204.55
 Benefit to Existing HRWC Customer Base - 2.7%
 Benefit to HRM Fire Protection - 37%
 Percentage of Total Infrastructure Cost to be recovered through CCC Charge - 60.3%
 Infrastructure to be completed: Pipe Oversizing

HALIFAX WATER
MORRIS RUSSELL LAKE
Summary to March 31, 2016

Transaction Description	Receivables	Disbursements	Cumulative
Balance as of March 31/16	\$1,128,094.67	(\$363,290.75)	\$764,803.92

Project Information

Nova Scotia Utility & Review Board Approval Date: Interim June 10, 2002
 Total Acreage: 1,178.7
 Acreage Developed to Date: 574.84 (48.77%)
 Acreage Rate: \$1,300.00
 Total Infrastructure Cost: \$2,641,851.00
 Benefit to Existing HRWC Customer Base - 8.2%
 Benefit to HRM Fire Protection - 37%
 Percentage of Total Infrastructure Cost to be recovered through CCC Charge - 54.8%
 Infrastructure to be completed: Pipe Oversizing

**HALIFAX WATER
NORTHGATE
Summary to March 31, 2016**

Transaction Description	Receivables	Disbursements	Cumulative
Balance as of March 31/16	\$585,772.08	(\$788,960.44)	(\$203,188.36)

Project Information

Nova Scotia Utility & Review Board Approval Date: September 28, 2008
 Total Acreage: 485.4 (plus 16.8 acres of adjacent benefitting lands)
 Acreage Developed to Date: 188.9 (38.91%)
 Acreage Rate: \$1,168.00
 Total Infrastructure Cost: \$900,041.00
 Benefit to Existing HRWC Customer Base - 13.4%
 Benefit to HRM Fire Protection - 37%
 Percentage of Total Infrastructure Cost to be recovered through CCC Charge - 49.6%
 Infrastructure to be completed: Pipe Oversizing

HALIFAX WATER
SACKVILLE LIVELY
Summary to March 31, 2016

Transaction Description	Receivables	Disbursements	Cumulative
Balance as of March 31/15	\$383,595.66	(\$567,455.00)	(\$183,859.34)
Crossfield Estates	\$16,500.76		
<i>Fiscal 2016 Yearly Totals</i>	<i>\$16,500.76</i>	<i>\$0.00</i>	<i>\$16,500.76</i>
Balance as of March 31/16	\$400,096.42	(\$567,455.00)	(\$167,358.58)

Project Information

Nova Scotia Utility & Review Board Approval Date: October 29, 2007
Total Acreage: 335.5 acres
Acreage Developed to Date: 186.4 (56%)
Acreage Rate: \$1,253.00 / acre
Total Infrastructure Cost: \$567,455
Benefit to HRWC Existing Customer: \$26,133 (25 acres)
Benefit to HRM through LIC: \$50,746 (40.5 acres)
Benefit to HRM Fire Protection: \$205,972.71
Total Infrastructure of the Project, including financing: \$667,497
Percentage of Total Infrastructure Cost to be recovered through CCC Charge: 50.2%
Infrastructure to be completed: 0%

HALIFAX WATER
GEIZER HILL
Summary to March 31, 2016

Transaction Description	Receivables	Disbursements	Cumulative
Balance as of March 31/16	\$967,153.88	(\$1,504,805.54)	(\$537,651.66)

Project Information

Nova Scotia Utility & Review Board Approval Date: 2014
Total Acreage: 99
Acreage Developed to Date: 52.1 (52.63%)
Acreage Rate: \$1,253.00
Total Infrastructure Cost: \$1,528,000
Benefit to Existing HRWC Customer Base - 0%
Benefit to HRM Fire Protection - 37%
Percentage of Total Infrastructure Cost to be recovered through CCC Charge - 63%
Infrastructure to be completed: Water Main Extension